Gorgon Gas Development
Jansz Umbilical
Environment Plan

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Gorgon Gas Development

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1 environment plan summary

In accordance with regulations 28 and 35 of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Commonwealth [Cth]) (OPGGS(E)R), all Environment Plans (EPs) are published (with the sensitive information part removed) on the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) website.

To fulfil the requirements of an EP summary for public disclosure, as required by regulations 35(6) and 35(7), Table 1-1 has been prepared from material provided in this EP, and in the format preferred by NOPSEMA (Ref. 257).

Table 1-1: Environment Plan

Regulation	EP summary material requirement	Relevant Section of the EP
35(7)(a)(i)	the location of the activity	Section 2.2, Section 3.1
35(7)(a)(ii)	a description of the receiving environment	Section 4
35(7)(a)(iii)	a description of the activity	Section 3
35(7)(a)(iv)	details of environmental impacts and risks	Section 7
35(7)(a)(v)	a summary of the control measures for the activity	Section 7
35(7)(a)(vi)	a summary of the arrangements for ongoing monitoring of the titleholder's environmental performance	Section 8
35(7)(a)(vii)	a summary of the response arrangements in the oil pollution emergency plan	Section 7.16, Ref. 68
35(7)(a)(viii)	details of consultation already undertaken, and plans for ongoing consultation	Section 6
35(7)(a)(ix)	details of the titleholder's nominated liaison person for the activity	Section 2.4

2 introduction

2.1 Overview

On behalf of the Gorgon Joint Venturers, Chevron Australia Pty Ltd (CAPL) is developing and operating the Gorgon Gas Development. To date, the Gorgon Gas Development hydrocarbon system includes infrastructure and activities associated with the initial field development, Gorgon Stage 2 (GS2) and Jansz–Io Compression (J–IC), collectively referred to as the Gorgon Foundation Project (GFP). Existing infrastructure includes offshore production wells within the Gorgon and Jansz–Io gas fields, and the feed gas pipeline system. The feed gas pipeline system gathers and transports gas to the Gorgon Gas Treatment Plant on Barrow Island.

To support the reliability of the offshore gas gathering systems, CAPL plans to install a fibre-optic and electrical control umbilical (referred to as the umbilical) between the offshore Jansz Central Distribution Unit (CDU) and Gorgon CDU. The umbilical will provide electrical power and fibre optic communications to the Jansz gas field. Components of the existing GFP Jansz umbilical (e.g. chemical, hydraulic, and control lines) will remain in use.

The use of umbilicals to support the operation of the wells and manifolds is within scope of the Gorgon Gas Development (as described in the *Draft Environmental Impact Statement / Environmental Review and Management Programme for the Proposed Gorgon Development* [Ref. 29]) and therefore subsequent approvals under the *Environmental Protection Act 1986* (WA) and *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). To maintain safety and reliability, maintenance and repairs of the approved elements of the hydrocarbon system are also inherently within scope of the Gorgon Gas Development.

This EP documents the assessment and management of potential environmental impacts and risks associated with the petroleum activity.

This EP has been prepared in accordance with the requirements of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (OPGGS Act) and the OPGGS(E)R, as administered and for regulatory acceptance by the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA).

2.2 Location

The Gorgon gas field is located within production licences WA-37-L and WA-38-L, ~130 km off the north-west coast of Western Australia (WA), and ~65 km north-west of Barrow Island (Figure 2-1). The Jansz–Io gas fields are within production licenses WA-36-L, WA-39-L, and WA-40-L, ~200 km off the north-west coast of WA (Figure 2-1).

The infrastructure to be installed under this EP will form part of pipeline licences WA-19-PL and WA-20-PL and will partially overlap the footprints of the Gorgon production licence WA-37-L and the Jansz production licence WA-39-L.

Detailed information regarding the location and layout of infrastructure is included in Section 3.

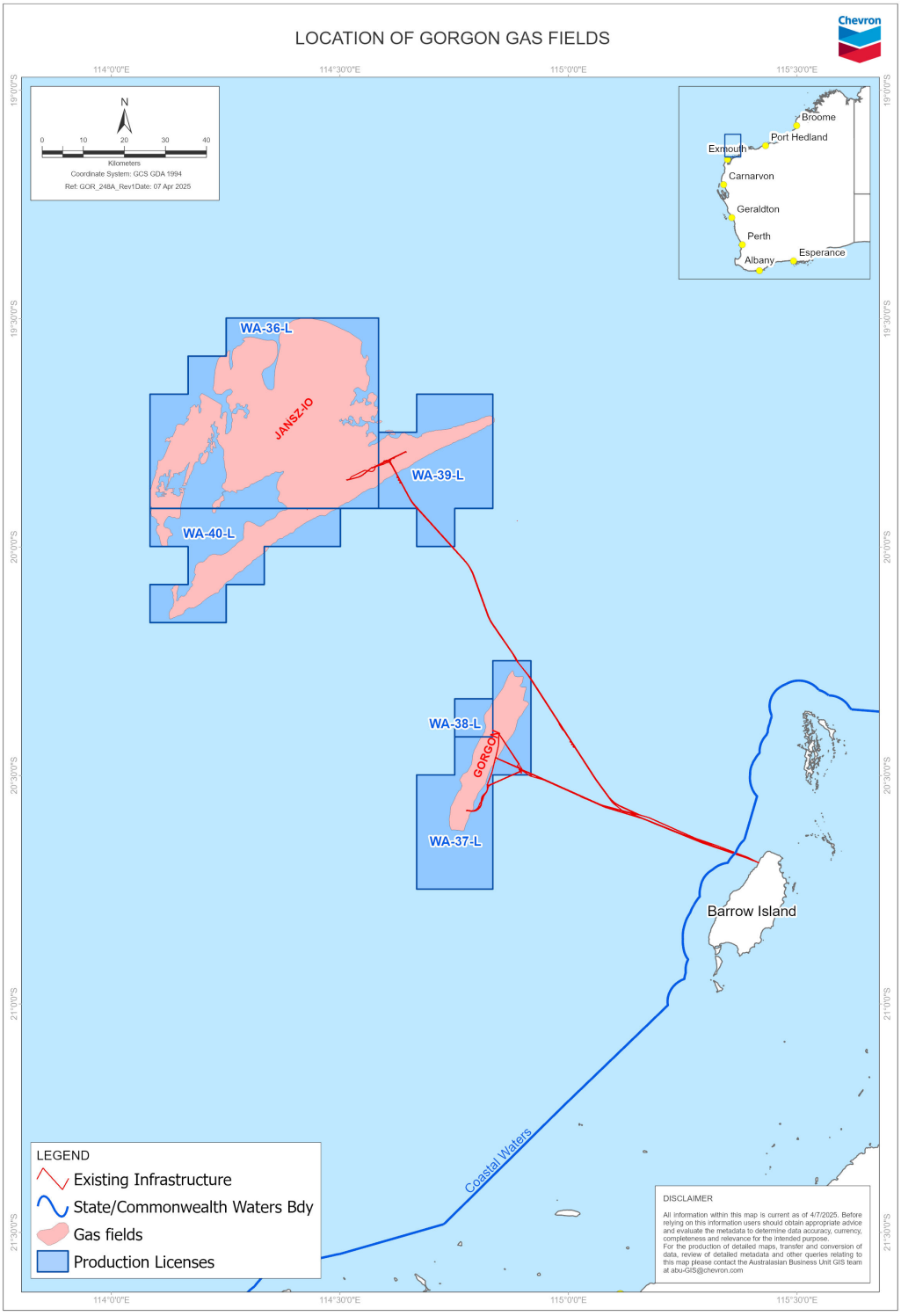


Figure 2-1: Location of Gorgon and Jansz-Io gas fields and existing infrastructure

2.3 Scope

2.3.1 In scope

This EP addresses activities in Commonwealth waters associated with the installation of an umbilical (the 'petroleum activity'). Specifically, this EP addresses the following primary activities:

- installation
- inspection, maintenance, and repair (IMR)
- field support.

2.3.2 Out of scope

The following activities are excluded from the scope of this EP:

- post commissioning and start-up activities, which are covered under the *Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan* (Ref. 61). This includes operational activities, including IMR activities, associated with the umbilical
- vessels (including emergency response vessels) transiting to or from the operational area (OA) (i.e. outside of the OA). Refer to Section 3.1.1 for definition of the OA. These vessels are deemed to be operating under the *Navigation Act 2012* (Cth) and not performing the petroleum activity
- helicopters transiting to or from the OA (i.e. transiting outside of the OA); these aircraft are subject to the *Air Navigation Act 1920* (Cth), *Civil Aviation Act 1988* (Cth), and associated regulations, and not performing the petroleum activity
- end of facility life (EOFL) decommissioning and removal of infrastructure under Section 572(3) of the OPGGS Act, these activities are not scheduled to occur within the 5-year in-force period of this EP (refer to Section 3.5).

2.4 Titleholder details

CAPL is the nominated titleholder and of the pipeline licences (WA-19-PL and WA-20-PL) on behalf of the titleholder companies listed in Table 2-1. The contact details for the titleholders' nominated liaison person for this EP are listed in Table 2-2.

Regulation 23(3) of the OPGGS(E)R requires that CAPL notifies NOPSEMA of a change in the titleholder, a change to the titleholder's nominated liaison person, or a change in the contact details for the nominated liaison person changes.

Section 286A of the OPGGS Act requires notification is provided to NOPSEMA and the National Offshore Petroleum Titles Administrator (NOPTA) if there is a change to one of the registered titleholders or contact details for the registered titleholders; this notification is to occur within 30 days of such a change.

Table 2-1: Titleholder details

Title	Details	Titleholders	Nominated Titleholder	Address
WA-19-PL	Pipeline Licence	Chevron Australia Pty Ltd	Chevron Australia Pty Ltd	1 The Esplanade
		Mobil Australia Resources Company Pty Limited		
		Shell Australia Pty Ltd		

Title	Details	Titleholders	Nominated Titleholder	Address
WA-20-PL		Osaka Gas Gorgon Pty Ltd	(ACN: 086 197 757)	Perth WA 6000
		Midocean Gorgon Pty Ltd		
		JERA Gorgon Pty Ltd		

Table 2-2: Nominated liaison person

Position	Ian Hart – Project Manager
Company	Chevron Australia Pty Ltd
ACN	086 197 757
Business Address	1 The Esplanade, Perth WA 6000
Telephone Number	+61 8 9216 4000
Email	feedback@chevron.com

2.5 Environmental management framework

CAPL's operations are managed in accordance with Chevron Corporation's Operational Excellence Management System (OEMS), which is described in Section 8.

2.5.1 Environmental policy

CAPL's commitment to environmental management in all aspects of operations is documented in Chevron Corporation's Operational Excellence (OE) Policy 530 (appendix a).

2.5.2 Legislative framework

In accordance with regulation 21(4) of the OPGGS(E)R, the legislative requirements and other requirements that apply to the petroleum activity and are relevant to the environmental management of the activity are provided in Table 2-3 to Table 2-5.

Table 2-3: Legislative requirements

Legislation	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
Australian Maritime Safety Authority Act 1990 (Cth)	Aims to promote maritime safety, protect the marine environment from pollution from ships or other environmental damage caused by shipping, and provide for a national search and rescue service	Requirements include the involvement of the Australian Maritime Safety Authority (AMSA) in response to relevant spill events	Roles and responsibilities are described in the Oil Pollution Emergency Plan (OPEP) (Ref. 68).
Biosecurity Act 2015 (Cth) Biosecurity Regulations 2016 (Cth)	This Act is about managing diseases and pests that may cause harm to human, animal, or	Pre-arrival reporting before arrival in Australian territory	Section 7.8
		Ballast water management plans	

Legislation	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
	plant health or the environment. The Act provides for managing biosecurity risks in Australia and its external territories. It also provides for managing risks related to ballast water.	and certificates, and reporting of ballast water discharges	
Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) EPBC Regulations 2000 (Cth)	Provides for the protection and management of nationally and internationally important flora, fauna, ecological communities, and heritage places.	The EP must describe matters protected under Part 3 of the EPBC Act and assess any impacts and risks to these protected matters	Sections 4 and 7
		EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans	Sections 7.2, 7.6 and 7.7
		Injury or fatality caused to EPBC listed fauna shall be reported	Section 8.4.2
		The Gorgon Gas Development was approved with conditions under EPBC Act and is subject to approval conditions. Condition 16A (Plan for the Management of Offshore Impacts) of EPBC 2003/1294 includes relevant requirements—refer to Table 2-4.	This EP, including the OPEP (Ref. 68) and the Operational and Scientific Monitoring Plan (OSMP) (Ref. 65)
		The Jansz–Io Deepwater Gas Field Development was approved with conditions under the EPBC Act. There are two approval conditions under EPBC 2005/2184: • Condition 3 which relates to the requirement for an accepted EP to be in place before	No decommissioning is scheduled to occur during the in-force period of this EP. However, the approach to decommissioning Gorgon and Jansz assets is described in Section 3.5.

Legislation	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
		commencing decommissioning • Condition 8 which relates to the commencement of the Jansz–Io Deepwater Gas Field Development (this requirement has been met and is considered completed).	
Navigation Act 2012 (Cth) Various marine orders	Provides standards regarding collision prevention for vessels. This Act provides the legislative power for Australia to implement several international conventions, including the Convention on the International Regulations for Preventing Collisions at Sea (COLREGS) and the International Convention for the Safety of Life at Sea.	Notice to Mariners	Sections 7.1 and 7.14
		Marine Order 27—Safety of navigation and radio equipment	Sections 7.1 and 7.14
		Marine Order 28—Operations and standards	Sections 7.1 and 7.14
		Marine Order 30—Prevention of collisions	Sections 7.1, 7.5 and 7.14
Navigation Act 2012 (Cth) *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* (Cth) *Various marine orders* *Protection of the Sea (Harmful Anti-fouling Systems) Act 2006* (Cth) Various marine orders	Gives effect to the requirements under the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) in Australia	Marine Order 91—Marine pollution prevention—oil	Sections 7.9, 7.13 and 7.14
		Marine Order 95—Marine pollution prevention—garbage	Sections 7.9 and 7.12
		Marine Order 96—Marine pollution prevention—sewage	Section 7.9
		Marine Order 97—Marine pollution prevention—air pollution	Section 7.4
		Marine Order 98—Marine pollution prevention—anti-fouling systems	Section 7.8
OPGGS Act OPGGS(E)R	The OPGGS(E)R under the OPGGS Act requires a titleholder to have an accepted EP in place prior to commencement of a petroleum activity.	An EP for a petroleum activity must be accepted by NOPSEMA before activities commence	This EP, including the OPEP (Ref. 68) and OSMP (Ref. 65)

Legislation	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
	The regulations ensure petroleum activities are undertaken in an ecologically sustainable manner in accordance with an EP.		
Underwater Cultural Heritage Act 2018 (Cth) (UCH Act)	Provides protection for shipwrecks, sunken aircraft and other cultural heritage sites in Australian waters	Identification of the presence of protected cultural heritage sites and assessment of any impacts and risks to these sites	Sections 4 and 7

Table 2-4: Concordance table for Condition 16A (EPBC 2003/1294)

Condition	Requirement	Demonstration of how requirements are met
16A.1i	Design and construction of facilities to allow for the complete removal of all structures and components (except flowlines) above the sea floor	Section 3.5
16A.1ii	Sea floor surveys around proposed flowline paths and well sites to identify sensitive marine ecosystems such as reefs, sponge beds and sea grasses and historic shipwrecks	Section 3.2.2
16A.1iii	Selection of flowline paths and well sites to avoid impacts on sensitive marine ecosystems and historic shipwrecks as referred to in 16A.1ii;	Section 3.2.2
16A.1iv	Establish baseline information to inform a risk-based approach to environmental management and monitoring of action-attributable impacts to water quality, benthic flora and fauna and keystone species from the installation and operation of marine facilities	Section 4
16A.1v	A schedule of works	Section 3.1.2
16A.1vi	Managing the impacts on cetaceans, including interaction procedures for aircraft, supply and construction vessels that are consistent with Part 8 of the Environment Protection and Biodiversity Conservation Regulations 2000	Sections 7.2, 7.6 and 7.7
16A.1vii	Cetacean sightings reporting	Sections 7.2, 7.6 and 7.7 and 8.4.1.1
16A.1viii	Hydrotest fluid type, handling and disposal	Not applicable
16A.1ix	Ballast water management for international construction vessels arriving in Australia in accordance with Australian Quarantine and Inspection Service Australian Ballast Water Management Requirements	Section 7.8

Condition	Requirement	Demonstration of how requirements are met
16A.1x	The use and disposal of drilling muds	Not applicable
16A.1xi	The monitoring and disposal of produced formation water, if it is planned to dispose of it to the Commonwealth marine environment	Not applicable
16A.1xii	A plan for contingencies and the management of unplanned events such as oil or gas leaks or spills	Sections 7.13, 7.14 and 7.15

Table 2-5: Standards and guidelines

Standard/guideline	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
Australian Ballast Water Management Requirements (Ref. 93)	Provides guidance on how vessel operators should manage ballast water when operating within Australian seas in order to comply with the *Biosecurity Act 2015* (Cth). They also align to the International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 (the Ballast Water Management Convention).	Ballast water management requirements for vessels, including having a ballast water management plan and certificate (unless an exemption applies).	Section 7.8
Australian Biofouling Management Requirements (Ref. 87)	Sets out vessel operator obligations for the management of biofouling when operating vessels under biosecurity control within Australian territorial seas.	Biofouling management for vessels, including pre-arrival reporting, and having biofouling management plans.	Section 7.8
Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (Ref. 196)	International Maritime Organization (IMO) guidelines for global management of biofouling	Requires a biofouling management plan and record book to be available and maintained	Section 7.8
National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (Ref. 225)	Commonwealth guidance document has been developed to assist industry manage the risk of marine pest translocation and	Requires biofouling risk assessments to be completed	Section 7.8

Standard/guideline	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
	introduction via biofouling		
National Light Pollution Guidelines for Wildlife (Ref. 106)	Outlines the process to be followed where there is the potential for artificial lighting to affect wildlife; applies to new projects, lighting upgrades and where there is evidence of wildlife being affected by existing artificial light	The EP must assess if artificial lighting is likely to affect wildlife and identify the management tools to minimise and mitigate impacts and risks	Section 7.5

3 description of the petroleum activity

3.1 Overview

This section provides a description of the petroleum activity as required under regulation 21(1) of the OPGGS(E)R. The description of the petroleum activity is presented in the following sections:

- installation—installation and hook-up of the umbilical (Section 3.2)
- IMR—any IMR required prior to operations commencing (Section 3.3)
- field support—includes construction vessel, IMR vessel, project support vessel, helicopter and underwater remotely operated vehicle (ROV) operations (Section 3.4).

3.1.1 Operational area

The location of the OA for the petroleum activity is described in Section 2.2 and shown in Figure 2-1.

The OA for the petroleum activity (Figure 3-1) is located within Commonwealth waters and is defined as:

- a 2,000 m wide corridor centred over the M1 flowline route from the Gorgon CDU (i.e. 1,000 m either side of the flowline).
- a 2,000 m wide corridor centred over the umbilical lay route between the M1 drill centre and Jansz feed gas pipeline system.
- a 2,000 m wide corridor centred over the Jansz feed gas pipeline system (1,000 m either side of the pipeline) from the point of meeting the Jansz feed gas pipeline system to the Jansz CDU (~KP 60 km).
- a 1,000 m radius around the Gorgon and Jansz CDUs.

The south-western most part of the OA is ~115 km off the north-west coast of WA, and ~55 km north-west of Barrow Island. Water depths within the OA range from ~115 m to ~1,350 m. The planned infrastructure installation activities are located in water depths ≥130 m.

The petroleum activity defined within Section 3 will be undertaken within this OA.

The OA encompasses a 500 m safety exclusion zone that will be requested around vessels undertaking installation activities for the duration of activities.

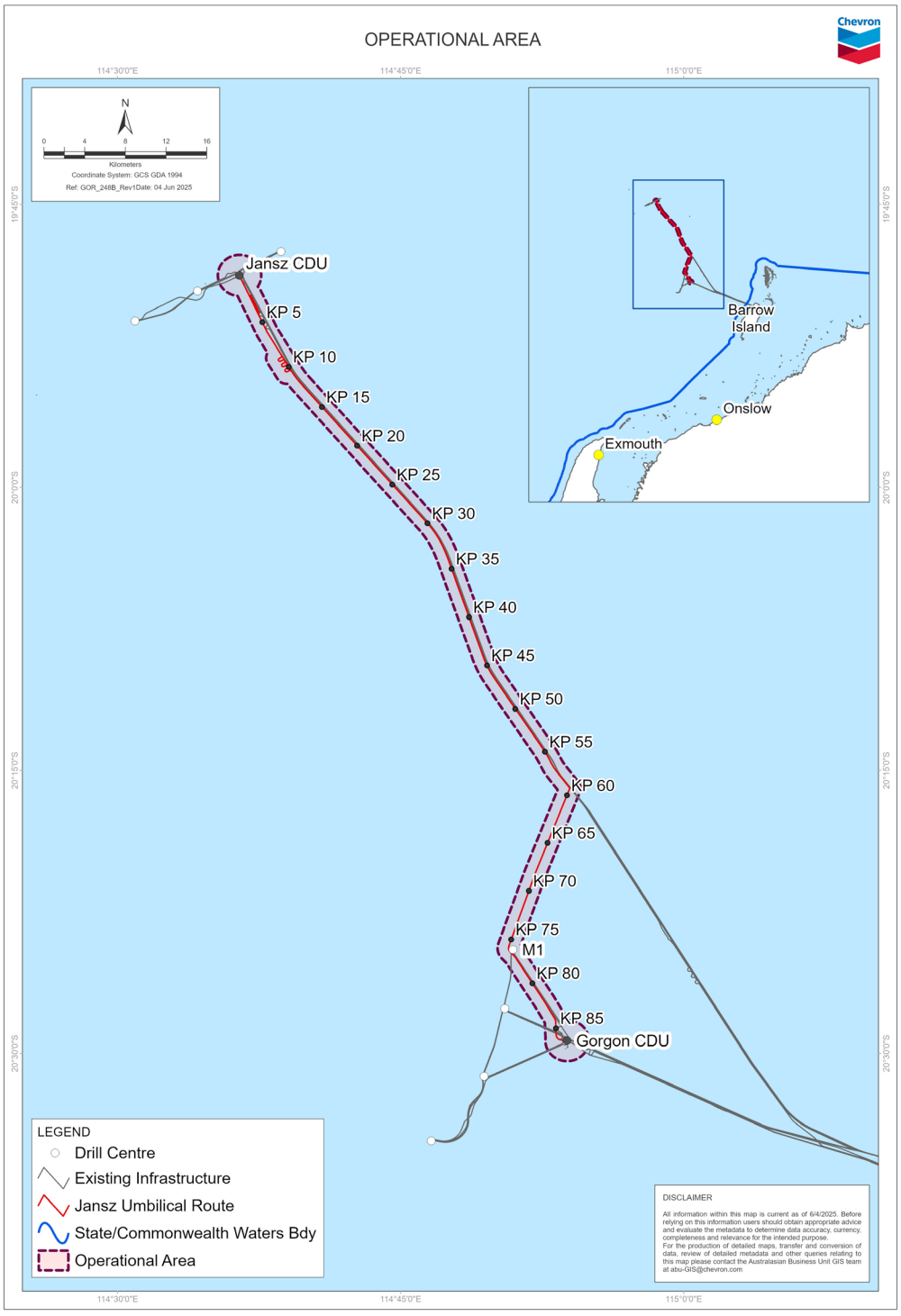


Figure 3-1: Operational Area for this EP

3.1.2 Timing

The petroleum activity is indicatively scheduled to occur at any time over a 2 year period from mid-2026 to mid-2028. This timing is indicative and subject to potential delays caused by weather events, infrastructure and/or equipment availability, regulatory approvals, and other unforeseen factors. Therefore, while the specific activities and indicative timings and durations are described in

Table 3-1, the petroleum activity is expected to occur within a window of ~3–6 months.

Activities covered by this EP may be conducted 24 hours a day, 7 days a week.

The EP has evaluated potential impacts and risks associated with the petroleum activity occurring at any time during the day (i.e. 24 hours a day) and at any time during the year (i.e. during any season) to provide operational flexibility for potential schedule changes.

3.1.3 Infrastructure

A schematic layout of existing infrastructure is provided in Figure 3-2. Table 3-2 lists the key infrastructure to be installed under this EP, including location, dimensions and water depth. Table 3-4 lists infrastructure material composition.

The umbilical is approximately 88 km long and extends from Gorgon field southern section of the OA) to Jansz field (northern section of the OA). The umbilical contains five medium voltage electrical and four fibre-optic cables. The umbilical consists of duplex rods with a polyethylene outer sheath. One electrical junction box (EJB) will be installed at the Jansz end of the umbilical and umbilical termination assemblies (UTA) and flying leads will be installed at both the Gorgon and Jansz ends of the umbilical to connect power and communications to existing subsea infrastructure. The umbilical lay route is adjacent to existing infrastructure and areas previously disturbed as part of the Gorgon Gas Development.

Table 3-1: Approximate activity schedule

Activity	EP Section	Approximate location	Indicative number of vessels	Indicative sequence^	Approximate duration^	Indicative Timing^	Petroleum Title
Installation							
Crossings (if required)	Section 3.2.1	~KP 59 (J–IC High Voltage Submarine Cable [HVSC]) ~KP 76 (M1-M2 MEG and Utility flowlines crossing) ~KP 85 (M2 production flowline)	1 x construction or IMR vessel	Completed prior to umbilical lay	~14 days	Q3 – Q4 2026	WA-20-PL
Pre-lay survey	Section 3.2.2	Umbilical route	1 x construction vessel	Completed prior to umbilical lay	~5 days	Q3 – Q4 2026	WA-19-PL, WA-20-PL
Mudmat foundations and umbilical termination assemblies (UTAs)	Section 3.2.3	KP 0 ~KP 87	1 x construction vessel	Completed prior to umbilical lay	~2 days	Q3 – Q4 2026	WA-19-PL, WA-20-PL
Umbilical lay	Section 3.2.4	Umbilical route	1 x construction vessel	Completed after installation of crossings and mudmat foundations	~14 days	Q3 – Q4 2026	WA-19-PL, WA-20-PL
As-laid survey	Section 3.2.5	Umbilical route	1 x construction vessel	Completed during or after the umbilical lay	~5 days	Q3 – Q4 2026	WA-19-PL, WA-20-PL
Span rectification	Section 3.2.6	As required along umbilical route	1 x construction or IMR vessel	Completed after umbilical lay	~2 days	Q3 – Q4 2026	WA-19-PL, WA-20-PL
Secondary stabilisation / crossing preparation (allowance if required)	Section 3.2.7	~KP 52–54 (scarp), ~KP 59, ~KP 76, ~KP 85, ~KP 87 (if required)	1 x construction or IMR vessel	Completed after umbilical lay	~2 days	Q3 – Q4 2026	WA-19-PL, WA-20-PL

Activity	EP Section	Approximate location	Indicative number of vessels	Indicative sequence^	Approximate duration^	Indicative Timing^	Petroleum Title
Post–lay testing	Section 3.2.8	N/A	1 x construction vessel	Completed after umbilical lay and span rectification, if required	~2 days	Q4 2026 – Q1 2027	WA-19-PL, WA-20-PL
EJB & mudmat foundation installation	Section 3.2.9	Adjacent to Jansz CDU	1 x IMR vessel	Completed after umbilical lay operation and span rectification, if required	~2 days	Q3 – Q4 2026	WA-19-PL, WA-20-PL
Offshore hook-up and testing	Section 3.2.10	Adjacent to Gorgon CDU & Jansz CDU	1 x IMR vessel	Completed after EJB installation	~28 days	Q4 2026 – Q1 2027	WA-19-PL, WA-20-PL
IMR							
IMR (if required)	Section 3.3	As required	1 x IMR vessel	As required	As required	Q3 2026 – Q1 2027	WA-19-PL, WA-20-PL
Support activities							
Support vessel	Section 3.4	As required to support the construction vessel	1x support vessel	As required	As required	Q3 2026 – Q1 2027	WA-19-PL, WA-20-PL

^ *Subject to changes in schedule caused by weather events, vessel availability, and other unforeseen factors.*

Table 3-2: Indicative key infrastructure location, dimensions and water depth

Infrastructure	Quantity	Location	Approximate dimensions^	Approximate water depth
Fibre-optic and electrical control umbilical	1	KP0–~KP88	l: ~88 km w: 0.14 m OD: 142 mm	130–1,350 m
UTA (and mudmat foundations)	1	Adjacent to Jansz CDU	l: 10 m w: 5 m	1,350 m
UTA (and mudmat foundations)	1	Adjacent to Gorgon CDU	l: 10 m	130 m

Infrastructure	Quantity	Location	Approximate dimensions^	Approximate water depth
			w: 5 m	
EJBs (and mudmat foundation)	2	Adjacent to Jansz CDU	l: 10 m w: 5 m	1,350 m
EFLs	2	Jansz end of the umbilical	l: 1 x 30 m and 1 x 75 m	1,350 m
	1	Gorgon end of the umbilical	l: 75 m	130 m
OFLs	2	Jansz end of the umbilical	l: 75 m	1,350 m
	2	Gorgon end of the umbilical	l: 75 m	130 m

^ Dimensions (w-width; l-length; OD-outer diameter)

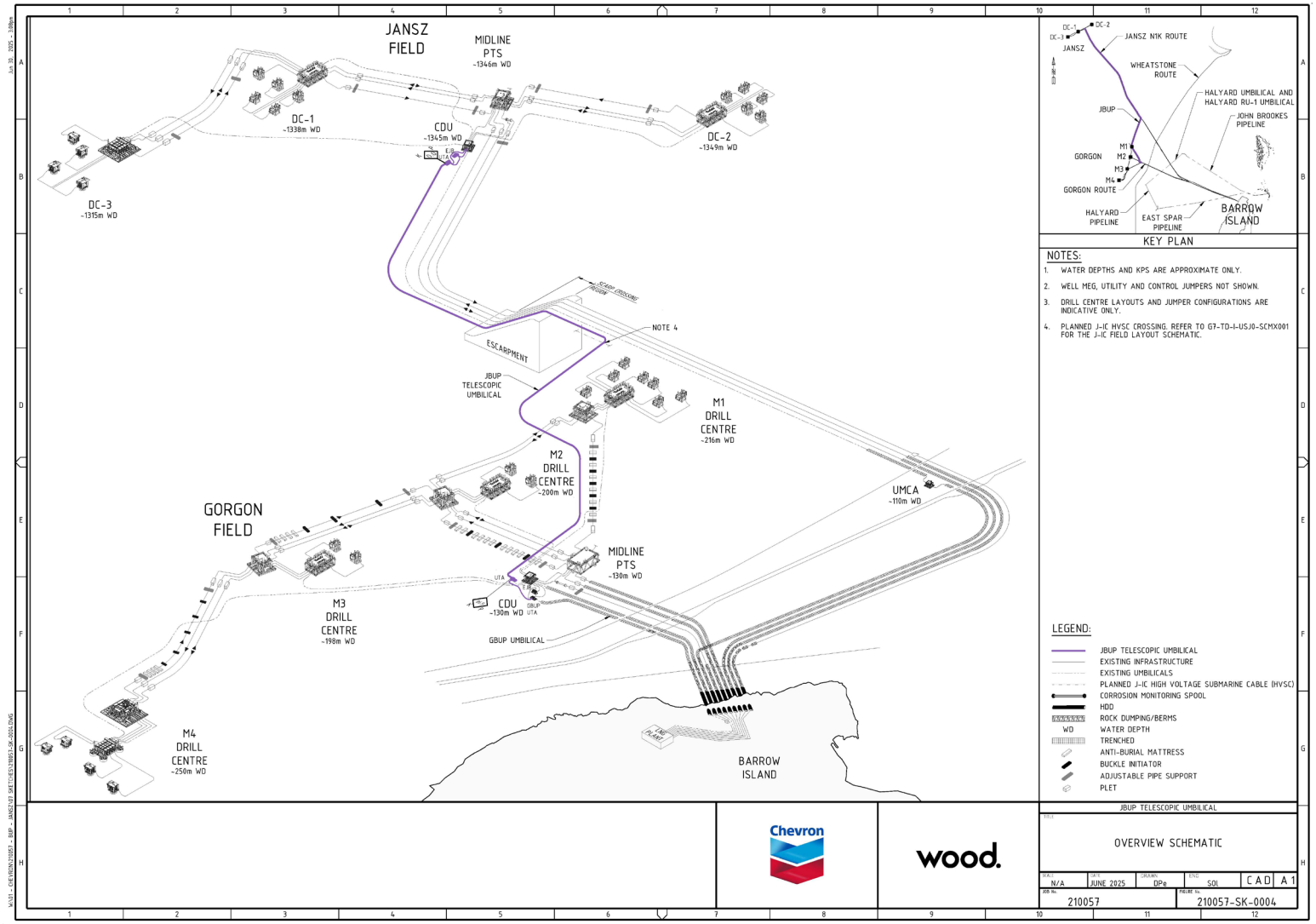


Figure 3-2: Schematic of existing infrastructure layout

3.2 Installation

3.2.1 Crossings

The umbilical route crosses existing or planned CAPL assets (Table 3-3). The planned CAPL asset is a High Voltage Submarine Cable (HVSC), which will be installed between Barrow Island and a floating Field Control Station at the Jansz–Io field (Ref. 70). The final crossing sequence (i.e. whether the umbilical passes over or under the HVSC) will be determined based on the installation schedule.

Crossings over the existing assets will be constructed using abrasion protection sheathing, concrete mattresses and/or grout bags or sand bags, if required.

In addition, an ROV will be deployed as needed for visual inspection and placement support. Table 3-1 lists the indicative duration and vessel requirements associated with this activity.

Table 3-3: Umbilical route crossings

Name	Indicative coordinates		Kilometre point (~KP)^	Water depth (~m LAT)*
	Easting (m)#	Northing (m)#		
M2 production, MEG, Utility and flowlines and umbilical crossings	279 646	7 733 714	85	141
M1-M2 MEG and Utility flowlines crossing	275 400	7 741 540	76	220
HVSC crossing	280 587	7 757 685	59	237

 # Coordinates provided in GDA94 for nominal locations to nearest metre.
^ For the umbilical, KP 0 is taken as the centre of the UTA at the Jansz–end.
** LAT = lowest astronomical tide*

3.2.2 Pre-lay survey

A visual pre–lay survey of the umbilical route including crossing and mudmat foundation locations will be undertaken prior to umbilical lay commencing, to confirm the seabed profile and identify any debris.

If any significant obstruction is encountered along the umbilical route, or at the mudmat foundation locations, the installation location will be amended around the obstruction if practicable (but still within the OA).

The pre–lay survey will involve visual inspection and use ultra–short baseline (USBL) acoustic positioning. USBL is used to track the underwater position of equipment by measuring the angle and distance of acoustic signals. A long baseline (LBL) acoustic positioning array will be used at the Jansz UTA location to aid with locating the mudmat during installation.

3.2.3 Mudmats foundations and UTA installation

The UTA mudmat foundations will be installed on the seabed using a construction vessel supported by auxiliary/main cranes, ROVs, and specialist tooling. The UTAs will be installed onto the UTA mudmat foundations. Subsea baskets may need to be temporarily placed on the seabed during installation activities.
Table 3-1 lists the indicative activity sequence, duration and vessel requirements associated with this activity.

3.2.4 Umbilical lay

The umbilical will be installed directly on the seabed from the construction vessel. Touch down monitoring via an ROV will be used throughout the umbilical lay.

The lay direction of the umbilical will be from the Gorgon CDU area to the Jansz CDU area. Bend restrictors, vortex induced vibration strakes and/or abrasion protection may be fixed to the umbilical to provide support and stabilisation between ~KP 52–54 (scarp location), at a depth of approximately 550–750 m.

While not planned, if operational or technical issues occur during umbilical lay, the umbilical may be laid down outside of the planned alignment within the OA.

Table 3-1 outlines the sequencing and indicative durations associated with this activity.

3.2.5 As-laid survey

The as-laid survey may be conducted concurrently with umbilical lay (Section 3.2.4) or as a separate activity. The as-laid survey will involve visual inspection and use acoustic positioning (as described in Section 3.2.2) along the full extent of the umbilical route.

3.2.6 Span rectification

Any span identified exceeding the allowable freespan length will be rectified by installing grout bags or sand bags between the span and seabed. Table 3-1 lists the indicative activity sequence, duration and vessel requirements associated with this activity.

3.2.7 Secondary stabilisation

If required, secondary stabilisation will use mattresses, grout bags or sand bags to provide support and protection to the umbilical and flying leads. Table 3-1 lists the indicative locations, activity sequence, duration and vessel requirements associated with this activity.

3.2.8 Post–lay testing

Testing of the umbilical will be undertaken after umbilical lay, secondary stabilisation installation and any required span rectification. Testing will be conducted using subsea test units plugged into the UTAs. At the Gorgon–end, testing may also be completed using a downline from a vessel. Table 3-1 lists the indicative activity sequence, duration and vessel requirements associated with this activity.

3.2.9 EJB and mudmat installation

The EJB on a single mudmat foundation will be installed between the UTA and the Jansz CDU with the assistance of ROVs. Table 3-1 lists the indicative activity sequence, duration and vessel requirements associated with this activity.

3.2.10 Offshore hook-up and testing

Hook-up and testing of the umbilical will be completed by an IMR vessel.

Electrical flying leads (EFLs) and optical flying leads (OFLs) are hereafter collectively referred to as ‘flying leads’. EFLs will be installed at the Gorgon CDU and Jansz CDU ends between the UTAs and the existing PCDM on the Jansz CDU via the EJBs. OFLs will be installed between the UTA and the existing

PCDM on the Jansz CDU. The flying leads routes will cross existing umbilicals between the JBUP UTA and Gorgon UTA.

Flying leads will be installed at the Gorgon CDU end between the UTA and the existing Gorgon UTA.

Before installing flying leads, any marine growth and calcareous build-up present on existing infrastructure will be removed by an ROV (e.g. via mechanical cleaning, acid-water mixture wash, water jetting, etc.). Flying leads will be installed via deployment frames from the vessel. During installation, an ROV will monitor and support the placement of equipment on the seabed and connection of flying leads. Flying leads may be secured in place by the use of sand bags.

As flying leads are installed, various stages of testing will be conducted to confirm the umbilical system system's operability.

Table 3-1 lists the indicative duration and vessel requirements associated with this activity.

3.3 Inspection, maintenance, and repair

If testing indicates an issue with the umbilical, repair works may need to be undertaken. IMR is included in this EP for the period of time between installation and prior to start-up of the umbilical. If IMR activities are required, vessels will be on site to undertake the required works.

The IMR survey may involve visual inspection conducted using an ROV.

Once the umbilical is ready for start-up, IMR activities are within scope of the *Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan* (Ref. 61).

3.4 Field support

3.4.1 Vessel operations

The petroleum activity will be supported by various vessel types, including:

- construction vessel
- IMR vessel
- support vessel

Vessels will typically use dynamic positioning (DP) when stationary or performing vessel moves where precise control is needed. Vessel anchoring within the OA is not intended for planned activities but may occur during emergencies (if required).

A 500 m safety exclusion zone around vessels undertaking installation activities will be requested for the duration of activities.

A support vessel may be used for supplying and transferring goods and materials. Resupply activities will be undertaken only as required (non-routine) and will take 6–12 hours to complete. Fuel will not be transferred.

Vessels will not use heavy fuel oil (HFO) but will utilise a lighter marine fuel such as marine diesel oil (MDO) or marine gas oil. Vessels are expected to return to port to bunker.

Vessels routinely discharge a variety of wastewater streams to the marine environment in accordance with MARPOL and relevant Marine Orders, including

sewage, greywater, putrescible waste, cooling water, brine, and oily bilge water; vessels may also incinerate solid wastes.

3.4.1.1 Concurrent activities

The construction and IMR vessel may undertake activities concurrently, however given the size of the OA and sequencing of the activity, these vessels are unlikely to operate in close proximity to each other (Table 3-1). Concurrent activities involving the construction and support vessel operating in close proximity are expected to be infrequent, non-routine and of short duration (up to 12 hours).

3.4.2 Helicopters

Where required, helicopters may be used for crew transfers or freight/goods transfers to/from the vessels. Helicopters will typically operate from Barrow Island or Karratha.

3.4.3 ROVs

All activities may be supported by ROVs deployed and controlled from the vessel, and may assist with:

- visual observations or surveys
- monitoring and positioning of subsea infrastructure
- installing, connecting, or testing of subsea infrastructure
- marine growth removal.

ROVs are generally equipped with a video camera and lighting. ROVs are also used to deploy specialist tooling and equipment. ROVs are closed systems, such that hydraulic fluids are circulated to move components.

ROVs will typically be stored on the deck of the vessels, but may be wet parked between activities, resulting in a temporary disturbance to a small area of the seabed.

3.5 Decommissioning

In alignment with best practice for proactive decommissioning[1] (Ref. 251), the following summary has been provided of CAPL's approach to decommissioning planning for the infrastructure associated with this EP.

3.5.1 Infrastructure

Table 3-4 describes the decommissioning design considerations to enable full removal for the key infrastructure to be installed under this EP. The infrastructure will be inspected, maintained, and repaired (as required) to a level which ensures adequate structural integrity is still present at retirement to allow for retrieval (Section 3.3). All infrastructure has been designed with the intent that it can be removed once it is no longer in use and/or at EOFL.

[1] Where 'decommissioning' is taken to mean "the process of removing or otherwise satisfactorily dealing with offshore petroleum property (including wells) in a safe and environmentally responsible manner when it is neither used nor intended to be used" (Ref. 251).

Table 3-4: Overview of decommissioning design considerations

Infrastructure	EP Section	Infrastructure description	Decommissioning design	Primary composition of materials
Umbilical	Section 3.2.4	Refer to Table 3-2. In addition, ~200 m of bend restrictors and/or abrasion protection will be fixed to the umbilical at the scarp crossing.	Designed to enable the disconnection and retrieval—likely using cut and lift or reverse lay methods—to a vessel or barge via ROV and recovery tools.	Umbilicals are likely composed of a variety of materials, including: • Polyethylene outer sheathing • Duplex ballast rods • Glass fibre optic cables • Copper electrical cables • PVC profile fillers
UTA	Section 3.2.3	Refer to Table 3-2.	Designed to enable lifting and retrieval to a vessel using a vessel crane, ROV and recovery tools. The integrity of lifting points on the various infrastructure will be maintained to facilitate retrieval during decommissioning. The mitigation for corrosion and deterioration in structural integrity is the corrosion protection and coating system and therefore inspections will focus on these areas.	Predominately steel.
EJBs	Section 3.2.9	Refer to Table 3-2.		Predominately steel.
Flying leads	Section 3.2.10	Refer to Table 3-2.		Flying leads are constructed from a variety of materials including, stainless steel, metal alloys and thermoplastics.
Mudmat foundations	Section 3.2.3	Refer to Table 3-2.		Mudmat foundations are primarily constructed from a variety of structural steel elements, including carbon steel and low alloy steel.
Concrete Mattresses	Sections 3.2.1, 3.2.7, 3.2.8	The number and dimensions will vary depending on operational requirements. Each mattress is typically up to 6 m x 3 m x 0.3 m (length x width x height).		Mattresses are blocks of dense material (typically concrete) bound together by flexible cables, such as polypropylene fibre ropes.
Grout and sand bags	Sections 3.2.1, 3.2.6, 3.2.10	The number will vary depending on operational requirements.		Grout and sand bags are typically made of flexible material, such as woven polypropylene and are pre-filled with the grout material likely to be sand or gravel aggregate.

3.5.1.1 Subsea inventory

To assist with the long-term planning for decommissioning, an internal inventory of subsea property is maintained by CAPL. The subsea inventory includes property that is “operational” by the Gorgon Gas Development, as well as “non-operated assets” that are not associated with any of its current operations. Subsea assets classified as abandoned (with relevant supporting regulator documentation) are not included within the subsea inventory.

A static summary of the inventory for WA-19-PL and WA-20-PL has been included in the *Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan* (Ref. 61). Note: The static summary will be updated to include property proposed to be installed under this EP.

3.5.2 Maintenance of property

Section 572(2) of the OPGGS Act requires a titleholder to maintain in good condition and repair all structures, equipment, and other property (hereafter collectively referred to as ‘property’) that is within the title area and is used in connection with the operations authorised by the title. The intent of Section 572(2) relates to ensuring that property is fit for purpose and is able to be removed when neither used, nor to be used, in connection with the operations (Ref. 250).

IMR is included in this EP for the period of time between installation and prior to commissioning and start-up of the umbilical (Section 3.3). During commissioning, start-up, and operations, IMR activities are within scope of the *Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan* (Ref. 61).

3.5.3 Removal of property

Section 572(3) of the OPGGS Act also requires a titleholder to remove all property that is within the title area and is neither used nor to be used in connection with the operations authorised by the title. It is understood that removal of property can be undertaken throughout operations; however, NOPSEMA recognises that removal may not always be practical at the time when property is neither used, nor to be used (Ref. 250).

Within the scope of this EP, there is no plan to cease using any property and thereby require removal under Section 527(3). During commissioning, startup, and operations, removal of property is within scope of the *Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan* (Ref. 61).

However, in the event that any property becomes neither used or to be used during the in-force period of this EP, the process that CAPL will follow to determine where a deviation from the requirement to remove property at the point in time that it is neither used nor to be used is appropriate, includes consideration of several criteria. Deferral of removal may be considered by CAPL if:

- redundant equipment is incorporated within or located close to live infrastructure which introduces additional complexities and risks that can be avoided during EOFL decommissioning
- while subsea property is in situ, the risks to other marine users associated with its physical presence are low the environmental risks when leaving redundant infrastructure in-situ under current operations is considered to be low

- the cost of standalone retrieval work scopes are considered disproportionate when considering the risks of retrieval during current operations versus risk of extending duration in-situ.

If after applying the above criteria, any redundant property is to remain in-situ within the title area for decommissioning as part of EOFL, it will be recorded in the subsea inventory as a “non-operated asset” (refer to Section 3.5.1.1), and will be subject to inspections to ensure that the property does not degrade to a state that would prevent future removal (refer to Section 3.5.2).

If any redundant property is to be removed, CAPL will engage with NOPSEMA regarding the removal of this property to determine if an EP (either new, or revision to an existing EP) is required.

3.5.4 End of facility life

As described in Section 2.3, EOFL decommissioning and removal of infrastructure under Section 572(3) of the OPGGS Act is not within the scope of this EP. As described in the *Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan* (Ref. 61) prior to any EOFL decommissioning, CAPL will submit a Decommissioning EP to NOPSEMA that will demonstrate that the impacts and risks associated with field decommissioning activities are reduced to ‘as low as reasonably practicable’ (ALARP) and acceptable levels.

Where the umbilical crosses existing infrastructure (refer to Table 3-3), CAPL considers this will not affect the integrity of the infrastructure such that it would subsequently affect CAPL’s approach to decommissioning. CAPL intends that the future retirement of all assets within the OA be undertaken in accordance with the Chevron *Global Upstream Asset Retirement Strategic Framework* (Ref. 74) and relevant statutory and regulatory obligations at the time.

4 description of the environment

4.1 Environment that may be affected

The environment that may be affected (EMBA) by the petroleum activity within scope of this EP has been defined as the area where a change to environmental receptors may potentially occur as a result of planned activities or unplanned events.

For the purposes of the EP, CAPL have also defined sub-areas of the EMBA that are used to support the subsequent impact and risk assessments (Table 4-1, Figure 4-1). Receptors present within the EMBA (and relevant to the purpose of each of the specific sub-areas) are described in the following sections.

There is no spatial difference between the Hydrocarbon Ecological EMBA and the Hydrocarbon Social EMBA. As such, and unless specified, the term 'Hydrocarbon EMBA' will be used to collectively to refer to both the Hydrocarbon Ecological EMBA and the Hydrocarbon Social EMBA. The term 'EMBA' will be used to collectively refer to all EMBA sub-areas listed in Table 4-1.

Table 4-1: Description of EMBA sub-areas

EMBA sub-area	Description and purpose
OA	The OA is defined as the area in which the petroleum activity will be undertaken (Section 3.1.1). The OA is relevant to the impact and risk assessments for all planned activities and unplanned events (except where specified by an aspect-specific EMBA), as the exposure area associated with these impacts and risks is considered to occur within the spatial extent of the OA.
Underwater Sound EMBA (Sound EMBA)	The Sound EMBA is relevant to the impact and risk assessments for planned underwater sound emissions (Sections 7.6 and 7.7), and determined by the predicted spatial extent of acoustic exposure at the relevant thresholds (Table 7-5).
Unplanned Hydrocarbon Release Ecological EMBA (Hydrocarbon Ecological EMBA)	The Hydrocarbon Ecological EMBA is relevant to the risk assessments for ecological receptors from unplanned hydrocarbon release events (Sections 7.14 and 7.15), and determined by the predicted spatial extent of hydrocarbon exposure at the relevant thresholds for surface, entrained, dissolved, and shoreline components (Table 7-13).
Unplanned Hydrocarbon Release Social EMBA (Hydrocarbon Social EMBA)	The Hydrocarbon Social EMBA is relevant to the risk assessments for social, economic, and cultural receptors from unplanned hydrocarbon release events (Sections 7.14 and 7.15), and determined by the predicted spatial extent of hydrocarbon exposure at the relevant thresholds for surface, entrained, dissolved, and shoreline components (Table 7-13). The Hydrocarbon Social EMBA incorporates lower thresholds for surface and shoreline hydrocarbon exposure that are associated with visible oil but are below concentrations at which ecological impacts are expected to occur.

The Planning Area for Scientific Monitoring (PASM) is determined by the predicted spatial extent of hydrocarbon exposure at the relevant thresholds for surface, entrained, and dissolved components (Table 7-13). The PASM for this activity is shown in Figure 4-1. The values and sensitivities of this area are described within Appendix D of the OSMP (Ref. 65).

The above approach to defining the spatial extent of the Hydrocarbon EMBA and PASM is considered to be consistent with NOPSEMA's advice in their 2019 oil spill modelling environment bulletin (Ref. 247).

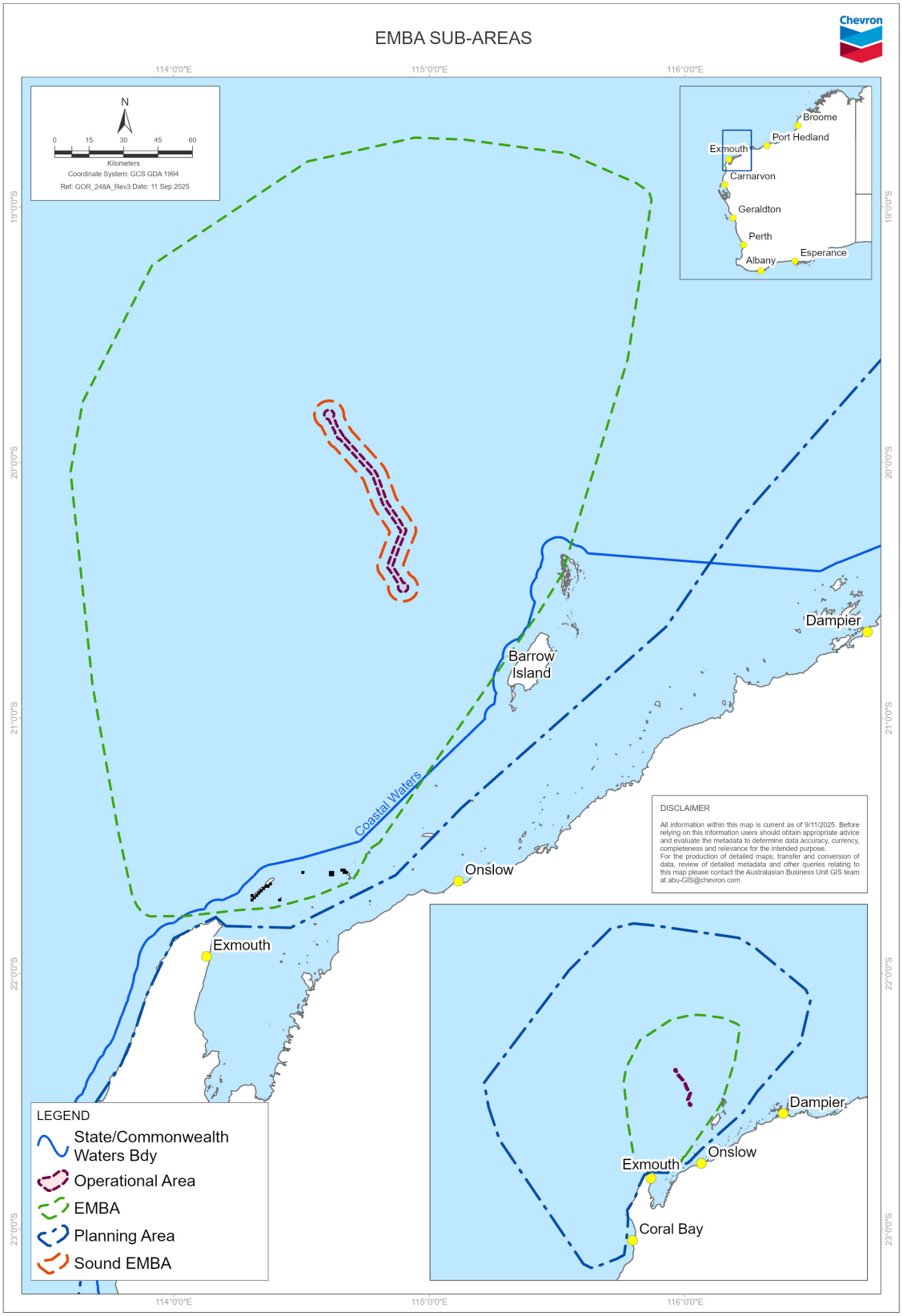


Figure 4-1: EMBA sub-areas

4.2 Matters of national environmental significance

Matters of national environmental significance (MNES) are protected under the EPBC Act. The presence of MNES within the Hydrocarbon EMBA has been determined from the Australian Government's online Protected Matters Search Tool (PMST) (Ref. 116). Table 4-2 summarises the presence of relevant marine and/or coastal MNES within the Hydrocarbon EMBA; the full PMST reports[2] are included in appendix b.

It should be noted that the EPBC Act PMST is a general database that conservatively identifies areas in which protected species have the potential to occur.

Table 4-2: Presence of MNES

MNES	OA	Sound EMBA	Hydrocarbon EMBA
World Heritage properties^	×	×	✓
National Heritage places^	×	×	✓
Wetlands of international importance (Ramsar wetlands)^	×	×	×
Nationally listed threatened species and communities^	✓ species × communities	✓ species × communities	✓ species × communities
Nationally listed migratory species^	✓	✓	✓
Commonwealth marine area^	✓	✓	✓
Great Barrier Reef Marine Park	×	×	×
Nuclear actions (including uranium mining)	—	—	—
Water resources (in relation to coal seam gas or large coal mining development)	—	—	—

^ *These MNES are also identified as relevant values and sensitivities under the OPGGS(E)R.*
Where ✓ = present, × = not present, and — = not relevant to the petroleum activity.

4.3 Ecosystems and their constituent parts, including people and communities

4.3.1 Benthic communities and habitats

Benthic communities are biological communities that inhabit the seabed and are important for primary or secondary production. Benthic habitats are areas of seabed that do, or can, support these communities. Benthic communities play important roles in maintaining the integrity of marine ecosystems and the supply of ecological services. There is strong evidence that benthic communities are important for maintaining biological diversity because they provide structurally complex and diverse habitat, refuge for vulnerable life stages and a varied and increased food supply (Ref. 159).

[2] The PMST is a general database that includes all MNES, including species or features (such as terrestrial-based species or features) that are not expected to credibly occur within the EMBA.

The Hydrocarbon EMBA occurs within the North-west Marine Region (NWMR), which is typically characterised by shallow-water tropical marine ecosystems and high species richness (Ref. 153; Ref. 132). The high species richness is thought to be associated with the diversity of habitats available, such as limestone pavement, coral reefs, and pinnacles (Ref. 153). The broader benthic communities and habitats that may be present within the Hydrocarbon EMBA are summarised below, with additional data specific to the OA summarised in Section 4.3.1.1.

The geomorphology of Australia's continental margin is varied. Based on Geoscience Australia's geomorphic classification of seabed within Australia's exclusive economic zone (EEZ) (Ref. 185), the geomorphic features present within the EMBAs are shown in Table 4-3. One of the pinnacle features identified within this dataset is Rankin Bank, a known bathymetric feature of regional significance, which occurs within the Hydrocarbon EMBA (see Section 4.3.1.2).

Table 4-3: Geomorphic features

Feature	OA	Sound EMBA	Hydrocarbon EMBA
Canyon			✓
Deep/hole/valley	✓	✓	✓
Pinnacle			✓
Plateau			✓
Shelf			✓
Slope	✓	✓	✓
Terrace		✓	✓
Trench/trough	✓	✓	✓

The composition, distribution, and movement of marine sediments is an important component of a marine ecosystem. These sediments can influence the primary biological production in the water column as well as the evolution and distribution of benthic habitats. The north-west WA comprises bio-clastic, calcareous, and organogenic sediments deposited from relatively slow and uniform sedimentation rates (Ref. 19). Sediments in the NWMR generally become finer with increasing water depth, ranging from sand and gravels on the continental shelf to mud on the continental slope and abyssal plain (Ref. 24).

Based on the Commonwealth Scientific and Industrial Research Organisation's (CSIRO) marine benthic substrate database (Ref. 86), the predominant seafloor sediment type within the OA and Sound EMBA is "calcareous gravel, sand and silt" with smaller coverage of "calcareous ooze". In addition, the Sound EMBA also intersects with "mud and calcareous clay" in the deeper offshore areas. Within the Hydrocarbon EMBA, several seafloor sediment types were identified: "calcareous gravel, sand and silt", "calcareous ooze" and "mud and calcareous clay".

The Integrated Marine and Coastal Regionalisation of Australia (IMCRA) is a biogeographic regionalisation of oceanic waters within Australia's EEZ (Ref. 129). The OA and Sound EMBA occur within the Northwest Province and Northwest

Shelf Province provincial bioregions[3]. The Hydrocarbon EMBA also intersect with the Northwest Transition and Central Western Shelf Transition provincial bioregions. The geomorphology characteristics and biological communities for each of these bioregions, as described in *The North-west Marine Bioregional Plan: Bioregional Profile* (Ref. 132), are summarised in Table 4-4.

Listed threatened ecological communities (TECs) are a MNES under the EPBC Act, and a relevant value and sensitivity under the OPGGS(E)R. There are no known TECs within the Hydrocarbon EMBA.

Table 4-4: Features of provincial bioregions

IMCRA Provincial Bioregion^	OA	Sound EMBA	Hydrocarbon EMBA
Northwest Shelf Province	✓	✓	✓
Characteristics of the geomorphology and biological communities of the Northwest Shelf Province include: • bioregion occurs almost entirely on the continental shelf, except for a small area north of Cape Leveque that extends onto the continental slope • this bioregion includes more than 60% of the continental shelf in the NWMR • continental shelf gradually slopes from the coast to the shelf break, but displays a number of seafloor features such as banks/shoals and holes/valleys, including: – Glomar Shoal which occurs in ~26–70 m water depth and is distinguished by highly fractured molluscan debris, coralline rubble and coarse carbonate sand – Leveque Rise (large plateau), which is one of only two shelf plateaux within the NWMR – significant areas of tidal sandwaves or sandbanks (ranging in height ~5–10 m) occur on the inner-most reaches of Exmouth Gulf, and are one of only three major occurrences of this type of feature in the NWMR – shelf also contains several terraces and steps that extend into adjacent bioregions and reflect ancient coastlines from when the sea level in the NWMR was lower; the most prominent of these occurs at a water depth of ~125 m • sediment differentiation occurs on a north-south gradient: – south of Broome, sediment is relatively homogenous and dominated by sands with small proportion of gravel – north of Broome, sediment is highly variable with sand or gravel dominance in no discernible spatial pattern – mud increases slightly within ~100 km of the coast, and within ~100 km of the shelf break, but is mostly absent from areas in between • sandy substrates on the shelf within this bioregion are thought to support low density benthic communities of bryozoans, molluscs, and echinoids • sponge communities are also sparsely distributed on the shelf, but are found only in areas of hard substrate Features and areas of ecological importance within the Northwest Shelf Province have been identified as: • Browse Island and surrounding waters • Lacepede Islands and surrounding waters • Quondong Point, north of Broome and surrounding waters • West coast of the Dampier Peninsula, including Beagle and Pender bays and surrounding waters			

[3] Provincial bioregions were classified based on fish, benthic (seabed) habitat and oceanographic data at a scale that is useful for regional conservation planning and management (Ref. 129).

• Pilbara coast (between Exmouth and Broome) and surrounding waters • Exmouth Gulf—Muiron Islands and surrounding waters • Ancient coastline at 125 m depth contour • Glomar Shoal. Of these features and areas within the Northwest Shelf Province, the Ancient coastline at 125 m depth contour occurs within the OA, Sound EMBA and Hydrocarbon EMBA. Refer to Section 4.3.6.1 for further descriptions of this feature.			
Northwest Province	✓	✓	✓
Characteristics of the geomorphology and biological communities of the Northwest Province include: • bioregion occurs entirely on the continental slope and is comprised of muddy sediments • distinguished by a number of topographic features, such as the Exmouth Plateau, terraces and canyons (including the Swan and Cape Range canyons), as well as deep holes and valleys on the inner slope (including the Montebello Trough) • the benthic shelf and slope communities of this bioregion comprise both tropical and temperate species with a north-south gradient • the continental slope between North West Cape and the Montebello Trough has been identified as one of the most diverse slope habitats of Australia • the Exmouth Plateau is also likely to be an important area for biodiversity as it provides an extended area offshore for communities adapted to depths of ~1,000 m • information available on sediments in the bioregion indicates: – benthic communities are likely to include filter feeders and other epifauna – soft-bottom environments are likely to support patchy distributions of mobile epibenthos, such as sea cucumbers, ophiuroids, echinoderms, polychaetes and sea pens – biological communities within canyons in the bioregion are poorly understood. Features and areas of ecological importance within the Northwest Province have been identified as: • Exmouth Plateau • canyons on the slope, including the Cape Range Canyon • demersal fish communities associated with the slope. Of these features and areas within the Northwest Province, the demersal fish communities associated with the slope occurs within the OA, Sound EMBA and Hydrocarbon EMBA. The Exmouth Plateau and canyons on the slope also occur within the Hydrocarbon EMBA. Refer to Section 4.3.6.1 for further descriptions of these features.			
Northwest Transition			✓
Characteristics of the geomorphology and biological communities of the Northwest Transition include: • around half (52%) of the bioregion occurs on the continental slope, with smaller areas in the north-west of the bioregion located on the Argo Abyssal Plain and continental rise • encompasses a range of water depths, from the shelf break (~200 m water depth) to ~5,980 m over the Argo Abyssal Plain • other topographic features within the bioregion include areas of rise, ridges, canyons and apron/fans • sediments of the slope are dominated by sands, whereas the sediments of the abyssal plain/deep ocean floor are dominated by muds • the bioregion also has reefs such as Mermaid, Clerke, and Imperieuse reefs, which are collectively known as the Rowley Shoals • the benthos of the deep ocean areas are likely to support meiofauna (e.g. nematodes), larger infauna (e.g. polychaete worms, isopods), and sparsely distributed epibenthic communities (e.g. sea pens) • mobile benthic species (e.g. deepwater sea cucumbers, crabs, polychaetes) are likely to be associated with the seafloor, and bioregion may support sparse populations of bentho-pelagic fish and cephalopods in low densities.			

Features and areas of ecological importance within the Northwest Transition have been identified as: • Rowley Shoals—Mermaid Reef Marine National Nature Reserve, Clerke and Imperieuse reefs and surrounding waters • Fish communities associated with the slope. Of these features and areas within the Northwest Transition, the demersal fish communities associated with the slope occurs within the OA, Sound EMBA, and Hydrocarbon EMBA. Refer to Section 4.3.6.1 for further descriptions of this feature.			
Central Western Shelf Transition			✓
Characteristics of the geomorphology and biological communities of the Central Western Shelf Transition include: • bioregion is located entirely on the continental shelf and is comprised mainly of sandy sediments – this bioregion includes both State and Commonwealth waters between water depths of 0 m to ~80 m – Commonwealth waters in this bioregion represent <1% of the total area of the NWMR. • the benthic ecological communities of the bioregion, include both tropical and temperate species transitioning along a north-south gradient • Ningaloo Reef is the most significant geomorphic feature of this bioregion: – it extends along the Cape Range Peninsula for over 260 km, and is the only example in the world of an extensive fringing coral reef on the west coast of a continent – it is marked by a well-developed spur and groove system of fingers of coral formations penetrating into the ocean with coral sand channels in between – a lagoon on the inshore side separates Ningaloo reef from the mainland – the biological communities of the Ningaloo Reef differ from the hard coral reefs located elsewhere in the NWMR – a large proportion of this bioregion is covered by the State and Commonwealth Ningaloo Marine Parks, which are one of the most significant hotspots of biodiversity within the NWMR – the Ningaloo Marine Parks incorporate a diversity of habitats including the seabed of the continental slope and shelf that supports demersal and benthic plants and animals including fish, molluscs, algae, sponges, soft corals and burrowing bivalves; as well as coral reefs and intertidal areas such as rocky shores and mangroves in State waters. Of these features and areas within the Central Western Shelf Transition, the demersal fish communities associated with the slope and Commonwealth waters adjacent to Ningaloo Reef occurs within the Hydrocarbon EMBA. Refer to Section 4.3.6.1 for further descriptions of these feature.			

^ *Source: Ref. 153.*

4.3.1.1 Operational Area

In addition to the broad marine habitat description provided for the Hydrocarbon EMBA, CAPL has conducted surveys within the OA to understand the nature and composition of habitat and seabed sediments. These surveys comprise geophysical surveys, visual ROV surveys, and seabed sampling.

Data from these surveys were interpreted to characterise the benthic substrate. The benthic substrate within the deeper waters of the OA predominantly comprise soft sediments (clays) (Figure 4-2). These transition to sands, muds or gravels overlying subcropping cemented sediments on the continental shelf, in water depths of ~220–390 m (Figure 4-2). Furthermore, in the gully region along the Jansz pipeline route in ~250 m water depth, previous ROV surveys have indicated that the seabed was found to be dominated by silty mud with little evidence of marine flora or fauna (Figure 4-3) (Ref. 286).

Based on ROV transects taken in the scarp region within water depths of ~558–714 m, the most common benthic substrate comprised soft sediments—sand, silt,

and mud (Ref. 286; Figure 4-4). These habitat types are widespread in the region and are not considered to be of regional significance due to their ubiquity and the sparseness of biota supported (Ref. 286). The steep scarp face was found to comprise mainly over-consolidated silt materials, mostly devoid of marine growth, with occasional sparse communities of benthic invertebrates including soft corals, bryozoans, and colonial ascidians (Figure 4-4). These over-consolidated silt sediments provide structural diversity to an otherwise flat benthos. They are of higher conservation significance than the soft sediment habitats found in the area as they are less widespread and support more abundant biota (Ref. 286). However, based on the high-resolution bathymetry data from the area (Ref. 286), these hard scarp features probably stretch at least 10 km to the north and 5 km the south of the Jansz pipeline.

Recent (2022) surveys of benthic habitat along parts of the Jansz pipeline route (Ref. 4) are consistent with previous surveys. The recent surveys showed the predominant benthic habitat was bare substrate, with either a smooth (mostly flat) or irregular (mostly flat with minor features) surface (Ref. 4). The only area identified as a high likelihood of biota being present was some patches over the scarp and in the vicinity of M1 (Ref. 4).

Within the OA, surveys identified that the Continental slope demersal fish communities KEF comprises mixed benthic habitats, predominantly comprising irregular and smooth seabed of bare substrate, with discrete depressions over bare substrate and scarp with bare substrate. A continuous south-west to north-east scarp intersecting the OA within this KEF was identified as having a high likelihood of biota and is likely to support sparsely distributed and isolated individuals of cnidarians, echinoderms and sponges. Additionally, a patch of reef mosaic located north of M1 within this KEF was identified as having a high likelihood of biota and likely to support sparsely distributed and isolated individuals of sponges and cnidarians (Figure 4-2; Ref. 4).

Surveys also identified that the benthic habitat of the Ancient coastline at the 125 m depth contour KEF within the OA comprised smooth seabed with bioturbation and bare substrate that appeared devoid of biota (Figure 4-2; Ref. 4).

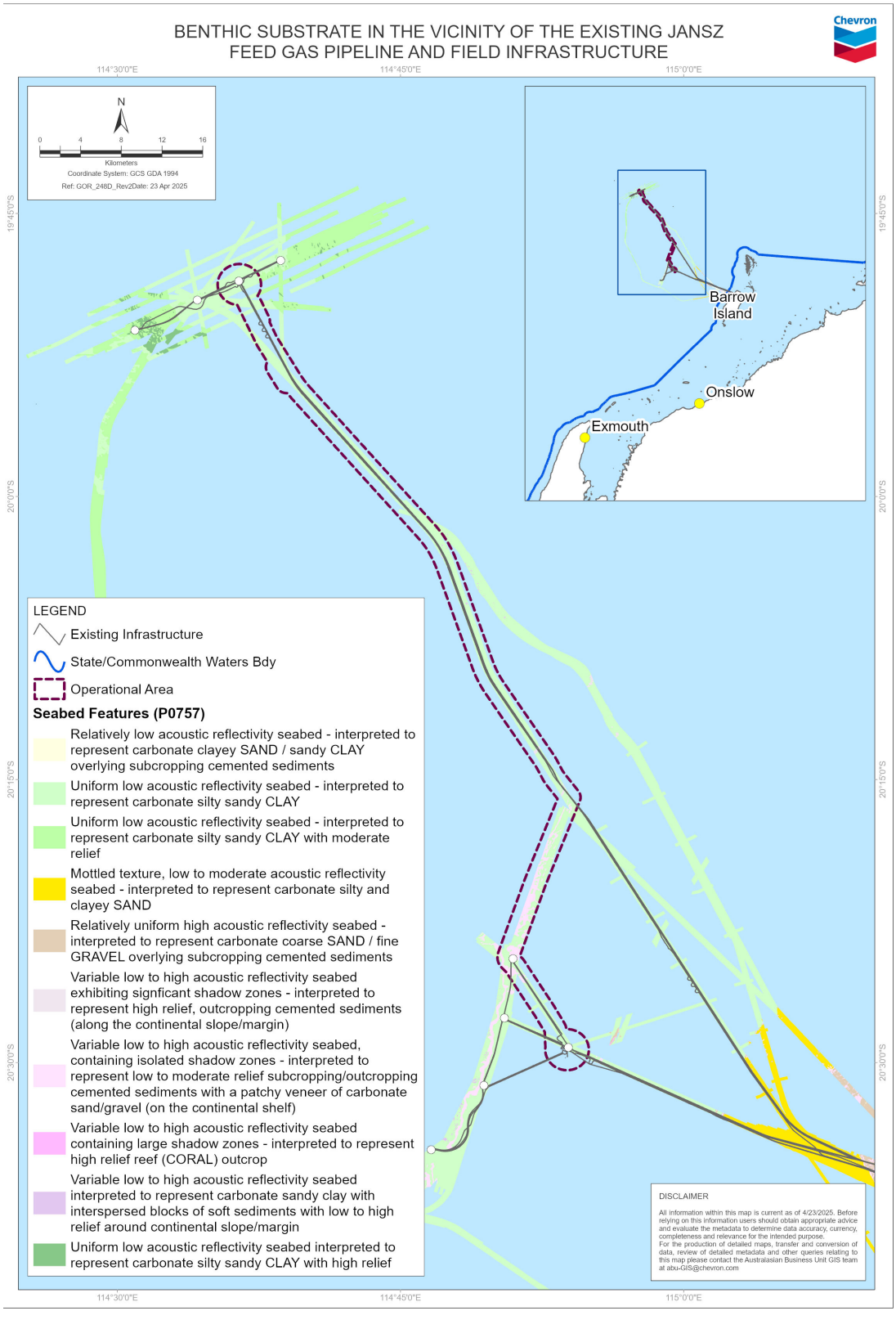
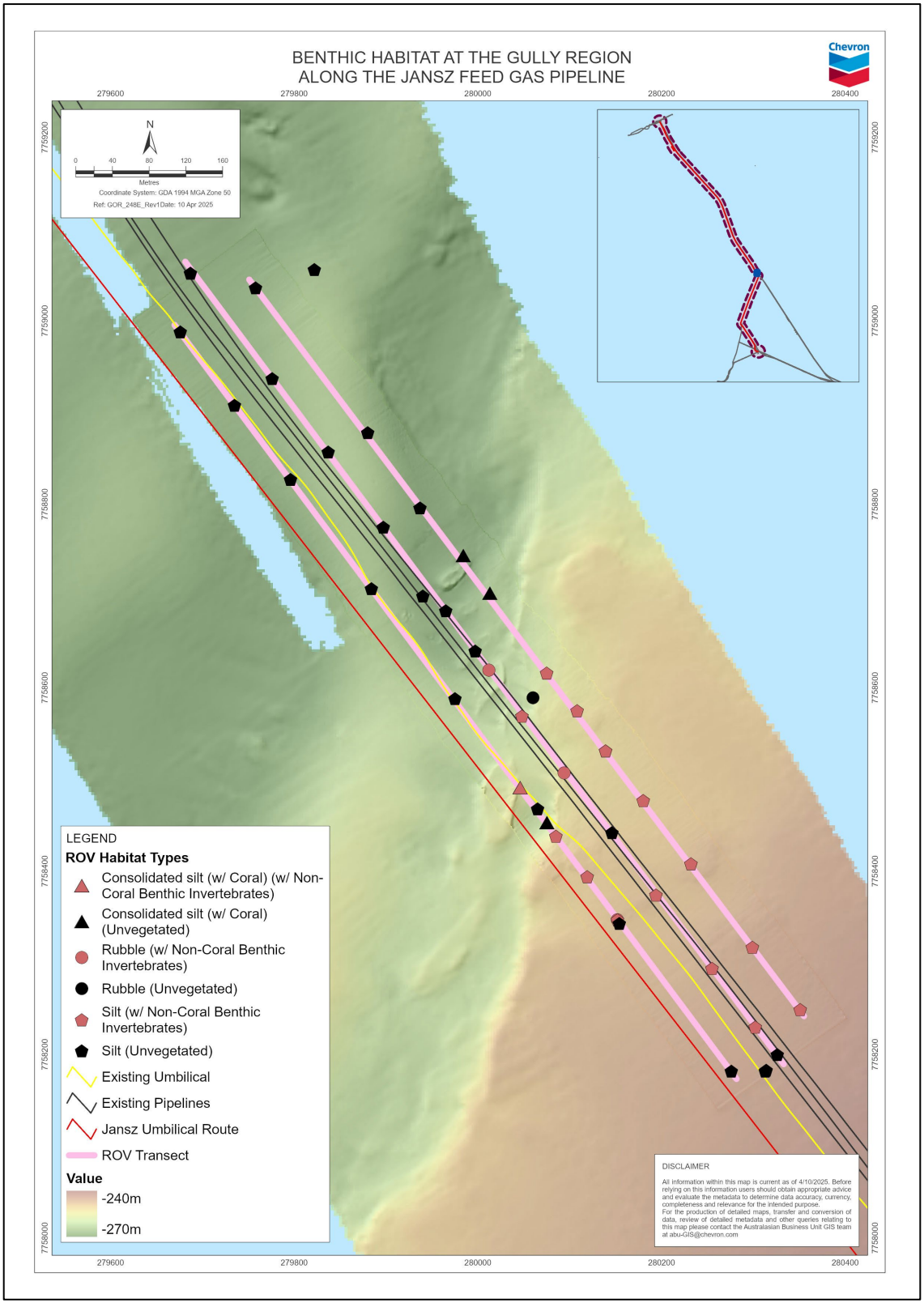
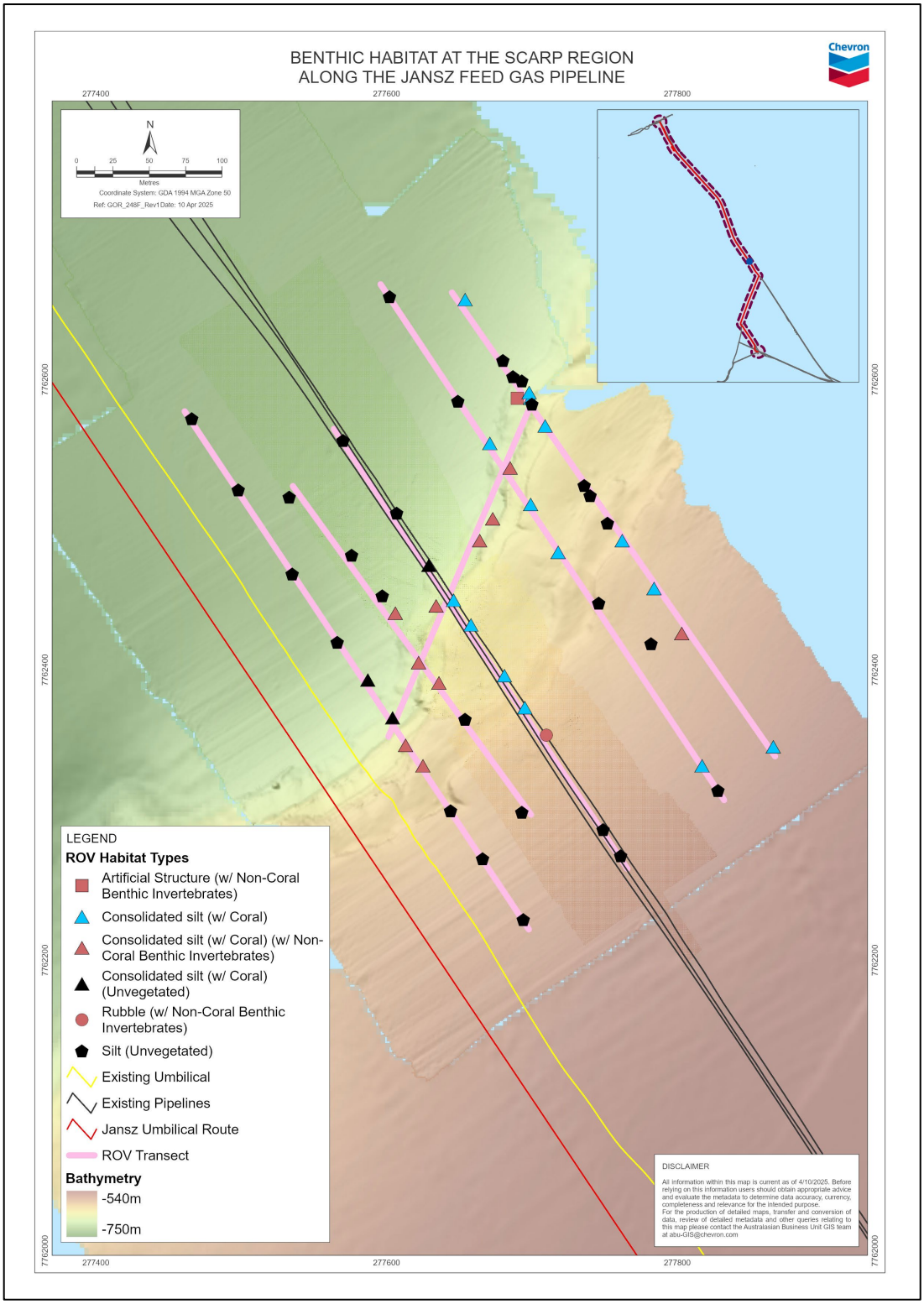


Figure 4-2: Benthic substrate in the vicinity of the existing Jansz feed gas pipeline and field infrastructure



Source: (Ref. 286)

Figure 4-3: Benthic habitat at the gully region along the Jansz feed gas pipeline



Source: (Ref. 286)

Figure 4-4: Benthic habitat at the scarp region along the Jansz feed gas pipeline

4.3.1.2 Rankin Bank

Rankin Bank is located ~91 km northeast of the OA. While Rankin Bank is not protected and is not a key ecological feature (KEF), it is a large, complex bathymetrical feature on the outer western shelf of the Pilbara region and

represents habitats that are likely to play an important role in the productivity of the Pilbara region (Ref. 9). Rankin Bank has three submerged shoals delineated by the 50 m depth contour with water depths of ~18–30.5 m (Ref. 216). In 2013, Australian Institute of Marine Science (AIMS) and Woodside co-invested in a project to better understand the habitats and complexity of the submerged shoal ecosystems. Rankin Bank represents a diverse marine environment, predominantly composed of consolidated reef and algae habitat (~55% cover), followed by hard corals (~25% cover), unconsolidated sand/silt habitat (~16% cover), and benthic communities composed of macroalgae, soft corals, sponges, and other invertebrates (~3% cover) (Ref. 9). The proportion of cover at Rankin Bank was highest for macroalgae and hard corals, particularly at depths less than 40 m, and decreased with increasing depth (Ref. 3). Encrusting corals (reaching cover of ~12.5%) at depths less than 40 m and solitary corals (~10% cover) primarily at depths between 40–60 m, were also present (Ref. 3). Other benthic taxa including soft corals and sponges were present in lower proportions at all depths (Ref. 3). The high cover of macroalgae and hard corals in shallower water depths are likely due to greater light penetration and lower sand cover (Ref. 3).

4.3.2 Coastal communities and habitats

Coastal communities are biological communities that inhabit the coastal zone. Coastal habitats are areas of shoreline types that do, or can, support these communities. Similarly, to benthic communities (as described in Section 4.3.1), coastal communities are likely to play roles in maintaining the integrity and diversity of coastal ecosystems, and the supply of ecological services.

The OA and Sound EMBA occur offshore and do not interface with the mainland coastline (Figure 4-1). The Hydrocarbon EMBA interfaces with offshore island coastlines, including Montebello Islands and Pilbara inshore islands (due to predicted entrained oil associated with unplanned hydrocarbon release events; Table 4-1). The coastal communities and habitats that may be present within the Hydrocarbon EMBA are summarised below.

Based on Smartline (Ref. 292), a spatial database containing geomorphic classifications for Australia's coasts, the types of shoreline present within the Hydrocarbon EMBA include rocky coasts and sandy beaches.

The Seamap Australia spatial database collates and classifies marine and coastal habitats on the Australian continental shelf (Ref. 77). Based on this dataset, areas of isolated areas of mangroves may be present on Montebello Islands. Mangroves grow within the intertidal zone and are typically located within sheltered areas. The mangrove communities within the Montebello Islands are considered globally significant as they occur in lagoons of offshore islands (Ref. 125).

Listed TECs and wetlands of international importance (Ramsar wetlands) are MNES under the EPBC Act, and a relevant value and sensitivity under the OPGGS(E)R. There are no known TECs or Ramsar wetlands within the Hydrocarbon EMBA.

4.3.3 Marine fauna

Listed threatened or migratory species are MNES under the EPBC Act, and a relevant value and sensitivity under the OPGGS(E)R. The following sections identify the presence of these species, and any habitat critical to the survival (HCTS) of a species or biologically important areas (BIAs) for protected marine species within the Hydrocarbon EMBA.

HCTS of a species or ecological community are areas necessary:

- for activities such as foraging, breeding, roosting, or dispersal
- for the long-term maintenance of the species or ecological community
- to maintain genetic diversity and long-term evolutionary development
- for the reintroduction of populations or recovery of the species or ecological community (Ref. 138).

BIAs are areas and times used by protected marine species for critical life functions, such as reproduction, feeding, migration or resting (Ref. 109). These behaviours are referred to as biologically important behaviours.

Note: The Australian Marine Spatial Information System (Ref. 81) and associated HCTS and BIA geospatial datasets (Ref. 112; Ref. 95; Ref. 107) were used to verify the presence of HCTS and BIAs within the Hydrocarbon EMBA[4].

4.3.3.1 Marine mammals

Based on searches of the online PMST (Ref. 116; appendix b), the threatened and/or migratory marine mammal species shown in Table 4-5 may be present within the Hydrocarbon EMBA. The full list of marine species identified from the PMST is provided in appendix b. HCTS of a species and BIAs associated with protected marine mammal species are listed in Table 4-6 and Table 4-7.

For the threatened and/or migratory species with BIAs within the OA or Sound EMBA (i.e. areas associated with planned activities), additional information has been provided in the following subsections. Summary descriptions of the other threatened and/or migratory marine mammal species that may be present within the Hydrocarbon EMBA are included Appendix D of the OSMP (Ref. 65).

The threatened and/or migratory cetaceans that may be present within the OA and Sound EMBA are predominantly low-frequency cetaceans[5] (Antarctic Minke Whale, Blue Whale, Bryde's Whale, Fin Whale, Humpback Whale, Sei Whale) and high-frequency cetaceans[6] (Sperm Whale, Australian Humpback Dolphin, Australian Snubfin Dolphin, Killer Whale, Spotted Bottlenose Dolphin). Very-high-frequency cetaceans[7] (e.g. Dwarf Sperm Whale, Pygmy Sperm Whale) were also identified within the PMST results (Ref. 116; appendix b) as species or species habitat that may occur within the OA and Sound EMBA; these species are not listed as threatened and/or migratory under the EPBC Act. As shown in Table 4-7, except for Pygmy Blue and Humpback Whales, there are no other known BIAs or aggregation areas for other cetacean species that intersect with the OA or Sound EMBA; as such, it is expected that any presence cetacean species within the OA and Sound EMBA would be of a transitory nature.

CAPL deployed three acoustic loggers for a full year period in 2019 located at various sites and depths adjacent to the existing Jansz field infrastructure. Several species of cetaceans were identified, including Pygmy Blue, Antarctic Blue,

[4] The PMST is a general database and may identify HCTS or BIAs that do not overlap the EMBA.

[5] Low–frequency cetaceans are the functional cetacean hearing group that are specialised for hearing low frequencies (e.g. baleen whales).

[6] Mid–frequency cetaceans are the functional cetacean hearing group that are specialised for hearing mid frequencies (e.g. toothed whales, beaked whales, dolphins).

[7] High–frequency cetaceans are the functional cetacean hearing group that are specialised for hearing high frequencies (e.g. *Kogia* spp).

Omura's, Bryde's, Dwarf Minke, Antarctic Minke, Fin, Humpback, Sei and Sperm whales. Small odontocetes (e.g. dolphins) were also detected (Ref. 50).

Table 4-5: Presence of listed threatened and/or migratory marine mammals

Common name (EPBC protected status)	OA	Sound EMBA	Hydrocarbon EMBA
Cetaceans (whales)			
Antarctic Minke Whale *(Migratory)*	✓	✓	✓
Blue Whale *(Endangered, migratory)*	✓	✓	✓
Bryde's Whale *(Migratory)*	✓	✓	✓
Fin Whale *(Vulnerable, migratory)*	✓	✓	✓
Humpback Whale *(Migratory)*	✓	✓	✓
Omura's Whale (*Migratory*)[8]			
Sei Whale *(Vulnerable, migratory)*	✓	✓	✓
Southern Right Whale *(Endangered, migratory)*			✓
Sperm Whale *(Migratory)*	✓	✓	✓
Cetaceans (dolphins)			
Australian Humpback Dolphin *(Vulnerable, migratory)*	✓	✓	✓
Australian Snubfin Dolphin *(Vulnerable, migratory)*	✓	✓	✓
Killer Whale *(Migratory)*	✓	✓	✓
Spotted Bottlenose Dolphin *(Migratory)*	✓	✓	✓
Sirenians			
Dugong *(Migratory)*			✓

Table 4-6: HCTS of marine mammals

Common Name	HCTS location	Seasonal Presence^	OA	Sound EMBA	Hydrocarbon EMBA
Southern right whale	All reproductive BIAs	Approximately May to September			✓

^*Source: Ref. 110.*

[8] Omura's Whale did not appear on the PMST search, however it has been assumed to intersect with all areas.

Table 4-7: Presence of BIAs for marine mammals

Common Name	BIA Behaviour	Seasonal Presence^	OA	Sound EMBA	Hydrocarbon EMBA
Dugong	Breeding	Year round			✓
	Calving	Year round			✓
	Foraging (high density seagrass beds)	Year round			✓
	Nursing	Year round			✓
Humpback Whale	Migration (north and south)	Northern migration, late July to September		✓	✓
Pygmy Blue Whale	Migration	Northern migration (enter Perth canyon January to May; pass Exmouth April to August; continue north to Indonesia) Southern migration (follow WA coastline from October to late December)	✓	✓	✓
Southern Right Whale	Migration	Approximately April to October			✓
	Reproduction	Approximately May to September			✓

^*Source: Ref. 112, Ref. 107.*

4.3.3.1.1 Humpback Whale

Humpback Whales (WA subpopulation) migrate annually between their feeding grounds in Antarctic waters and their calving grounds in Kimberley waters (Ref. 207). The exact timing of the migration period can vary from year-to-year, however in general the species are sighted in southern Australian waters in May, they then migrate northwards and southwards along the coast, with sightings rare after November (Ref. 141; Ref. 315).

Northbound Humpback Whales tend to remain around the 200 m water depth contour, while southbound Humpback Whales tend to travel closer to Barrow Island and generally occur between 50 m and 200 m water depths (Ref. 207). The migration (north and south) BIA corridor extends from the coast to out to ~100 km offshore in the Kimberley and Pilbara regions; reducing to ~50 km offshore south of North West Cape (Figure 4-5).

The Humpback Whale breeding and calving grounds in the southern Kimberley region extend from Broome to the northern end of Camden Sound, particularly between Lacepede Islands and Camden Sound (Ref. 207). Breeding and calving occur in the region between mid-August and early-September (Ref. 207), followed by the start of the southern migration. Exmouth Gulf and Shark Bay are both important resting areas for migrating Humpback Whales, particularly for cow-calf pairs on the southern migration (Ref. 207). The southerly migration, from around the Lacepede Islands (north of Broome) extends parallel to the coast on approximately the 20–30 m depth contour (Ref. 207, Ref. 203). Southbound migration is more diffuse and irregular, lacking an obvious peak. An increase in

southerly migrating individuals may be observed between the North West Cape and the Montebello Islands between August to early September (Ref. 207; Ref. 50). The predicted peaks in Humpback Whale migration in the Montebello Islands region are late-July (northern migration) and early-September (southern migration) (Ref. 207). Females and calves are known to stop and rest in Exmouth Gulf and Shark Bay (Ref. 207).

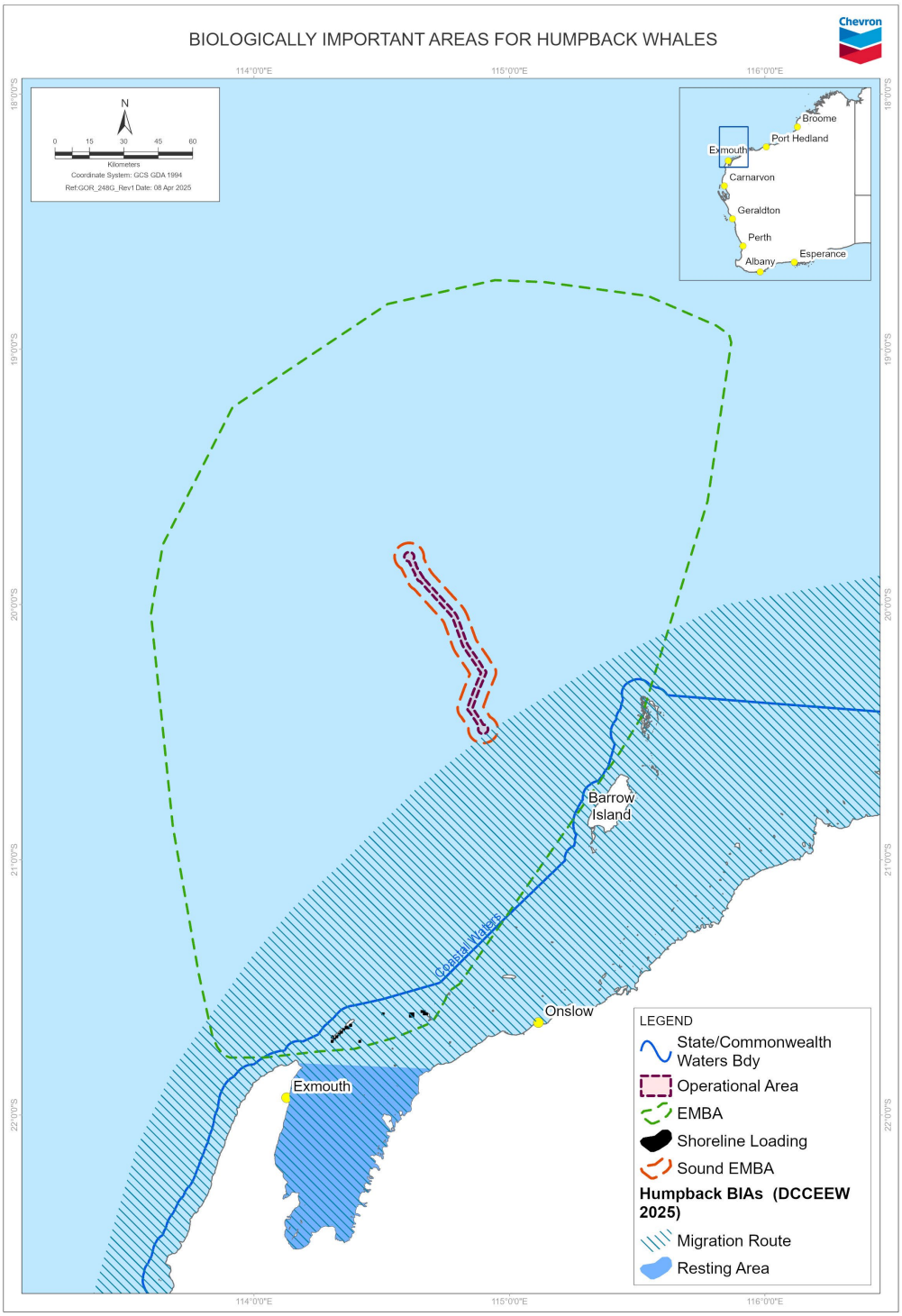


Figure 4-5: Biologically important areas for Humpback Whales

4.3.3.1.2 Pygmy Blue Whale

Pygmy Blue Whales migrate along the west coast of Australia in the northern direction to their breeding grounds near the Indonesian Archipelago from mid-February to early June, and in the southern direction to the feeding grounds in the Southern Ocean from mid-November to early January (Ref. 175). Recent information collected from satellite tags shows that the Banda and Molucca seas in Indonesia are the likely destination for the northern migration of whales that feed off the Perth Canyon (Ref. 173; Ref. 173; Ref. 146). These seas are considered the northern terminus of the migration and potentially the breeding and calving ground, but may also act as a feeding area (Ref. 146; Ref. 209).

Acoustic monitoring conducted by McCauley and Jenner (Ref. 229) in the Exmouth and northern Montebello Islands region identified a peak period in the northern migration of Pygmy Blue Whales from April to August, and from November through to late December during the southern migration. It was estimated by McCauley and Jenner (Ref. 229) that 700–1,500 Pygmy Blue Whales migrated southward past Exmouth in 2004.

CAPL noise loggers deployed for a full year period in 2019 detected Pygmy Blue Whales on their northern and southern migration (Ref. 50). The noise loggers were located at various sites and depths adjacent to existing Jansz field infrastructure (and within the OA). The detection of Pygmy Blue Whale song peaked from mid-April to the end July, and then again from beginning of November through to early-December (Ref. 50). These peaks correspond with previously identified northern and southern migration peak periods of Pygmy Blue Whales. Pygmy Blue Whale song was detected on more days than any other type of mysticete (baleen whale) sound (Ref. 50).

It is known the Pygmy Blue Whales generally tend to follow the WA continental shelf edge between their feeding grounds at the Perth Canyon and the North West Cape. However, the migratory pathway of whales north of the North West Cape is less defined. The migration BIA for Pygmy Blue Whales has been historically described as occurring along the continental shelf edge between 500 m and 1,000 m water depths (Ref. 153; Ref. 139).

Ferreira et al. (Ref. 165) analysed available satellite tracking data for Pygmy Blue Whales and environmental data to predict migration habitat suitability. The analyses determined that large areas along the continental shelf break (~200 m bathymetry contour) and slope off the WA coast are suitable habitat for migration. North of Ningaloo Reef (and extending to Ashmore Reef) there was a separation of suitable migration habitat between the deep ocean basin area and slope habitat (Ref. 165). Furthermore, other studies (e.g. Ref. 146; Ref. 175) suggest that Pygmy Blue Whales are likely to transit through deeper and further offshore waters north of the North West Cape. Satellite tracking data showed Pygmy Blue Whales on their northern migration travelled relatively near to the Australian coast (100±1.7 km) in water depths of 1,369.5±47.4 m, until reaching the North West Cape, after which they travelled further offshore (238±14 km) into progressively deeper water (2,617±143.5 m) (Ref. 146). Data from tagged Pygmy Blue Whales also indicates that during their northern migration, the width of the migration path increases north of Montebello Islands, from ~175 km to ~690 km at its widest point (Ref. 308). Gavrilov et al. (Ref. 175) conducted a study using an array of ocean bottom seismographs to detect Pygmy Blue Whales traversing the area to the northwest of the North West Cape during their southern migration. This study found that Pygmy Blue Whales migrated southward much further from the WA coast compared to the northbound migration, at distances of up to 400 km from

shore (Ref. 175). Pygmy Blue Whales have demonstrated extensive use of continental slope habitat off WA and only limited use of shelf waters (Ref. 308). This contrasts with southern Australia, where use of the shelf and shelf break by Pygmy Blue Whales is more common.

McCauley and Jenner (Ref. 229) recorded 24-hour average counts of Pygmy Blue Whales along the WA coast during their migrations periods and found that the migratory habits are short and sharp pulses for the southbound Pygmy Blue Whales and a more protracted pulse of northbound Pygmy Blue Whales. This suggests that the southern migration Pygmy Blue Whales are swimming purposefully through the area to reach their southern feeding grounds, thus resulting in the data collected for Pygmy Blue Whales migrating through the area is not confounded by lingering Pygmy Blue Whales but they are swimming steadily past. A difference in travel speed was also reported by Thums et al (Ref. 308), where median speed during northward migration was 2.4 km/h (<0.1–15.4 km/h, n=22), and southward migration was 4.0–5.0 km/h (n=2).

A 2022 study incorporating data collected from both passive acoustic monitoring and satellite telemetry data, was analysed and determined the 'most important areas' for migration [9] along the WA coast as an almost continuous stretch from southern WA to around the latitude of Rowley Shoals, and thereafter was more dispersed (Ref. 308). The northern extent of the OA and Sound EMBA intersects the most important area for migration (Figure 4-6).

Ferreira et al. (Ref. 165) compiled satellite tracking data for 38 Pygmy Blue Whales and used movement models to distinguish between low and high move persistence and correlated the data with environmental variables. Typically, high move persistence is indicative of migration, while low move persistence is generally indicative of foraging or reproduction (Ref. 308). In alignment with other studies, the continental slope off the north- west Australian coast was predicted to be suitable habitat for migration (Ref. 165).

Predictions from modelling based on passive acoustic data indicate greatest numbers of Pygmy Blue Whales during April and June/July (northern migration), and November and December (southern migration) (Ref. 308). Monthly spatial predictions indicated higher densities around the Montebello Island region during May and June (northern migration) and November and December (southern migration) (Ref. 308).

Pygmy Blue Whales aggregate in the Austral summer to feed at known locations on or adjacent to the continental shelf including the Perth Canyon, Great Southern Australian Coastal Upwelling System, and the sub-tropical convergence zone (Ref. 308). The areas around the Perth Canyon and Australian Coastal Upwelling System correspond to 'Foraging Areas' and 'Known Foraging Areas' within the *Conservation Management Plan for the Blue Whale* (Ref. 139). This plan also identifies 'Possible Foraging Areas' [10], including two in WA, one off the Ningaloo coast, and another around Scott Reef. These 'Possible Foraging Areas' have been characterised as foraging BIAs and occur ~180 km south-west and ~920 km north-east of the OA respectively.

[9] Grid cells with overlap between two metrics: largest percentage of whales and high move persistence, were designated as the 'most important areas' for migration (Ref. 308).

[10] "Evidence of feeding is based on limited direct observations or through indirect evidence, such as occurrence of krill in close proximity to whales, or satellite tagged whales showing circling tracks. Blue whales travel through on a seasonal basis, possibly as part of their migratory route" (Ref. 308).

Ferreira et al. (Ref. 165) analysed available satellite tracking data for Pygmy Blue Whales and environmental data to predict foraging habitat suitability. Suitable foraging habitat was identified as a large semi-continuous area from the southern extent (28°S) to the northeastern edge of the modelled region (11.5°S). The model indicated high habitat suitability extending out from the continental shelf break (200 m bathymetry contour) in the northwest of WA; with the highest relative suitability occurred from just south of Shark Bay to Scott Reef along the continental shelf break and slope, and also extending to the Exmouth Plateau (Ref. 165). The study indicates suitable habitat is related to dynamic and localised oceanic processes that may occur at different temporal scales (Ref. 165).

Thums et al. (Ref. 308) determined that Pygmy Blue Whale movement off north-west WA was predominantly relatively fast, directed travel (high move persistence) interspersed with relatively short (median 28 h) periods of low move persistence (Ref. 308). This high move persistence is indicative of migration, while the low move persistence is generally indicative of foraging (Ref. 308). Data collected from both passive acoustic monitoring and satellite telemetry data, was analysed and determined the 'most important areas' for foraging[11] along the WA coast included the Perth Canyon and vicinity, the shelf edge off Geraldton, and discontinuous use of the shelf edge from Ningaloo Reef to Rowley Shoals (Ref. 308). Although foraging areas are described as static, they are likely to be dynamic given their dependence on presence of prey (Ref. 308; Ref. 269). Thums et al. (Ref. 342) collected and analysed data from tagged Pygmy Blue Whales during their northern migration. The data support the previously observed higher movement rates and opportunistic foraging off north-west Australia where foraging dives were observed to be shallower and their horizontal travel rates faster. Furthermore, the data indicate an absence of diurnal diving patterns, suggesting a dependence on ephemeral prey. The OA and Sound EMBA does not intersect with the most important area for foraging (Figure 4-7).

The OA is located in water depths ranging from ~115–1,350 m. The defined migratory BIA for Pygmy Blue Whales overlaps the OA. In addition, it is expected based on satellite tracking and acoustic detection studies that Pygmy Blue Whales are likely to travel in the northern areas of the OA, particularly on their southern migration (peak period November to December), but also during the northern migration (peak period May to June). While foraging BIAs have not been identified along the North West Shelf (NWS), recent analysis indicates that there may be short interspersed periods of foraging occurring along the shelf edge during migration (Ref. 308).

[11] Grid cells with overlap between three metrics: greatest time spent, largest percentage of whales, and lowest move persistence, were designated as the 'most important areas' for foraging (and/or resting/breeding) (Ref. 308).

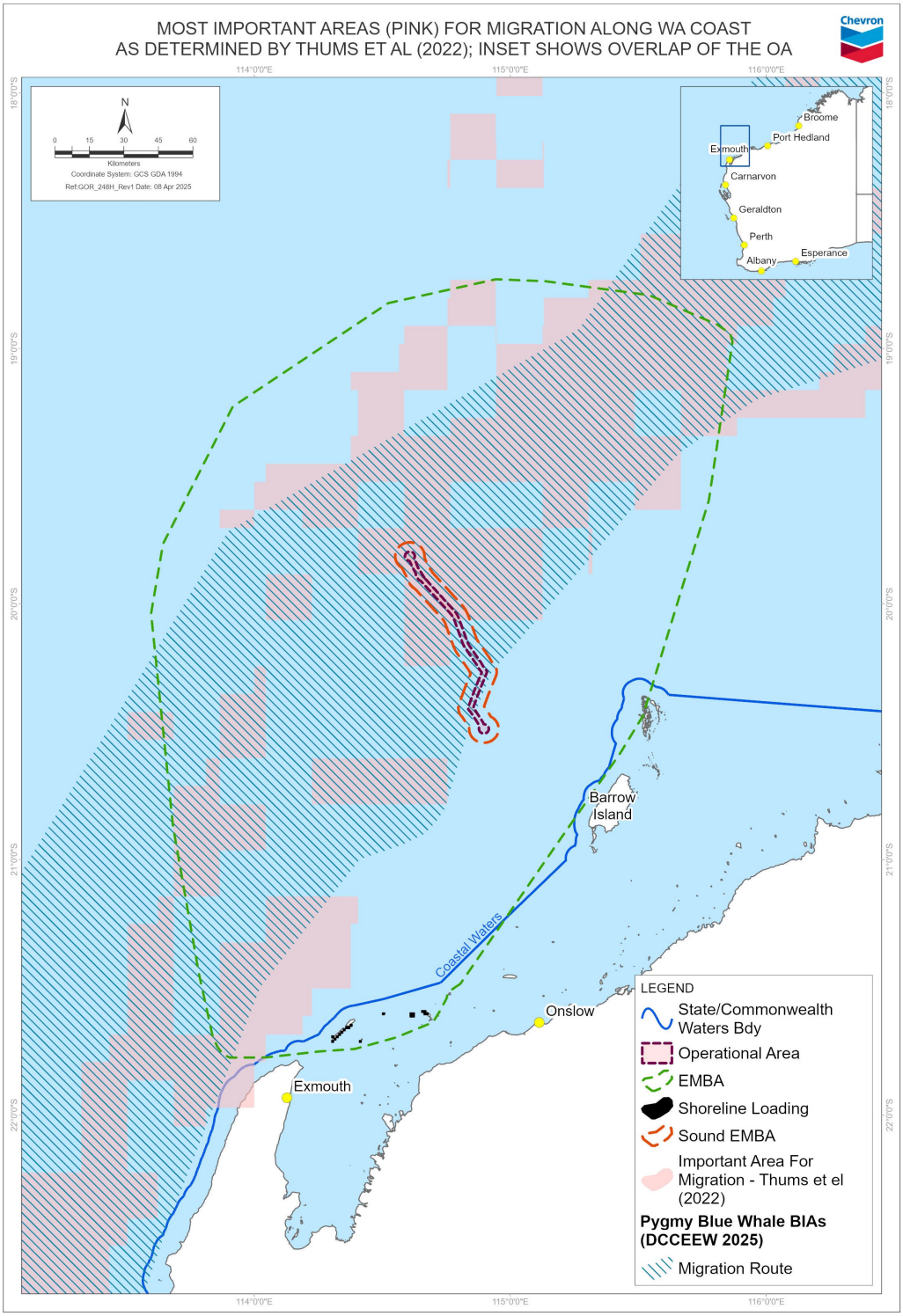


Figure 4-6: Most important areas (pink) for migration along WA coast as determined by Thums et al. (2022)

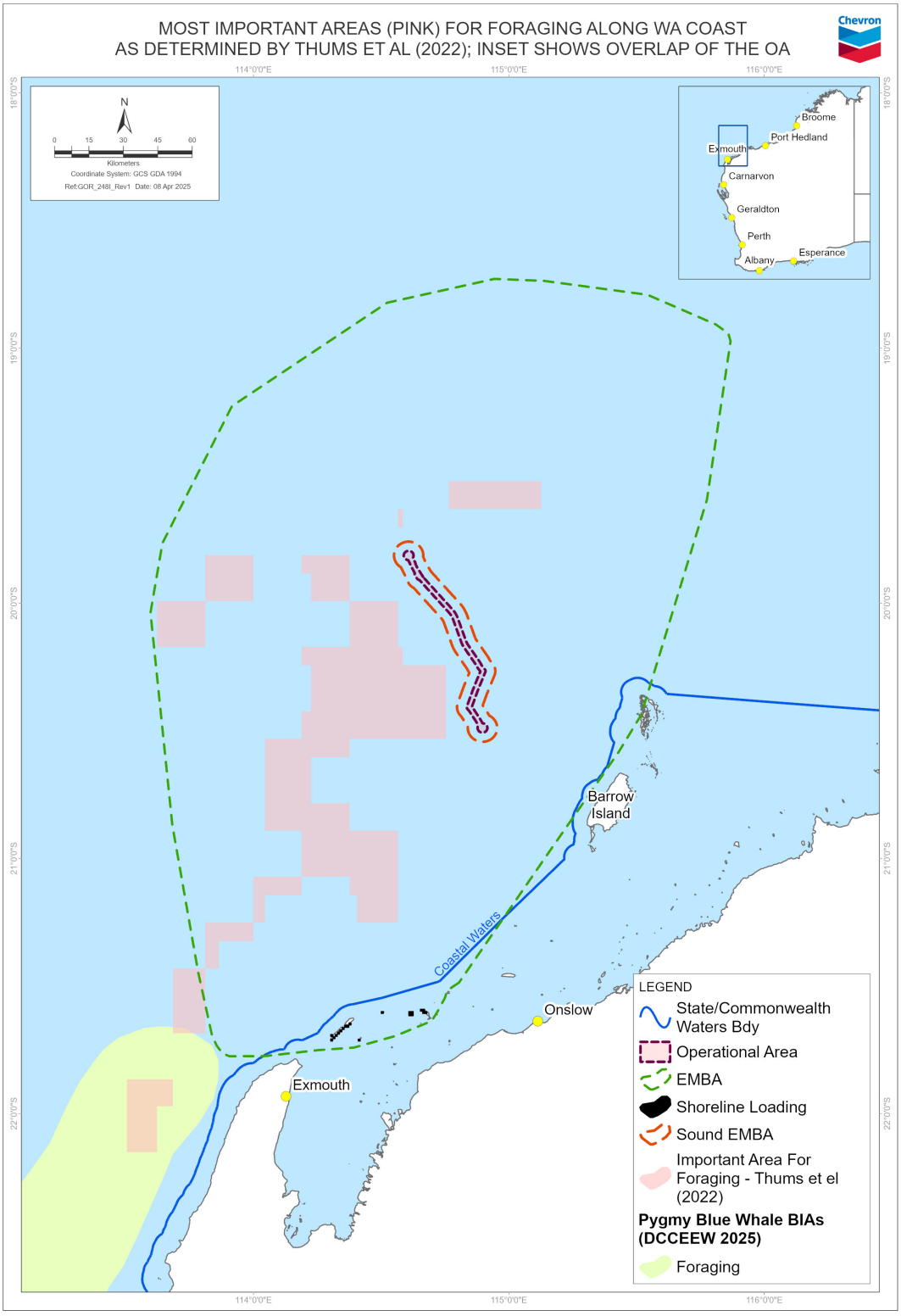


Figure 4-7: Most important areas (pink) for foraging along WA coast as determined by Thums et al. (2022)

4.3.3.2 Reptiles

Based on searches of the online PMST (Ref. 116; appendix b), the threatened and/or migratory reptile species shown in Table 4-8 may be present within the Hydrocarbon EMBA. The full list of marine species identified from the PMST is provided in appendix b. HCTS of marine turtle species, or BIAs associated with protected marine reptile species, are listed in Table 4-8 and Table 4-9 respectively.

For the threatened and/or migratory species with HCTS or BIAs within the OA or Sound EMBA (i.e. areas associated with planned activities), additional information has been provided in the following subsections. Summary descriptions of the other threatened and/or migratory reptile species that may be present within the Hydrocarbon EMBA are included Appendix D of the OSMP (Ref. 65).

While the Short-nosed Sea Snake was identified within the PMST as potentially being present within the OA and/or Sound EMBA, they are not considered likely to be present. The Short-nosed Sea Snake occurs primarily on reef flats or in shallow waters of the outer reef edges to depths of 10 m (Ref. 151; Ref. 152). The Sound EMBA occurs in water depths of ~115–1,350 m with no emergent reef features.

Table 4-8: Presence of listed threatened and/or migratory reptiles

Common name (EPBC protected status)	OA	Sound EMBA	Hydrocarbon EMBA
Turtles			
Flatback Turtle *(Vulnerable, migratory)*	✓	✓	✓
Green Turtle *(Vulnerable, migratory)*	✓	✓	✓
Hawksbill Turtle *(Vulnerable, migratory)*	✓	✓	✓
Leatherback Turtle *(Endangered, migratory)*	✓	✓	✓
Loggerhead Turtle *(Endangered, migratory)*	✓	✓	✓
Seasnakes			
Leaf-scaled Sea Snake *(Critically Endangered)*			✓
Short-nosed Sea Snake *(Critically Endangered)*	✓	✓	✓
Crocodile			
Salt-water Crocodile *(Migratory)*			✓

Table 4-9: HCTS of marine turtles

Common Name	Nesting location^	Internesting buffer^	Seasonal Presence^	OA	Sound EMBA	Hydrocarbon EMBA
Flatback Turtle	Barrow Island, Montebello Islands, coastal islands from Cape Preston to Locker Island.	60 km	Oct–Mar	✓	✓	✓
Green Turtle	Barrow Island, Montebello Islands, Serrurier Island, and Thevenard Island.	20 km	Nov–Mar			✓
	Exmouth Gulf and Ningaloo coast.	20 km	Nov–Mar			✓
Hawksbill Turtle	Cape Preston to mouth of Exmouth Gulf including Montebello Islands and Lowendal Islands.	20 km	Oct–Feb			✓
Loggerhead Turtle	Exmouth Gulf and Ningaloo coast	20 km	Nov–May			✓

^*Source: Ref. 83 and Ref. 95*

Table 4-10: Presence of BIAs for reptiles

Common Name	BIA Behaviour	Seasonal Presence^	OA	Sound EMBA	Hydrocarbon EMBA
Flatback Turtle	Aggregation	(Not defined in database)			✓
	Foraging	Early summer			✓
		(Not defined in database)			✓
		Observations during July, no evidence of turtle activity. October to November for Solitary, Steamboat, Carey, Preston Islands and Cape Preston.			✓
	Internesting	(Not defined in database)			✓
	Internesting buffer	Early summer	✓	✓	✓
		January			✓
		Summer			✓
		Summer (nesting/internesting) year round			✓
	Mating	Early summer			✓
		(Not defined in database)			✓
	Nesting	Early summer			✓

Common Name	BIA Behaviour	Seasonal Presence^	OA	Sound EMBA	Hydrocarbon EMBA
		Short summer nesting season, predominantly Nov–Mar with peak in Jan			✓
		Summer			✓
Green Turtle	Aggregation	(Not defined in database)			✓
	Basking	Summer			✓
	Foraging	Early summer			✓
		Observations during July, no evidence of turtle activity. October to November for Solitary, Steamboat, Carey, Preston Islands and Cape Preston.			✓
		Summer			✓
		Year round			✓
		(Not defined in database)			✓
	Internesting	Summer			✓
		(Not defined in database)			✓
	Internesting buffer	Early summer			✓
		Summer			✓
	Mating	Early summer			✓
		Summer			✓
		(Not defined in database)			✓
	Nesting	Early summer			✓
		Summer			✓
Hawksbill Turtle	Foraging	Early summer			✓
		Observations during July, no evidence of turtle activity. October to November for Solitary, Steamboat, Carey, Preston Islands and Cape Preston.			✓
		Spring and early summer, peak nesting October			✓
		Year round			✓
	Internesting buffer	Early in Summer			✓
		Spring and early summer			✓
		Year round			✓
		(Not defined in database)			✓
	Mating	Early in Summer			✓
		Spring and early summer, peak nesting October			✓

Common Name	BIA Behaviour	Seasonal Presence^	OA	Sound EMBA	Hydrocarbon EMBA
		Year round			✓
	Nesting	Early in summer			✓
		Peak nesting in spring and early summer			✓
		Year round			✓
		(Not defined in database)			✓
Loggerhead Turtle	Internesting buffer	(Not defined in database)			✓
	Nesting	(Not defined in database)			✓

^*Source: Ref. 109*

4.3.3.2.1 Flatback Turtle

Montebello and Barrow islands supports Flatback Turtle nesting, occurring from October to March, with a peak in December to January. The Montebello Islands and Barrow Island are identified as nesting HCTS of the species, as is the 60 km internesting buffer around the Montebello Islands (Ref. 83, Figure 4-8).

Typically, Flatback Turtle nesting on Barrow Island occurs between October and March, with peak nesting activity occurring between November and January. On Barrow Island, nesting activity is concentrated on the east coast on sandy, low-sloped, low-energy beaches with wide, shallow intertidal zones (Ref. 274; Ref. 273). Limited nesting activity has also been recorded on the south-west, north, and north-east beaches of Barrow Island (Ref. 270).

During internesting, turtles remain close to the nesting beach or rookery (Ref. 83). The 60 km internesting buffer defined within the *Recovery Plan for Marine Turtles in Australia* (Ref. 83) is based primarily on the movements of tagged internesting Flatback Turtles in WA (Ref. 328). The study tracked 56 turtles from four different rookeries, which demonstrated varying internesting movements, with distances ranging from 3–62 km, with some turtles at all four rookeries remaining within 10 km of their nesting beaches. However, tracking data showed these movements were largely longshore movements in nearshore coastal waters or travel between island rookeries and the adjacent mainland, which represented the greater distances (Ref. 328). There is little evidence to suggest that Flatback Turtles move to deep offshore waters during internesting periods.

A habitat suitability modelling study for internesting Flatback Turtles in the NWS region of WA (Ref. 329) was conducted to identify areas of suitable Flatback Turtle internesting habitat and determine overlap with identified industrial hazards. The study used a turtle tracking dataset of 47 nesting female turtles from five important rookeries in the NWS study area, including Barrow Island, located at closest ~55 km from the OA. The results showed internesting Flatback Turtles from all rookeries remained within water depths of <44 m, with a mean depth of <10 m (Ref. 329). Results also showed internesting turtles from all rookeries remained within <28 km of the nearest coast, with a mean distance from the coast of <6.1 km. The habitat suitability modelling study defined suitable Flatback Turtle

internesting habitat as water depths of 0–16 m within 5–10 km of the coast. Unsuitable Flatback Turtle internesting habitat was defined as waters >25 m deep and >27 km from the coast (Ref. 329). The OA and Sound EMBA are located in waters classified as unsuitable for internesting Flatback Turtles.

Another recent study involving satellite tracking data for 11 Flatback Turtles following nesting on the Lacepede Islands (Ref. 309) found that Flatback Turtles remained at an average distance of 15.75±12.25 km from the nesting beach in water depths of <20 m.

Other previous studies (e.g. Ref. 136; Ref. 184; Ref. 271) have also presented findings that internesting behaviour was only observed in water depths of <40 m. One of these studies (Ref. 184) further indicates that internesting Flatback Turtles have relatively shallow dives, with 85% of the time during spent in ≤20 m water depth, of which most was spent in 5–10 m (27±2.7%) and 10–15 m (22.3±3.5%) water depths.

The OA is located in water depths of greater than 110 m, and is ~55 km from the Barrow Island, which is in deeper waters and further offshore than internesting behaviours were observed in any of the previous studies (Ref. 328; Ref. 329; Ref. 309; Ref. 136; Ref. 184; Ref. 271); therefore, it is considered highly unlikely that internesting Flatback Turtles will occur within the OA or Sound EMBA.

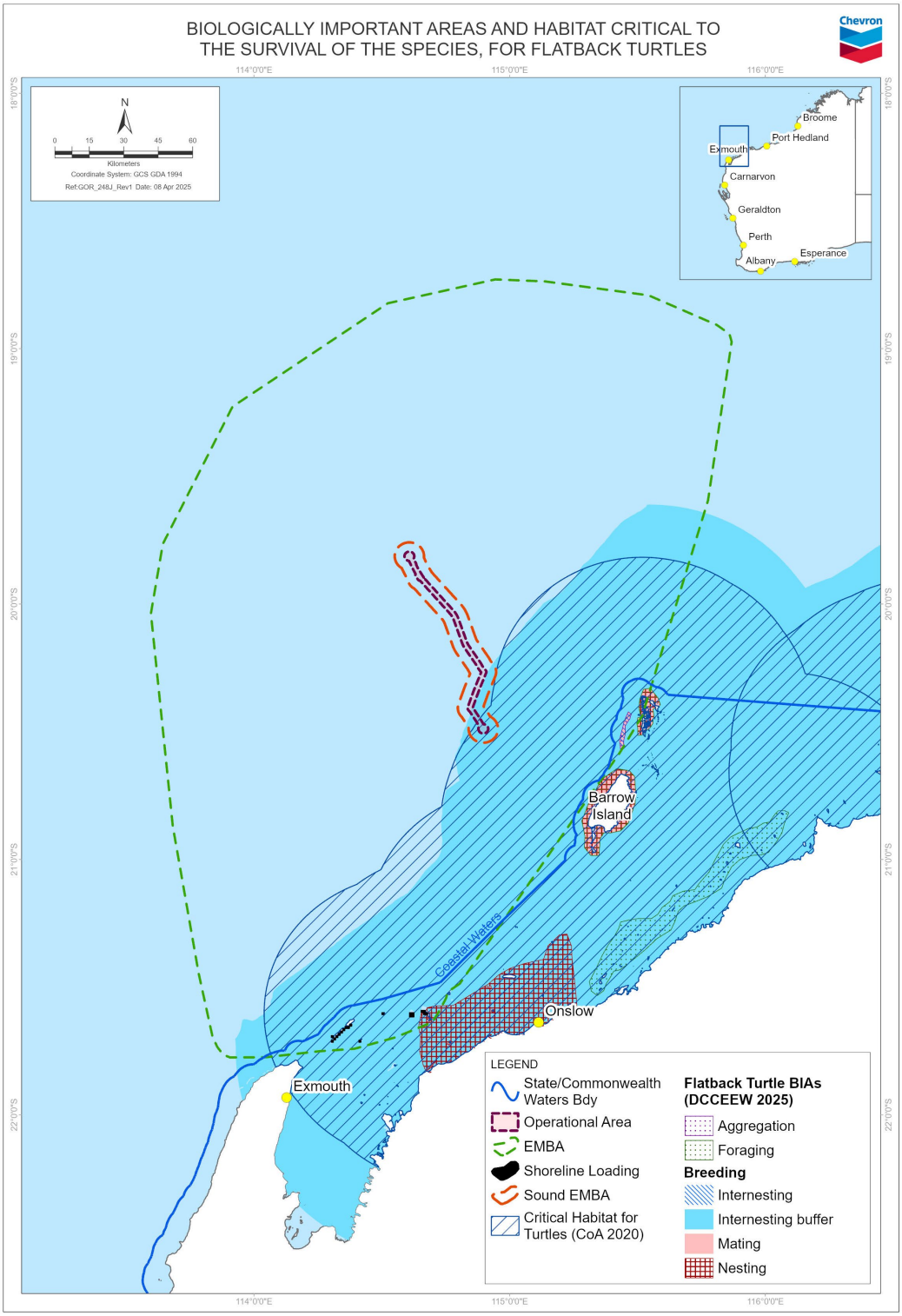


Figure 4-8: Flatback BIAs and HCTS of the species

4.3.3.3 Fishes, including sharks and rays

Based on searches of online PMST (Ref. 116; appendix b), the threatened and/or migratory fish species listed in Table 4-11 may be present within the Hydrocarbon EMBA. The full list of marine species identified from the PMST is provided in appendix b. Table 4-12 lists the BIAs associated with regionally significant fish species.

For the threatened and/or migratory species with BIAs within the OA or Sound EMBA (i.e. areas associated with planned activities), additional information has been provided in the following subsections. Summary descriptions of the other threatened and/or migratory fish species that may be present within the Hydrocarbon EMBA are included Appendix D of the OSMP (Ref. 65).

A review of ROV video footage recorded between 2015 and 2018 along the Jansz pipeline in water depths ~737–1,348 m (Ref. 22) indicated:

- no threatened and/or migratory fish, shark, or ray species were observed
- generally low diversity and abundance of bony and cartilaginous fish compared to shallow nearshore regions; with assemblages dominated by Macrouridae (deep sea fishes) and Synaphobranchidae (cutthroat eels) as found at similar depth ranges in other regions
- some spatial differences in assemblage between non-infrastructure and infrastructure sites, with greater overall abundances, species richness, and species diversity generally associated with infrastructure
- a decrease in richness, abundance, and diversity with depth as found in other studies both in the north-west of WA and elsewhere.

Table 4-11: Presence of listed threatened and/or migratory fishes, including sharks and rays

Common name (EPBC protected status)	OA	Sound EMBA	Hydrocarbon EMBA
Sharks			
Dwarf Sawfish *(Vulnerable, migratory)*	✓	✓	✓
Largetooth Sawfish *(Vulnerable, migratory)*	✓	✓	✓
Green Sawfish *(Vulnerable, migratory)*	✓	✓	✓
Grey Nurse Shark *(Vulnerable, migratory)*	✓	✓	✓
Longfin Mako *(Migratory)*	✓	✓	✓
Narrow Sawfish *(Migratory)*	✓	✓	✓
Oceanic Whitetip Shark *(Migratory)*	✓	✓	✓
Scalloped Hammerhead *(Conservation dependent)*	✓	✓	✓
Shortfin Mako *(Migratory)*	✓	✓	✓
Whale Shark *(Vulnerable)*	✓	✓	✓
White Shark *(Vulnerable, migratory)*	✓	✓	✓

Common name (EPBC protected status)	OA	Sound EMBA	Hydrocarbon EMBA
Rays			
Giant Manta Ray *(Migratory)*	✓	✓	✓
Reef Manta Ray *(Migratory)*	✓	✓	✓

Table 4-12: Presence of BIAs for fishes, including sharks and rays

Common Name	BIA Behaviour	Seasonal Presence^	OA	Sound EMBA	Hydrocarbon EMBA
Whale Shark	Foraging	Spring	✓	✓	✓
	Foraging (high-density prey)	Apr–Jun, autumn			✓

^*Source: Ref. 109*

4.3.3.3.1 Whale Shark

The BIA is associated with foraging behaviours during northward migration from Ningaloo Reef / North West Cape along the 200 m isobath during July to November (Ref. 314, Figure 4-9).

Whale Sharks have a global distribution in tropical and warm temperate waters, including within Australian waters (mainly Northern Territory, Queensland and northern WA) (Ref. 91; Ref. 314). Within Australia, Whale Sharks form seasonal aggregations at Ningaloo Reef (March to July), Christmas Island (December to January), and in the Coral Sea (November to December) (Ref. 314). Ningaloo Reef is considered the main known seasonal aggregation area (Ref. 179). Whale Sharks aggregate off Ningaloo Reef between March and July each year to feed (Ref. 91; Ref. 296). Their presence off Ningaloo Reef has been linked to coral mass spawning timing (Ref. 91). The Whale Shark is a suction filter feeder, with a diet comprising planktonic and nektonic prey, and feeds at or close to the water's surface by swimming forward with mouth agape, sucking in prey (Ref. 91). While the species is generally encountered close to or at the surface, it will regularly dive and move through the water column. Following the aggregation period around Ningaloo Reef, their distribution is largely unknown, although three migration routes from Ningaloo reef have been identified through various surveys (Ref. 296):

- north-west, into the Indian Ocean
- directly north, towards Sumatra and Java
- north-west, passing through the NWS region, travelling along the shelf break and continental slope.

As the known foraging Whale Shark BIA occurs in the southern section of the OA, there is potential that foraging behaviours overlap with planned activities between July and November.

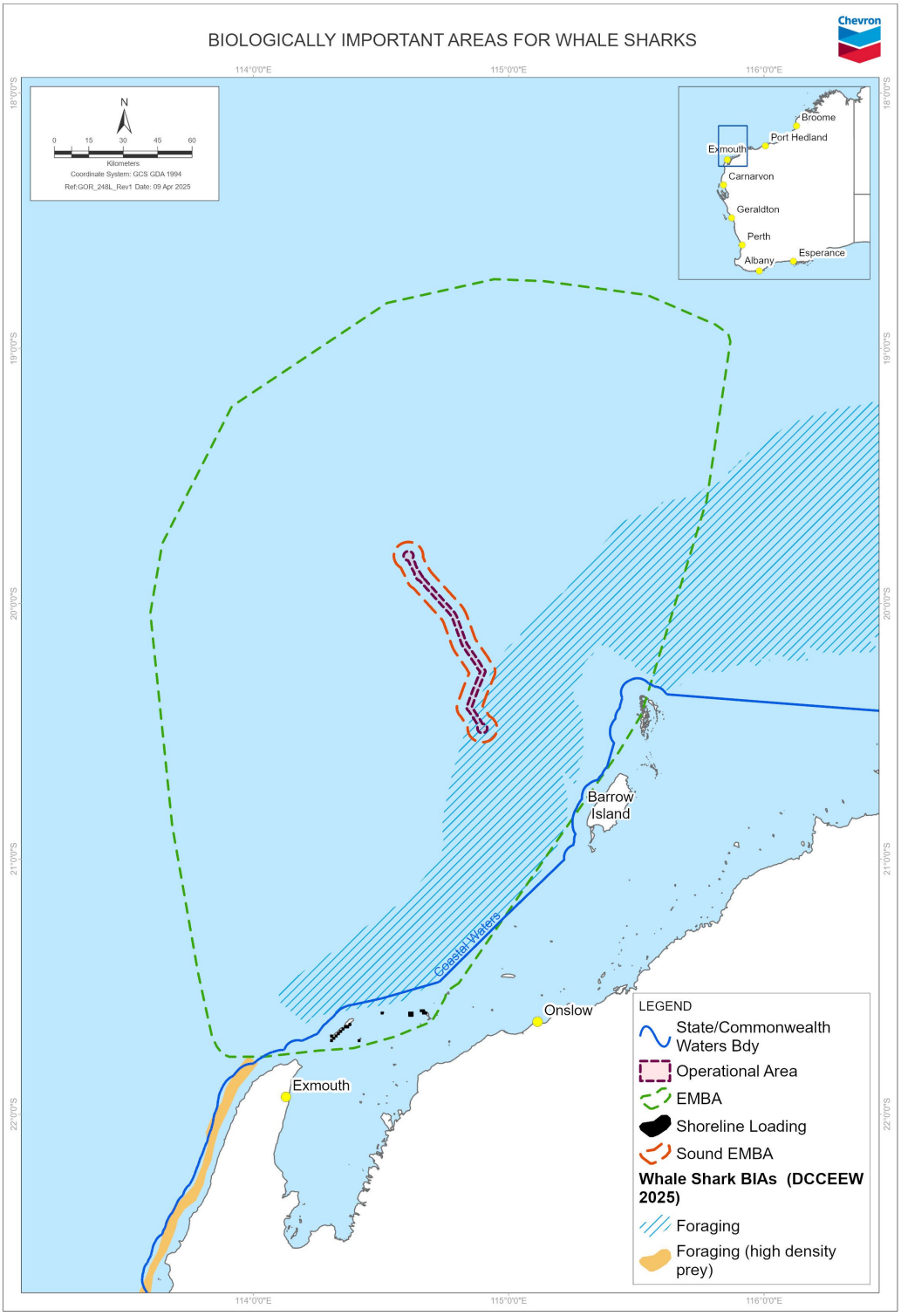


Figure 4-9: Biologically important areas for Whale Sharks

4.3.3.4 Seabirds and shorebirds

Based on searches of the online PMST (Ref. 116; appendix b), the threatened and/or migratory seabird and shorebird species shown in Table 4-13 may be present within the Hydrocarbon EMBA. The full list of marine species identified

from the PMST is provided in appendix b. BIAs associated with regionally significant seabird and shorebird species are listed in Table 4-14.

For the threatened and/or migratory species with BIAs within the OA (i.e. the area associated with planned activities), additional information has been provided in the following subsections. Summary descriptions of the other threatened and/or migratory seabird and shorebird species that may be present within the Hydrocarbon EMBA are included Appendix D of the OSMP (Ref. 65).

Table 4-13: Presence of listed threatened and/or migratory seabirds and shorebirds

Common name (EPBC protected status)	OA	Hydrocarbon EMBA
Australian Fairy Tern *(Vulnerable)*	✓	✓
Australian Painted Snipe *(Endangered)*		✓
Barn Swallow (*Migratory*)		✓
Bar-tailed Godwit (*Migratory*)		✓
Bridled Tern (*Migratory*)		✓
Caspian Tern (*Migratory*)		✓
Christmas Island White-tailed Tropicbird *(Endangered)*	✓	✓
Common Greenshank (*Endangered, migratory*)		✓
Common Noddy (*Migratory*)	✓	✓
Common Sandpiper (*Migratory*)	✓	✓
Curlew Sandpiper *(Critically endangered, migratory)*	✓	✓
Eastern Curlew *(Critically endangered, migratory)*	✓	✓
Flesh-footed Shearwater (*Migratory*)		✓
Fork-tailed Swift (*Migratory*)		✓
Great Frigatebird (*Migratory*)		✓
Greater Crested Tern (*Migratory*)		✓
Greater Sand Plover *(Vulnerable, migratory)*		✓
Grey Falcon *(Vulnerable, migratory)*		✓
Grey Wagtail (*Migratory*)		✓
Indian Yellow-nosed Albatross *(Vulnerable, migratory)*		✓
Lesser Frigatebird (*Migratory*)	✓	✓
Little Tern (Vulnerable, *migratory*)		✓
Northern Siberian Bar-tailed Godwit *(Endangered)*		✓
Oriental Plover (*Migratory*)		✓
Oriental Pratincole (*Migratory*)		✓
Osprey (*Migratory*)		✓
Pectoral Sandpiper (*Migratory*)	✓	✓
Red Goshawk *(Endangered)*		✓

Common name (EPBC protected status)	OA	Hydrocarbon EMBA
Red Knot *(Vulnerable, migratory)*	✓	✓
Red-tailed Tropicbird (Indian Ocean) *(Endangered)*	✓	✓
Roseate Tern (*Migratory*)	✓	✓
Sharp-tailed Sandpiper (*Vulnerable, migratory*)	✓	✓
Soft-plumaged Petrel *(Vulnerable)*		✓
Southern Giant-Petrel *(Endangered, migratory)*	✓	✓
Streaked Shearwater (*Migratory*)	✓	✓
Wedge-tailed Shearwater (*Migratory*)	✓	✓
White-tailed Tropicbird (*Migratory*)	✓	✓
White-winged Fairy-wren (Barrow Island) *(Vulnerable)*		✓
Yellow Wagtail (*Migratory*)		✓

Table 4-14: Presence of BIAs for seabirds and shorebirds

Common Name	BIA Behaviour	Seasonal Presence^	OA	Hydrocarbon EMBA
Australian Fairy Tern	Breeding	Breeding from July to late September		✓
Lesser Crested Tern	Breeding	Breeding from March to June		✓
Roseate Tern	Breeding	Breeding from mid-March to July		✓
Wedge-tailed Shearwater	Breeding	Breeding visitor; arrives in mid-August and leaves Pilbara in April	✓	✓

^*Source: Ref. 109*

4.3.3.4.1 Wedge-tailed Shearwater

Behaviours used to define BIAs for seabirds in Commonwealth marine areas include breeding with a foraging buffer, and roosting (Ref. 84). The BIAs for this species are buffers around islands that this species is known to nest on (Figure 4-10). Bird species may forage in the waters surrounding the islands during nesting seasons. The Wedge-tailed Shearwater 'foraging in high numbers BIA' is much further south (>616 km from the OA), near Carnarvon.

Wedge-tailed Shearwaters are a pelagic, migratory visitor to WA; estimates indicate more than one million shearwaters migrate to the Pilbara islands each year (Ref. 99); out of an estimated global population of five million (Ref. 133). The Wedge-tailed Shearwaters typically begin arriving at their WA colonies around August each year and will excavate burrows on vegetated islands for nesting; peak egg laying typically occurs during November; and they will typically leave

nests in early-April to early-May and travel north to the Indian Ocean (Ref. 224; Ref. 28). Migration from the colony is very synchronous, but the return is less so (Ref. 28). The departure (early-April to early-May) of Wedge-tailed Shearwaters from WA may overlap with the timing of the activity. Once adults cease returning to feed their young, the young (fledgling) Wedge-tailed Shearwaters fledge and depart nests (Ref. 306; Ref. 307).

Known breeding locations in the NWMR include Forestier Island (Sable Island), Bedout Island, Dampier Archipelago, Passage Island, Lowendal Island, islands off Barrow Island (Mushroom, Double and Boodie islands), islands in the Onslow area (including Airlie, Bessieres, Serrurier, North and South Muiron and Locker islands), islands in Freycinet Estuary, and south Shark Bay (Slope, Friday, Lefebre, Charlie, Freycinet, Double and Baudin islands) (Ref. 133).

One of the closest colonies to the OA is Double Island (east of Barrow Island). Baseline monitoring (pre-construction of the Gorgon Gas Development) recorded ~20–50 Wedge-tailed Shearwater nesting burrows on North Double Island and ~300 on South Double Island (Ref. 236; Ref. 30). CAPL (Ref. 29; Ref. 30) provided an estimate of 500 burrows over a 2 ha portion of the north-eastern corner of South Double Island, supporting 5,000–10,000 pairs of Wedge-tailed Shearwaters.

This species forages relatively close to breeding islands and its diet is mostly squid, fish, and crustaceans (Ref. 133). However, more recent studies have indicated bimodal foraging. A study on foraging behaviour of the Wedge-tailed Shearwaters during the 2018 nesting season on the Muiron Islands showed a bimodal foraging strategy that incorporated both short (<4 days) and long (>7 days) trips (Ref. 28). The foraging trips of the Wedge-tailed Shearwaters from the Muiron Islands were recorded over a large area, extending from the Cape Range Canyon to the Indonesian Archipelago; and a consistent pattern of foraging near seamounts was observed (Ref. 28). Note: This same area is part of the foraging extent used by the Wedge-tailed Shearwaters from both Pelsaert and Houtman Abrolhos islands) (Ref. 305; Ref. 28). The use of a bimodal foraging strategy suggests that prey availability close to the colony (i.e. areas that would be used on short trips) are inadequate for the large numbers of breeding shearwaters (Ref. 28).

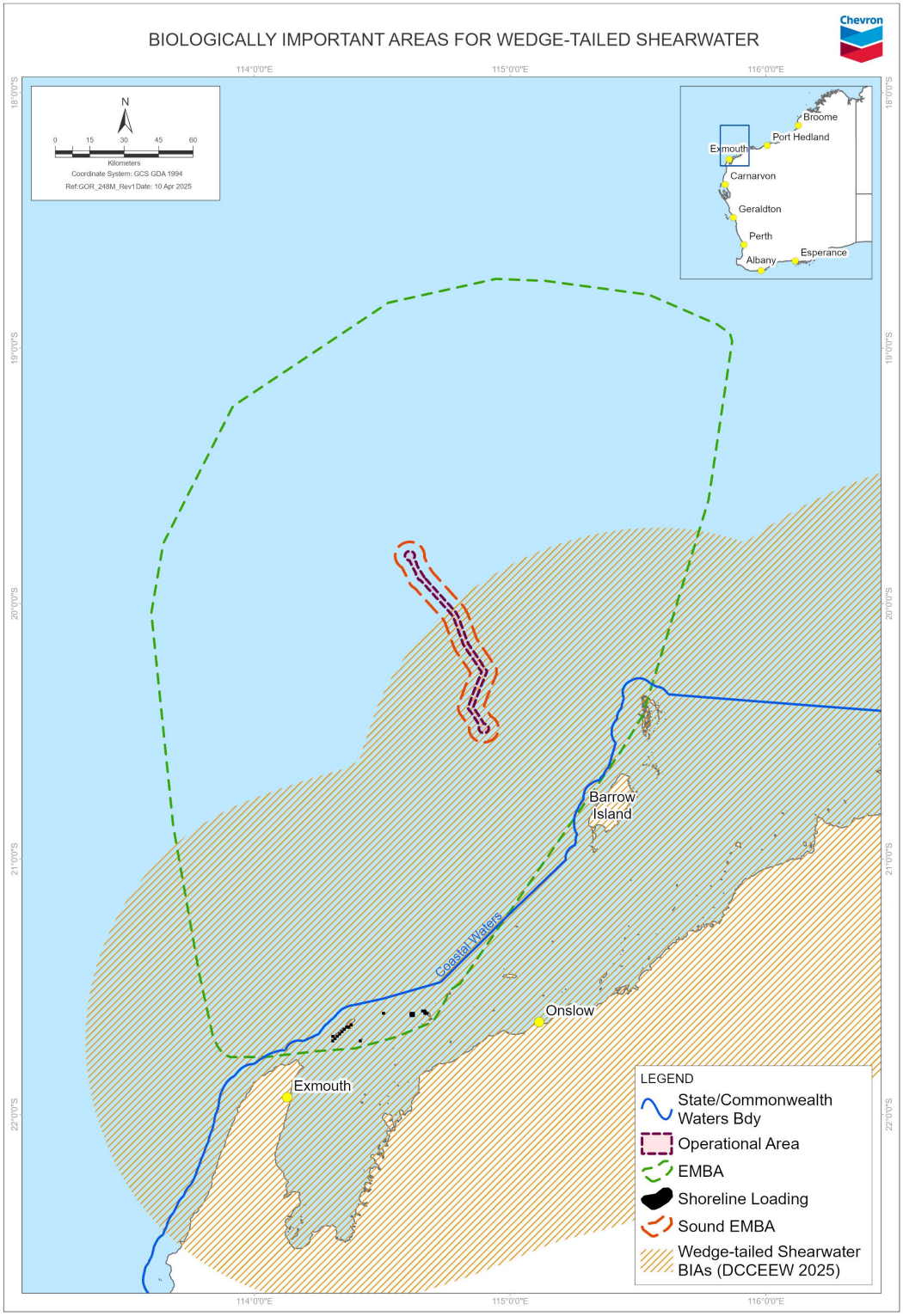


Figure 4-10: Biologically important areas for Wedge-tailed Shearwater

4.3.3.5 Summary of marine fauna seasonal sensitivities

Periods of the year coinciding with key biologically important behaviours for EPBC Act listed threatened and/or migratory species that may potentially be present within the OA are presented in Table 4-15.

Table 4-15: Seasonal presence of marine fauna with biologically important behaviours within the vicinity of the OA

Activity / Species	January	February	March	April	May	June	July	August	September	October	November	December
Marine fauna with biologically important behaviour												
Humpback Whale migration[1]												
Pygmy Blue Whale northern migration[2]												
Pygmy Blue Whale southern migration[2]												
Whale Shark migration and foraging[3]												
Flatback Turtle nesting and internesting[4]												
Green Turtle nesting and internesting[5]												
Hawksbill Turtle nesting and internesting[6]												
Loggerhead Turtle internesting[7]												
Australian Fairy Tern breeding[8]												
Roseate Tern breeding[10]												
Wedge-tailed Shearwater migration[11]												
Wedge-tailed Shearwater breeding[12]												

Species may be present and display biologically important behaviour in the region

Predicted peak period

1. *Humpback Whale migration along WA coast typically occurs between May and November (Ref. 141; Ref. 315). Predicted peak migration periods for the Montebello Islands region are late-July (northern) and early-September (southern) (Ref. 207).*
2. *Pygmy Blue Whales migrate north along the WA coast between February and August (Ref. 175; Ref. 229), with predicted highest densities in the Montebello Island region during May and June (Ref. 308). Pygmy Blue Whales migrate south between November and January (Ref. 175; Ref. 229), with predicted highest densities in the Montebello Island region during November and December (Ref. 308).*
3. *Migration occurs mainly between July and November along the 200 m isobath (Ref. 314). A foraging BIA for Whale Sharks is associated with the area around this isobath.*
4. *Seasonal presence within nesting and internesting HCTS of Flatback Turtles in the Pilbara (including Barrow and Montebello islands) is predicted to occur between October and March (Ref. 83), with peak nesting activity on Barrow Island predicted between November and January (Ref. 43).*
5. *Seasonal presence within nesting and internesting HCTS of Green Turtles in the NWS (including Barrow and Montebello islands) is predicted to occur between November and March*

(Ref. 83), with peak nesting activity on Barrow Island predicted between December and February (Ref. 43).

6. *Seasonal presence within nesting and internesting HCTS of Hawksbill Turtles in WA (including Montebello and Lowendal islands) is predicted to occur between October and February (Ref. 83), with peak nesting activity on Barrow Island predicted in October (Ref. 43).*
7. *Seasonal presence within internesting HCTS of Loggerhead Turtles in WA (including Muiron Islands) is predicted to occur between November and May (Ref. 83),*
8. *The Pilbara and upper Gascoyne sedentary population of Australian Fairy Terns nests from late-July to late-September (Ref. 98).*
9. *Lesser Crested Terns breed in the Pilbara region from March to June (Ref. 109; Ref. 98).*
10. *Roseate Terns breed in the Pilbara region from March to July and October (Ref. 109; Ref. 98).*
11. *Wedge-tailed Shearwaters typically begin arriving at their WA colonies around August; and then leave nests in early-April to early-May (Ref. 188; Ref. 28). Once adults cease returning to feed their young, the young (fledging) Wedge-tailed Shearwaters fledge and depart nests (Ref. 306; Ref. 307).*
12. *Wedge-tailed Shearwaters breed in the Pilbara region from November to April (Ref. 98); peak egg laying typically occurs during November (Ref. 188; Ref. 28).*

4.3.4 Marine environmental quality

The term ‘environmental quality’ refers to the level of contaminants, or changes to the physical or chemical properties relative to a natural state (Ref. 158).

4.3.4.1 Water quality

Marine water quality within the Hydrocarbon EMBA is expected to be representative of high-water quality found in offshore waters.

The NWS is characterized by a relatively clear water column; however, these waters sometimes have naturally higher levels of turbidity as a result of local current, tidal or wave induced resuspension of fine sediments and seasonal fluvial inputs (Ref. 44).

Water quality sampling undertaken in proximity of existing the Jansz-Io field infrastructure showed that concentrations of hydrocarbons (total recoverable hydrocarbon [TRH], benzene, toluene, ethylbenzene and xylenes [BTEX] and polycylic aromatic hydrocarbon [PAH]) were below the laboratory limits of reporting (LoR) (Ref. 4). Dissolved metals concentrations were also below the respective Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG) values for 99% species protection (Ref. 4). Previous water quality data indicated that the coastal waters of the NWS (based on sampling from around the Dampier Archipelago) generally have very low levels of anthropogenic contamination (Ref. 326). The Wenziker et al. (Ref. 326) study found no detectable levels of the sampled organics chemicals, and metals were below ANZG in the waters of the Dampier Archipelago. However, natural oil seeps are known to occur on the NWS (Ref. 31). While this study is based on sampling outside the EMBA, it is expected that these low levels of contamination would continue into the offshore region (unless within the immediate vicinity of an offshore point source).

4.3.4.2 Sediment quality

Marine sediment quality within the Hydrocarbon EMBA is expected to be representative of high-sediment quality typically found in offshore waters away from anthropogenic sources of contamination.

Previous sediment quality data for Pilbara coastal waters (Ref. 124) indicated no detectable hydrocarbons, and with metal concentrations typically below the

relevant Interim Sediment Quality Guideline–low guidelines. While this study is based on sampling outside the EMBA, it is expected that these low levels of contamination would continue into the offshore region (unless within the immediate vicinity of an offshore point source).

Sediment quality sampling undertaken in proximity of existing the Jansz-Io field infrastructure showed that concentrations of hydrocarbons (TRH, BTEX, and PAHs) were below the laboratory LoR (Ref. 4). Total metal concentrations were also below the respective ANZG default values (Ref. 4). It is expected that these low levels of contamination would continue throughout the Hydrocarbon EMBA (unless within the immediate vicinity of an offshore point source).

4.3.4.3 Air quality

Air quality within the Hydrocarbon EMBA is expected to be representative of typically high air quality found in offshore areas, away from anthropogenic sources of contamination.

As part of the Ambient Air Quality Monitoring Program on Barrow Island, there were no recorded exceedances for nitrogen dioxide, ozone, sulfur dioxide, carbon monoxide, hydrogen sulfide, or aromatic hydrocarbons (BTEX) against the relevant National Environmental Protection Measure standards (Ref. 60). There have been elevations of PM_{10} levels around facilities on Barrow Island, however these are likely associated with vehicle traffic and regional weather events (Ref. 60).

While this study is based on sampling outside the EMBA, it is expected that these low levels of contamination would continue throughout the EMBA (unless within the immediate vicinity of an offshore point source).

4.3.5 People and communities

People and communities, and specifically their social, economic, and cultural features, are included within the definition of environment within the OPGGS(E)R. People and communities have been identified and described to the extent that they directly affected, or are affected by, the existing physical and biological environments.

The NWMR supports a range of economic, social, and cultural activities. At present, industries within the NWMR include petroleum exploration and production, commercial and recreational fishing, tourism, ports and shipping (Ref. 153). These uses of the NWMR make an important economic and social contribution to settlements along the coast (Ref. 153). Industry activities present with the Hydrocarbon EMBA are identified and described in Section 4.4.

4.3.5.1 Land use

The OA and Sound EMBA occurs offshore and does not have any interface with the coast. The Hydrocarbon EMBA does interface with the coast, including parts of the Montebello Islands and other Pilbara inshore islands (Figure 4-1). Note: the Hydrocarbon EMBA typically only extends landward up to the high-water mark (HWM).

The land uses that may be present within the Hydrocarbon EMBA are summarised below.

The Montebello Islands are designated as a State Conservation Park (IUCN II) (Section 4.5.3), and are surrounded by the State Montebello Islands Marine Park (IUCN II) and Commonwealth Montebello Marine Park (Sections 4.5.1 and 4.5.2).

The Conservation Park is gazetted to the HWM. Given the natural values of the islands and surrounding waters, recreational activities may occur. Shore-based fishing, beach walks, picnics and wildlife viewing are types of activities that may occur (Ref. 99). Camping is permitted on some of the islands (with some restrictions during turtle nesting season) (Ref. 99; Ref. 100).

The Pilbara Inshore Islands comprise >170 islands, islets, rocks and cays extending from the bottom of Exmouth Gulf to the Regnard Islands near Cape Preston (Ref. 99). Some of the islands that occur within the Hydrocarbon EMBA are classified as Nature Reserves (IUCN IA) (Section 4.5.3). Many of the islands are gazetted to the low water mark and hence intertidal areas are often found within the nature reserve boundaries. The Pilbara Inshore Islands Nature Reserves are known as important breeding and resting places for migratory and resident shorebirds, seabirds and marine turtles (Ref. 99). Fishing, beach walks and wildlife viewing are types of activities that may occur in the Pilbara Inshore Islands Nature Reserves (Ref. 99). Camping is only permitted on certain islands and may require a permit (Ref. 99).

Native Title determination (WCD2019/016) extend into the Hydrocarbon EMBA (Section 4.6). There are no towns or cities located within the Hydrocarbon EMBA.

4.3.5.2 Heritage

Heritage includes places, values, traditions, events, and experiences that capture where we have come from, where we are now, and gives context to where we are headed as a community (Ref. 102).

Where known heritage sites and/or artefacts are formally protected under specific heritage legislations, these are described within Section 4.6. The following sections summarise other known heritage values identified within the Hydrocarbon EMBA.

4.3.5.2.1 First Nations cultural values, activities, connections, and obligations

First Nations people have an ongoing cultural and spiritual connection to the Sea Country and islands within the Hydrocarbon EMBA, and the adjacent land areas, which includes an obligation to protect cultural values and features such as songlines, dreaming stories, and flora and fauna connected to them.

For First Nations People, every aspect of the land, sea and sky is infused with meaning and life, from the waterways that snake across the country to the rocks that rise up to meet the sky. The concept of 'Country' is holistic, encompassing all elements of the environment, and is central to their identity and sense of belonging. This deep connection is reflected in their languages, ceremonies, and customs, which are all rooted in the land, providing a sense of continuity and connection to their ancestral heritage. Which brings with it, personal, cultural and spiritual obligations and responsibilities, such as an obligation to protect cultural heritage values, which is integral for their existence and wellbeing.

Cultural heritage values are not only comprised of tangible (archaeological) values; it also includes intangible (anthropological) values. Tangible values are those with physical aspects of Aboriginal cultural heritage that are visible, touchable and measurable (such as stone artefacts, shelters, middens and art). While intangible values refer to the non-physical aspects of Aboriginal cultural heritage that are transmitted, shared and expressed through language, stories, ceremonies, rituals and practices (such as songlines, sacred sites, and kinship).

Sea country is a concept that encompasses the marine environments, coastal areas, and the cultural landscapes that are deeply connected to Aboriginal peoples. Like the concept of 'Country', Sea Country is not just a source of food and resources but a living entity that holds stories, spirits, songlines and ancestral connections.

Songlines are paths that track across Country and skies, representing First Nations knowledge, linking people, places, and practices (Ref. 7). They are not only a means of cultural expression but also serve as a guide for navigating and understanding the natural world, woven into song, dance, and memory. These songlines are the living tools that embed and mediate history, ecological knowledge, relationships, ancestral beings, and cultural belonging on Country (Ref. 206), guiding not just movement, but culture, lore, and identity. Kearney et al. (Ref. 211) describe that for saltwater peoples "stories and songlines locate, interpret and inscribe knowledges of both the Dreaming tracks, bodies and movements of ancestral beings that criss-cross over Sea Country and the permanent sites of ancestral inhabitation within the marine environment". Songlines rely on the continued health of Country, and people's continued access and connection to it (Ref. 80). When Country is damaged or altered, so too are songlines and the knowledge they embody and enact (Ref. 206).

Nunn and Reid (Ref. 259) discuss how First Nations oral traditions have documented sea level rise over the last 7,000 years. Kearney et al. (Ref. 211) also discusses how seabed mapping near Murujuga (Burrup Peninsula) identified two submerged waterholes that were identified by local senior elders as belonging to the Kangaroo songline. A song line from the mainland to Barrow Island has been referenced during studies involving Thalanyji knowledge holders (Ref. 338) and also identified by representatives of MCH during consultation (Table 4-16). Underwater cultural heritage (UCH), including First Nations UCH, as protected under the UCH Act is discussed further in Section 4.6.2.

First Nations people have a profound understanding of the marine ecosystems, developed over thousands of years through observation and interaction which is, is not merely scientific but deeply intertwined with their cultural practices and beliefs. This knowledge includes seasonal patterns, breeding cycles of marine life, and the sustainable harvesting of resources. This holistic understanding allows them to manage and utilise marine resources in a way that ensures sustainability and respects the natural balance. Supporting First Nations people to engage in a diverse range of marine resource use activities that are sustainable and support to provide for their families and communities (such as hunting, egg collecting, fishing and gathering shellfish).

This deep spiritual connection to marine life is also reflected in their customs, beliefs and traditions as some marine species hold totemic and kinship significance, and are woven into Dreaming, songlines and stories. For example, some First Nations people have a strong connection to whales, which has significance as totemic ancestors to some groups (Ref. 110). The arrival of whales along Australia's coast marked the arrival of the "elders of the sea", which follows a songline that traces the journeys of ancestral spirits as they created the land, animals, and lore (Ref. 110).

First Nations people in northwest WA continue to rely on coastal and marine environments and resources of the region for their cultural identity, health and wellbeing, and their domestic and commercial economies (Ref. 299). For coastal First Nations people, it also remained a vital part of their lore and governance, as they have responsibilities as the Traditional Custodians to care for and protect

their Sea Country to ensure that it remains healthy and productive for future generations. This stewardship is often guided by principles of reciprocity and respect, where the well-being of the sea is directly linked to the well-being of the people. Their commitment to protecting their Sea Country is demonstrated through their native title claims and their many initiatives to regain their role as managers of the cultural and natural values of northwest WA (Ref. 299).

Based on engagement with First Nations groups, CAPL understands that Thalanjyi, Nhuwalla, Mardathoonera, Yaburara, and Baiyungu people have connections to the Sea Country and/or islands within the Hydrocarbon EMBA, and adjacent land areas. Previous consultation with these groups, has confirmed that Sea Country is a significant cultural value which comes with cultural obligations. These Sea Country values include coastal and marine areas, offshore islands, marine fauna, and traditional stories (Table 4-16).

Table 4-16: Cultural values or features identified through consultation

Source	Cultural value or feature
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	• The Thalanyji people have a deep connection to Sea Country north of Onslow, extending out into the islands off the coast of the Pilbara including: – Montebello Islands – Barrow Island^ – Mackerel Islands^ – Direction Island^ – Airlie Island^ – Weld Island^ – North and South Islands^ – Ashburton Island^ – Twin Islands^ – any island or atoll proximate to the above islands – a general radius of 150 km from Onslow
Mardathoonera Cultural Heritage Pty Ltd (MCH)	• Identified a connection with Barrow Island^ and surrounding waters; specific values described include: – the creation story starts on Barrow Island – Barrow Island is a place that connects saltwater and freshwater together – Barrow Island is connected to Murujuga; both are considered by MCH as women's places – Biggada Creek is significant and connected to the Fortescue River; and that the rock formations in the creek are protectors – women's sites and ancestor spirits are present on Barrow Island • Identified that Barrow Island^ was a hill in ancient times and is a sister hill to two hills on the mainland, and Old people would walk across before the sea levels rose and the island drifted; because of this, there will be artefacts and stories underwater • Identified cultural importance of traditional stories, songlines, ocean, and marine fauna: – the sea is the source of energy for all life, it holds the codes that are encrypted in each person's body, the songlines, and is the lifeforce for the world – the places where the saltwater from the sea and the freshwater from the land connect are where the biggest energy lines are, and that connection is a force of creation relevant to a Dreaming story

Source	Cultural value or feature
	– songlines extend out from the land, through the sea, and around the globe – songlines connect places, people, and animals to each other, creating migratory patterns for animals and telling animals of the right time to birth and eat – freshwater that flows underneath the seabed carries the songlines – there is a large energy line that exists off the coast of Murujuga and runs through the area that CAPL operates in – there are songlines that go through Barrow Island and offshore and connect Barrow Island to the mainland; this includes a whale songline – Mardathoonera people are connected to songlines—if the songlines are disrupted, their widdart (heart) is disconnected, like the whales, their feet get lost and they don't know where to go anymore • Country owns people and we are all connected by energy – different frequencies connect all beings on earth and everything on earth is connected – if you protect country, it will protect you – women hold the energy connected to water
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	• No specific areas have been identified through consultation however NTGAC has noted the cultural importance of Sea Country and the need to ensure it is protected • In addition CAPL understands the Ningaloo Coast is culturally significant to the groups NTGAC represents
Wirrawandi Aboriginal Corporation (WAC)	• The coastal area, Sea Country, and adjacent islands are highly valuable to the Yaburara and Mardathoonera people • Identified a connection to Barrow Island

^ *Islands located outside the Hydrocarbon EMBA.*

4.3.5.2.2 Historic heritage

Early European exploration of the NWMR and adjacent coast occurred in the 1600s; however it was concluded at the time that resources and conditions were not appropriate for settlement (Ref. 153). British colonisation did not begin in the Pilbara until 1860s, with pastoralism as the first major industry, followed by small ports and service centres (Ref. 153). The pearling industry began in the late-1800s, and remains a significant contributor to the economy of northwest WA (Ref. 153). Similarly, small fishing fleets were common from the 1860s onwards, and the commercial fishing industry also remains a significant economic input for northwest WA, particularly from prawn and demersal finfish fisheries (Ref. 153). Petroleum discovery and development commenced from the 1950s, with both onshore and offshore discoveries (Ref. 153).

The marine and coastal industries that still exist and operate within the NWMR are further described in Section 4.4.

4.3.6 Commonwealth marine areas

The Commonwealth marine area is a MNES under the EPBC Act, and a relevant value and sensitivity under the OPGGS(E)R. The Hydrocarbon EMBA for this activity intersects within Commonwealth waters that are part of the NWMR.

The NWMR comprises the Commonwealth waters and seabed from the WA—Northern Territory border south to Kalbarri (Ref. 153). The NWMR is characterised

by shallow-water tropical marine ecosystems with high species richness. Most of the region's species are tropical and are also found in other parts of the Indian and western Pacific oceans (Ref. 153). The region is a tropical carbonate margin that comprises an extensive area of shelf, slope, and abyssal plain/deep ocean floor, as well as complex areas of bathymetry such as plateau, terraces and major canyons (Ref. 185). The region experiences a tropical monsoonal climate towards the northern extent of the region, transitioning to tropical arid and subtropical arid within the central and southern areas of the region (Ref. 153).

Conservation values of the Commonwealth marine area include:

- protected species and/or their habitat (Section 4.3.3)
- protected places including Australian Marine Parks (AMP) (Section 4.5.1) and heritage places (Section 4.6)
- KEFs (Section 4.3.6.1).

4.3.6.1 Key ecological features

KEFs are elements of the Commonwealth marine environment that are considered to be of regional importance for a region's biodiversity or its ecosystem function and integrity. KEFs are not MNES and have no legal status in their own right; however, they may be considered as components of the Commonwealth marine area.

KEFs meet one or more of these criteria (Ref. 119):

- a species, group of species, or a community with a regionally important ecological role (e.g. a predator, or prey that affects a large biomass or number of other marine species)
- a species, group of species, or a community that is nationally or regionally important for biodiversity
- an area or habitat that is nationally or regionally important for:
  - enhanced or high productivity (such as predictable upwellings—an upwelling occurs when cold nutrient-rich waters from the bottom of the ocean rise to the surface)
  - aggregations of marine life (such as feeding, resting, breeding or nursery areas)
  - biodiversity and endemism (species that only occur in a specific area)
- a unique sea floor feature, with known or presumed ecological properties of regional significance.

KEFs have been identified by the Australian Government on the basis of advice from scientists about the ecological processes and characteristics of the area (Ref. 119).

The presence of KEFs within the Hydrocarbon EMBA, and a description of the KEFs values, are shown in Table 4-17: and Figure 4-11.

Table 4-17: Presence of KEFs

Key ecological feature	OA	Sound EMBA	Hydrocarbon EMBA
Ancient coastline at 125 m depth contour	✓	✓	✓
Parts of the ancient coastline, particularly where it exists as a rocky escarpment, are thought to provide biologically important habitats in areas otherwise dominated by soft sediments. The topographic complexity of these escarpments may also facilitate vertical mixing of the water column, providing relatively nutrient-rich local environments (Ref. 153). The ancient submerged coastline provides areas of hard substrate and therefore may provide sites for higher diversity and enhanced species richness relative to surrounding areas of predominantly soft sediment. Little is known about fauna associated with the hard substrate of the escarpment but it is likely to include sponges, corals, crinoids, molluscs, echinoderms and other benthic invertebrates representative of hard substrate fauna in the NWS bioregion (Ref. 153). Benthic surveys undertaken by CAPL, identified that the habitat within this KEF in proximity to the OA consisted of smooth seabed with bioturbation and bare substrate, and appeared devoid of biota (Ref. 4). **Values:** Unique sea floor feature with ecological properties of regional significance.			
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula			✓
The canyons are associated with upwelling as they channel deep water from the Cuvier Abyssal Plain up onto the slope. This nutrient-rich water interacts with the Leeuwin Current at the canyon heads. Aggregations of whale sharks, manta rays, sea snakes, sharks, large predatory fish and seabirds are known to occur in this area (Ref. 153). The canyons on the slope of the Cuvier Abyssal Plain and Cape Range Peninsula are connected to the Commonwealth waters adjacent to Ningaloo Reef and may also have connections to Exmouth Plateau. The narrow shelf width (about 10 km) near the canyons facilitates nutrient upwelling. Thus, the canyons probably play a part in the enhanced productivity of the Ningaloo Reef system (Ref. 153). The canyons are also repositories for organic and inorganic particulate matter from the shelf and serve as conduits for its transfer from the surface and shelf to greater depths. The hard substrates of canyons provide habitat for deepwater snapper and other species (Ref. 24). **Values:** Unique sea floor features with ecological properties of regional significance.			
Continental slope demersal fish communities	✓	✓	✓
The diversity of demersal fish assemblages on the continental slope in the Timor Province, the Northwest Transition and the Northwest Province is high compared to elsewhere along the continental slope. The continental slope between North West Cape and the Montebello Trough has more than 500 fish species, 76 of which are endemic, which makes it the most diverse slope bioregion in Australia (Ref. 217). The demersal fish species occupy two distinct demersal community types associated with the upper slope (water depth of 225–500 m) and the mid slope (750–1,000 m). Bacteria and fauna present on the continental slope are the basis of the food web for demersal fish and higher-order consumers in this system (Ref. 153). Benthic survey undertaken by CAPL, identified that the habitat within this KEF in proximity to the OA comprise irregular and smooth seabed with bare substrates, discrete depressions of bare substrate, and scarps with bare substrate, were the most dominant benthic features (Ref. 4). **Values**: High levels of endemism.			
Commonwealth waters adjacent to Ningaloo Reef			✓
The Commonwealth waters adjacent to Ningaloo reef include Ningaloo Marine Park (Commonwealth waters) and encompass an area of 2,435 km^2. This feature lies adjacent to the			

Key ecological feature	OA	Sound EMBA	Hydrocarbon EMBA
Ningaloo Reef state water margin at the 3 nm limit. Ningaloo Reef is globally significant as the only extensive coral reef in the world that fringes the west coast of a continent. Upwellings associated with canyons on the adjacent slope and interactions between the Ningaloo and Leeuwin currents are thought to support the rich aggregations of large marine species present at Ningaloo Reef (Ref. 153). Aggregations of Whale Sharks, Manta Rays, Humpback Whales, sea snakes, sharks, large predatory fish and seabirds are known to occur in this area (Ref. 153). **Values:** High productivity and aggregations of marine life.			
Exmouth Plateau			✓
The Exmouth Plateau is a regionally and nationally unique deep-sea plateau (water depths of 800-4000 m) in tropical waters. The plateau is a very large topographic obstacle that may modify the flow of deep waters, generating internal tides and may contribute to upwelling of deeper water nutrients closer to the surface, thus serving an important ecological role (Ref. 153). The topography of the plateau (with valleys and channels), in addition to potentially constituting a range of benthic environments, may provide conduits for moving sediment and other material from the plateau surface through the deeper slope to the abyss. The Exmouth Plateau is generally an area of low habitat heterogeneity; however, it is likely to be an important area of biodiversity as it provides an extended area offshore for communities adapted to depths of around 1000 m. Sediments on the plateau suggest that biological communities include scavengers, benthic filter feeders and epifauna (Ref. 153). Fauna in the pelagic waters above the plateau are likely to include small pelagic species and nekton (Ref. 24). **Values:** Unique sea floor feature with ecological properties of regional significance.			

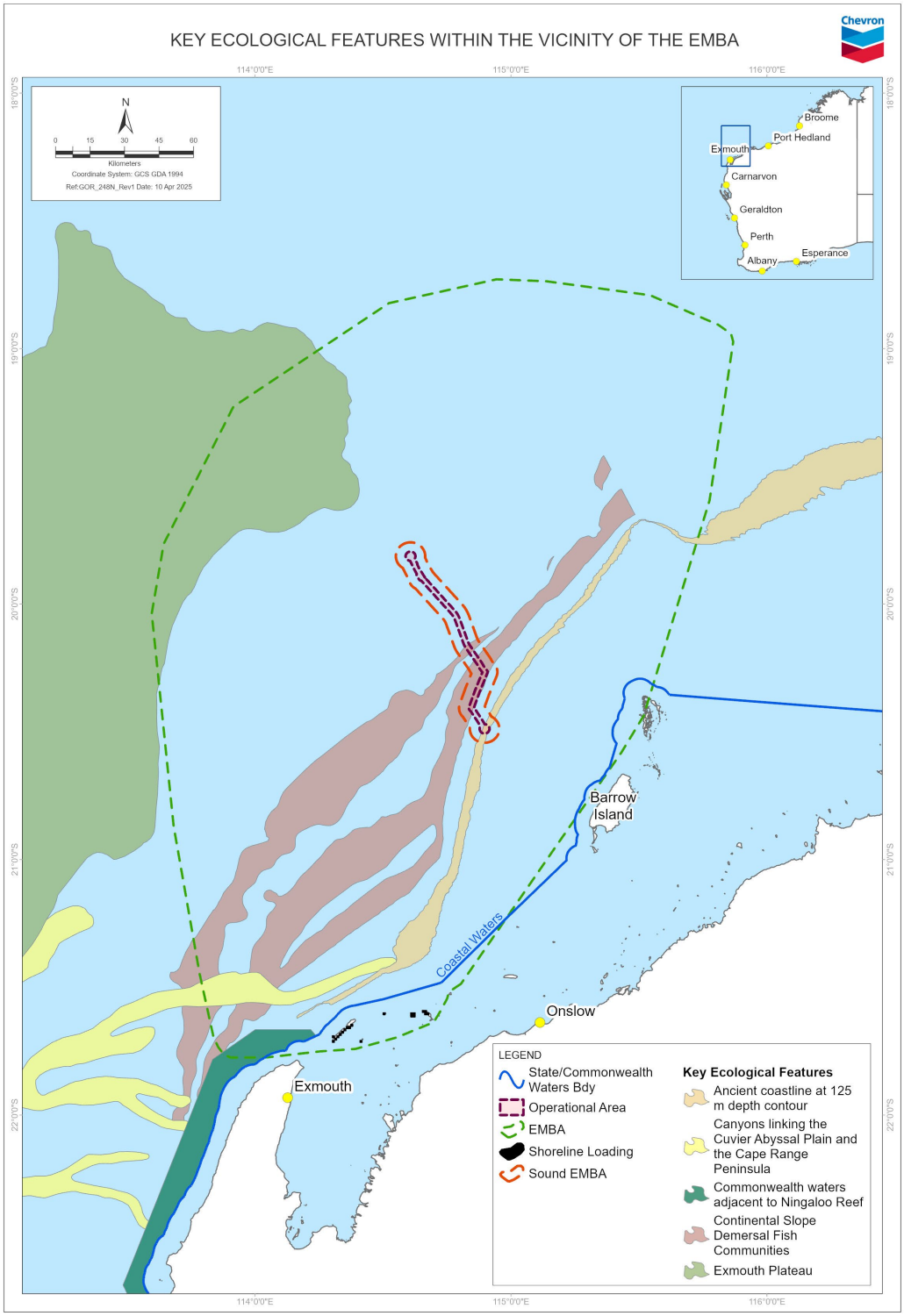


Figure 4-11: Key ecological features within the vicinity of the EMBA

4.3.7 Commonwealth land area

Commonwealth land[12] is a relevant value and sensitivity under the OPGGS(E)R. Based on spatial review and searches of the online PMST (Ref. 116; appendix b), there is no Commonwealth land associated with Department of Defence facilities within the Hydrocarbon EMBA.

4.4 Natural and physical resources

Natural and physical resources are described as substances occurring in nature that can be exploited for economic gain, and may include such resources as fishing stocks, petroleum reservoirs, or values of the Commonwealth marine area. Marine and coastal industries have been developed based on natural and physical resources, and where these industries may interest with the Hydrocarbon EMBA they have been identified and described in the following sections.

4.4.1 Commercial fisheries

4.4.1.1 Commonwealth-managed fisheries

The Commonwealth-managed commercial fisheries with fishery management areas that intersect the Hydrocarbon EMBA, and that have fishing effort recorded during 2018–2023 (Ref. 1) are listed in Table 4-18.

For the fisheries with fishing effort recorded within the OA or Sound EMBA (i.e. areas associated with planned activities), additional information has been provided below.

Table 4-18: Presence of recent (2018-2023) fishing effort recorded within Commonwealth-managed commercial fisheries

Fishery	OA	Sound EMBA	Hydrocarbon EMBA
North-West Slope Trawl Fishery	✓	✓	✓
Western Deepwater Trawl Fishery			✓

Commonwealth fisheries with fishing effort recorded within the OA are limited to the North West Slope Trawl Fishery (NWSTF), as shown in Figure 4-12. Relative fishing intensity data are not available for the NWSTF due to low vessel numbers and confidentiality.

The NWSTF use bottom (or demersal) trawl methods to target deep-water prawn and scampi typically between the 200 m isobath and the outer boundary of the Australian Fishing Zone (Ref. 27). The primary species landed in the NWSTF is the Australian scampi (*Metanephrops australiensis*), with smaller quantities of velvet scampi *(M. velutinus)* and Boschma's scampi (*M. boschmai*) and mixed scampi (*Metanephrops spp.* and *Nephropsis spp.*) (Ref. 27). A quantity of prawns is also harvested each season, and squids are becoming an increasingly

[12] Commonwealth land includes land owned or leased by the Commonwealth or a Commonwealth agency, land in the Jervis Bay Territory, land in the Christmas Island, Ashmore and Cartier Islands, Coral Sea Islands, Cocos (Keeling) Islands, Australian Antarctic territory and Heard and McDonald Islands external territories, and any other area of land that is included in a Commonwealth reserve.

significant component of the catch. Mixed snappers (*Lutjanidae*) and redspot emperor (*Lethrinus lentjan*) have historically been an important component of the NWSTF catch. Fishing for scampi occurs over soft, muddy sediments or sandy habitats, using demersal trawl gear on the continental slope.

Fishing efforts increased from 196 days and 3,950 trawl-hours and seven fishing permits in the 2021–22 season to 218 days and 4,349 trawl-hours with the same number of fishing permits in the 2022–23 season. Three vessels operated in the 2022–23 season (Ref. 27). Scampi stock are classified as not overfished and not subject to overfishing (Ref. 27).

Southern bluefin tuna management area has been identified within the OA and EMBA. The southern bluefin tuna Fishery is active within waters in the Great Australian Bight and south-eastern Australia (i.e. not within the OA or EMBA). A known spawning ground for southern bluefin tuna occurs in the Indian Ocean, between Java and northern WA (Ref. 27, Ref. 120). The indicative spawning ground for the southern bluefin tuna (based on geospatial data provided by ABARES, and as shown in annual Commonwealth fishery status reports) extends into the northern part of the OA (i.e. petroleum title WA-39-L) and EMBA. Two peaks have been observed in southern bluefin tuna spawning activity: September–October and February–March (Ref. 260; Ref. 160). Spawning typically occurs near the water surface. The fish then regularly dive into deeper waters to thermoregulate as they are cold-water fish and cannot tolerate warm waters for extended periods (Ref. 260). Individual fish probably stay in the spawning area for one month or so (Ref. 260; Ref. 161). The larvae drift passively before becoming entrained in the southwards flowing South Java and Leeuwin Currents and carried down the coast of Western Australia (Ref. 260). One to two-year old juveniles then head east to the Great Australian Bight, or west to the waters off South Africa (Ref. 160).

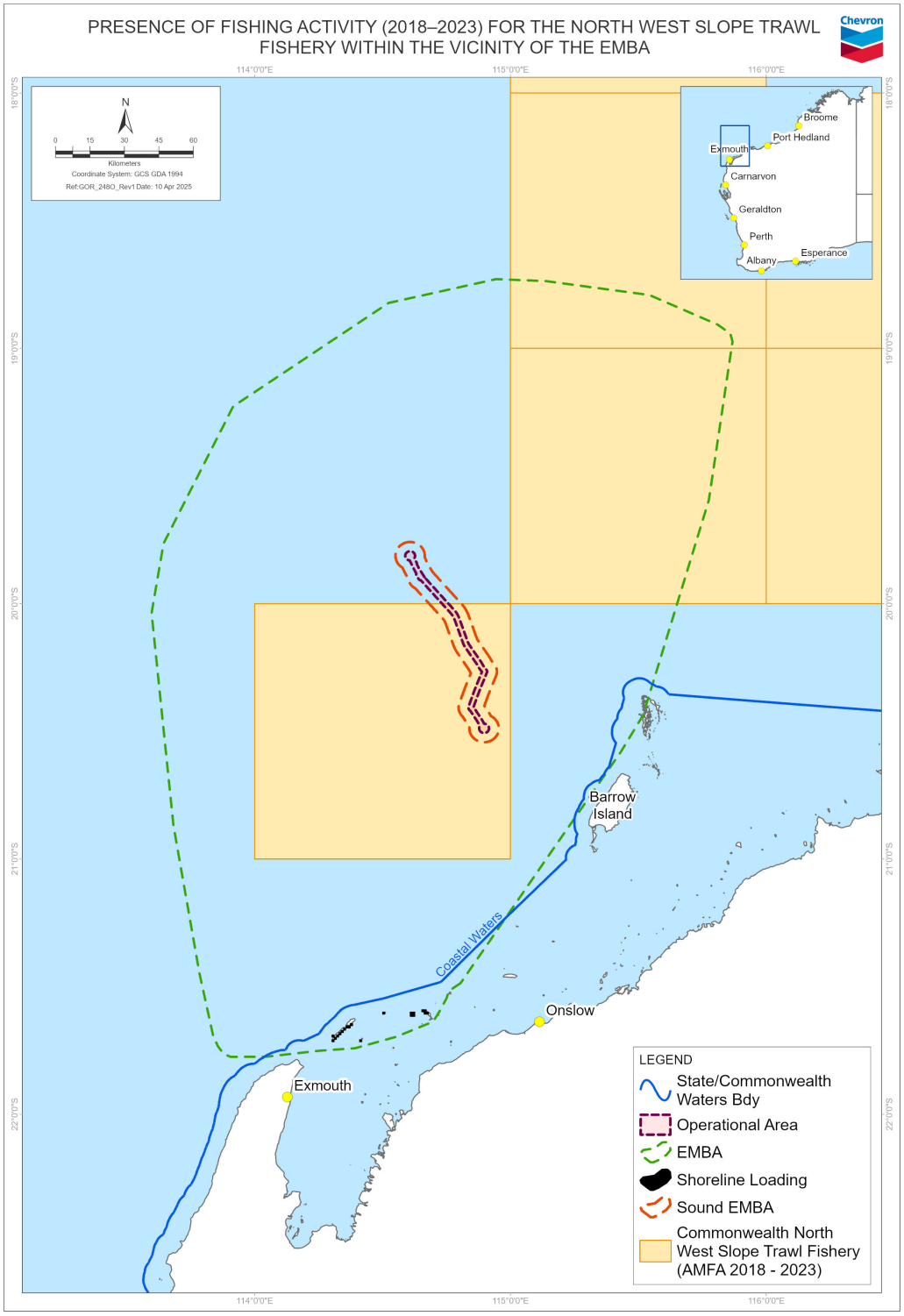


Figure 4-12: Presence of fishing activity (2018–2023) for the North West Slope Trawl Fishery within the vicinity of the EMBA

4.4.1.2 State-managed fisheries

The State-managed commercial fisheries with fishery management areas that intersect the Hydrocarbon EMBA, and that have fishing effort recorded over a 10-year period (2014–2023) (Ref. 1) are listed in Table 4-19.

For the fisheries with fishing effort recorded within the OA or Sound EMBA (i.e. areas associated with planned activities), additional information has been provided below.

Table 4-19: Presence of fishing effort recorded during 2014-2023 within State-managed commercial fisheries

Fishery	OA	Sound EMBA	Hydrocarbon EMBA
North Coast Bioregion			
Mackerel Managed Fishery			✓
Onslow Prawn Managed Fishery			✓
Pilbara Crab Managed Fishery			✓
Pilbara Fish Trawl (Interim) Managed Fishery			✓
Pilbara Line Fishery	✓	✓	✓
Pilbara Trap Managed Fishery	✓	✓	✓
West Australian Sea Cucumber (Beche-De-Mer) Fishery			✓
Gascoyne Bioregion			
Exmouth Gulf Prawn Managed Fishery			✓
West Coast Deep Sea Crustacean Fishery			✓
Statewide			
Marine Aquarium Fish Managed Fishery			✓
Specimen Shell Managed Fishery			✓

State–managed fisheries were identified with fishing effort within the vicinity of the OA; these are shown in Figure 4-13 and Figure 4-14. None of the identified fisheries within the OA or Sound EMBA operated more than three vessels per year.

The Mackerel Managed Fishery is located outside of the OA and Sound EMBA; however, is described due to its proximity. Mackerel Managed Fishery utilises near-surface trolling or jig fishing methods, with vessels primarily active during May to November (Ref. 246), and with the bulk of the catch typically taken within Kimberley waters (Ref. 246). The fishery targets are Spanish mackerel (*Scomberomorus commerson*), Grey mackerel (*S. semifasciatus*) and other species from the genus *Scomberomorus.* The Mackerel Managed Fishery extends from the West Coast Bioregion to the WA/Northern Territory border. There are three managed fishing areas and during the 2022–23 season only 13 boats operated in these areas. The Pilbara catch is often below the tolerance range, and the Gascoyne Coast/West Coast Bioregions catch have been below the tolerance range for almost all years since 2006 (Ref. 246). The total catch for the fishery in 2022–23 season was 212 t.

The Pilbara Line Fishery (line fishing methods) operates on an exemption basis which restricts vessels to operating within a nominated 5-month block period each year (typically May-September). The Pilbara Line Fishery catch comprises around 45-50 different fish species. The main species targeted by the fishery are Bluespotted Emperor (*Lethrinus punctulatus*), Red Emperor (*Lutjanus sebae*) and

Rankin Cod (*Epinephelus multinotatus*), as well as some deeper offshore species such as Ruby Snapper and Eightbar Grouper. The total catch recorded for the fishery in 2022–23 season was 104 tonnes (Ref. 246). Figure 4-13 shows the intersect between the OA and fishing effort for the Pilbara Line Fishery.

The Pilbara Trap Managed Fishery (trap methods) is managed through area closures and effort allocations (Ref. 246). The main species targeted by this fishery are Bluespotted Emperor (*Lethrinus punctulatus*), Red Emperor (*Lutjanus sebae*) and Rankin Cod (*Epinephelus multinotatus*). The total catch recorded for the fishery in 2022–23 season was 597 tonnes (Ref. 246).

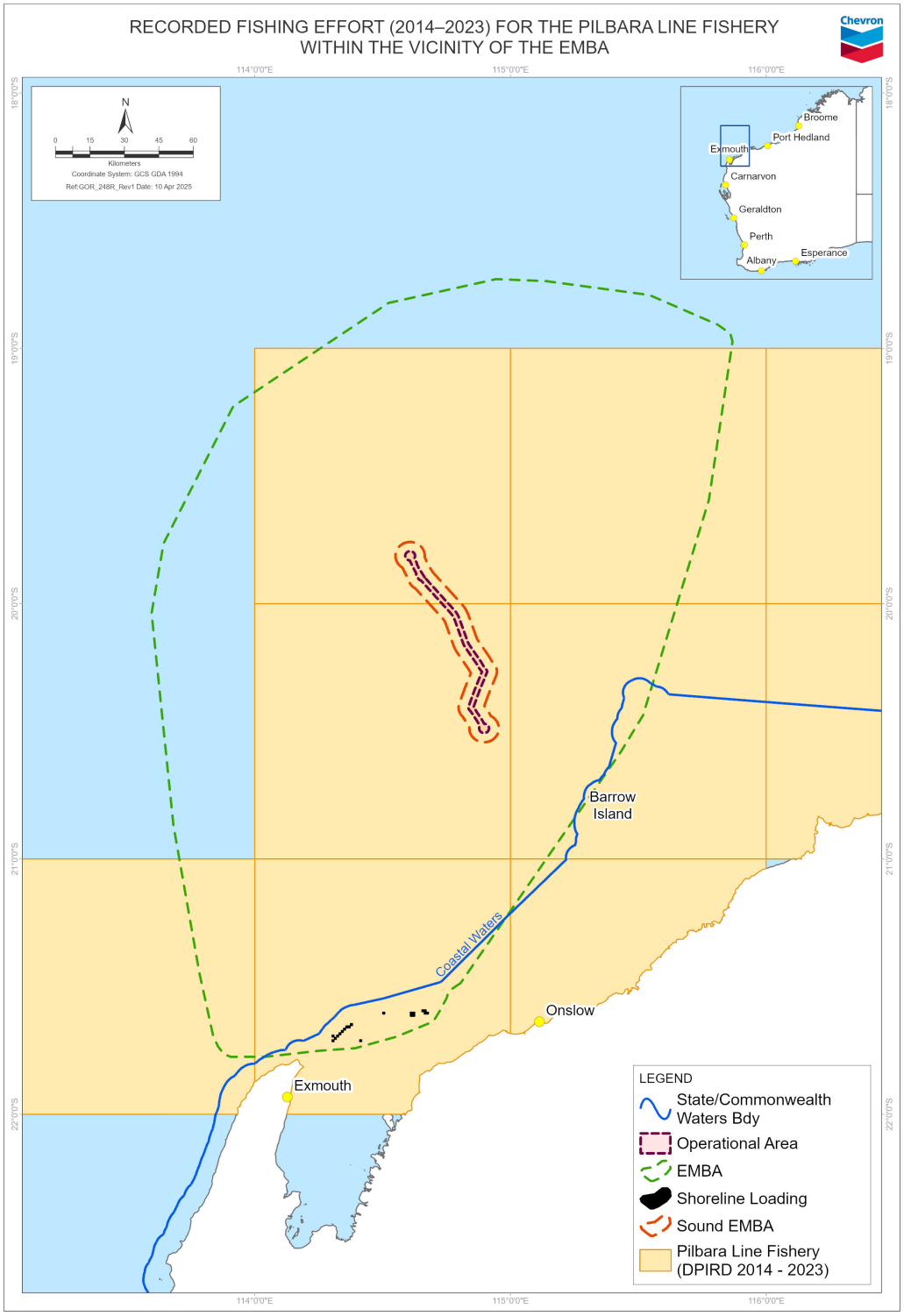


Figure 4-13: Recorded fishing effort for the Pilbara Line Fishery within the vicinity of the EMBA

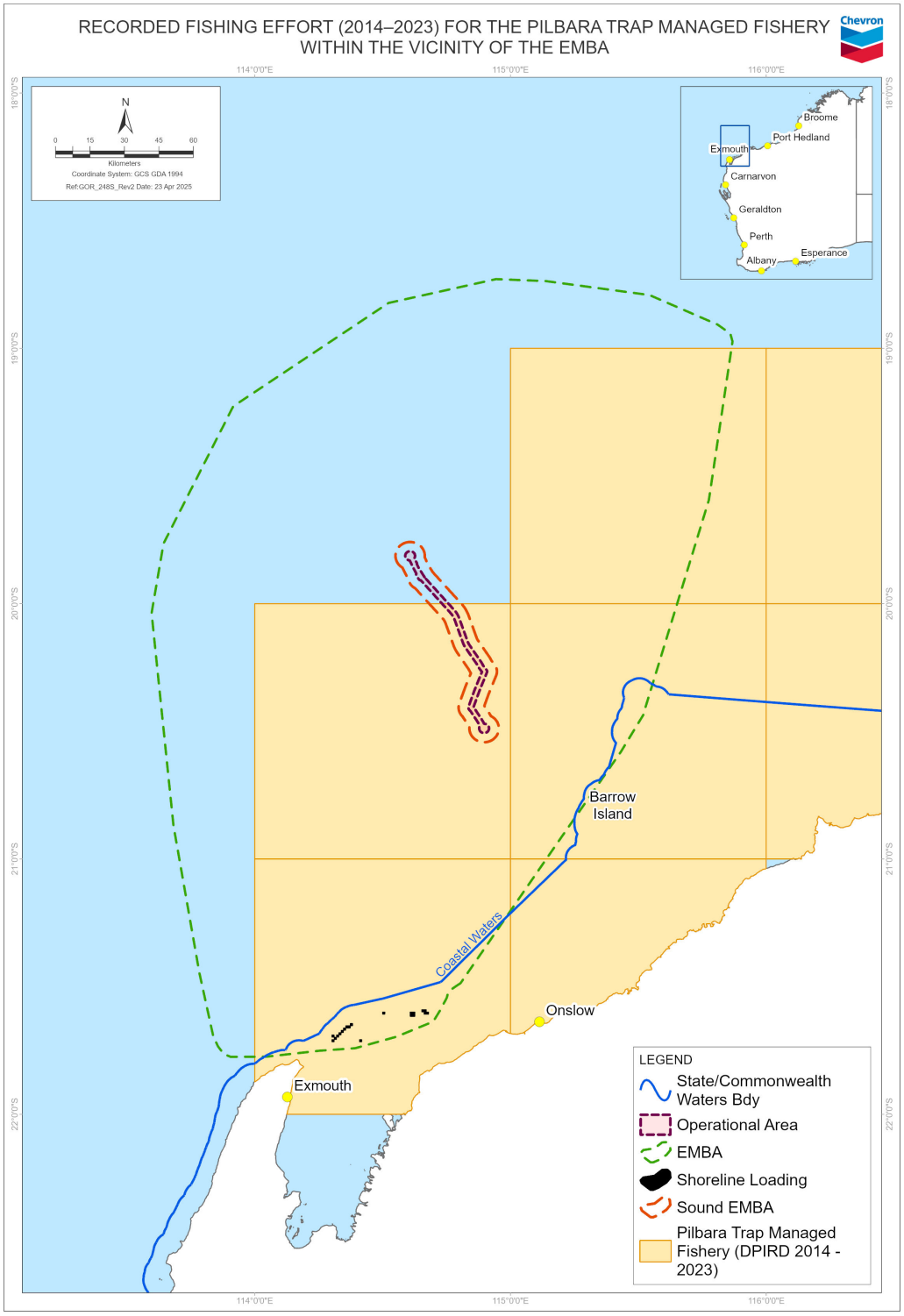


Figure 4-14: Recorded fishing effort for the Pilbara Trap Managed Fishery within the vicinity of the EMBA

4.4.1.3 Pearling and aquaculture

Pearling and aquaculture operations in the northwest are typically restricted to inland and shallow coastal waters.

The OA and Sound EMBA occurs offshore and does not have any interface with the coast; and therefore there is no overlap with any known licensed aquaculture or pearling operations.

The Hydrocarbon EMBA interfaces with the coast, including around Montebello Islands and several Pilbara inshore islands (Figure 4-1). Some pearl farm leases exist in nearshore waters around the Montebello Islands and one pearl approved site close to the North Muiron Island.

4.4.2 Recreational fisheries

Recreational fishing is one of the most popular activities in WA with an estimated third of the population fishing recreationally (Ref. 148). The WA Department of Primary Industries and Regional Development (DPIRD) conducts state-wide recreational fishing surveys every two years, with the first survey completed in 2011. The survey collects information from more than 3,000 recreational fishers who record their catches in logbooks over a 12-month period with DPIRD also conducting interviews throughout the State and monitoring the number of boat launches and retrievals using cameras at various boat ramps.

The 2020–2021 survey report (Ref. 148) identified that most boat-based recreational fishing effort occurred in nearshore habitat (46% and 54% for North-Coast and Gascoyne Coast respectively), followed by inshore demersal habitats (32% and 39% for North Coast and Gascoyne Coast respectively). Most fishing effort was attributed to line fishing (87% and 91% for North-Coast and Gascoyne Coast respectively).

Tour Operator fishing efforts recorded over a 10-year period (2014–2023) (Ref. 149) identified there were up to five vessels operating within the OA, with fishing efforts have been reported between May and December only.

Some shore-based fishing may occur in the coastal regions within the Hydrocarbon EMBA (Section 4.3.5.1).

4.4.3 Traditional fisheries

A Customary Fishing Policy has been incorporated into the *Fish Resources Management Act 1994* (WA), which allows for customary fishing by applicable persons to occur within a sustainable fisheries management framework. Customary fishing applies to person who has a traditional connection with the area being fished, and is fishing for personal, domestic, ceremonial, educational or non-commercial needs (Ref. 147). Customary fishing does not apply to other species of marine fauna (e.g. crocodile, turtle, or dugong).

Under amendments made in 2012 to the *Conservation and Land Management Act 1984* (WA) Aboriginal people can undertake customary activities, including hunting (except in marine sanctuary zones or marine nature reserves) for dugong, turtle, or crocodiles in WA.

As described in Section 4.3.5.2.1, ongoing use of marine and coastal resources, including customary fishing, is expected to occur in NWMR and adjacent coastal waters. However, it is expected that much of this activity will occur within shallow coastal waters and therefore would not intersect with the OA or Sound EMBA. Where shore-based fishing is undertaken, this may intersect with the Hydrocarbon EMBA.

The Hydrocarbon EMBA does not intersect with the Memorandum of Understanding (MoU) Box that allows for traditional Indonesian fishers within

Australian waters. The MoU Box is managed via a bilateral agreement between Australian and Indonesian governments.

4.4.4 Commercial shipping

AMSA collects vessel traffic data from various sources, including satellite shipborne automatic identification system (AIS) data, across Australia's Search and Rescue region. This data has been used to develop Figure 4-15, which shows recent vessel traffic within the vicinity of the Hydrocarbon EMBA.

The OA intersects an NWS shipping fairway (Figure 4-15). However, vessel traffic within the fairway is relatively low (compared to other NWS shipping fairways). Vessel traffic within and around the OA is most likely to comprises offshore support vessels for petroleum activities.

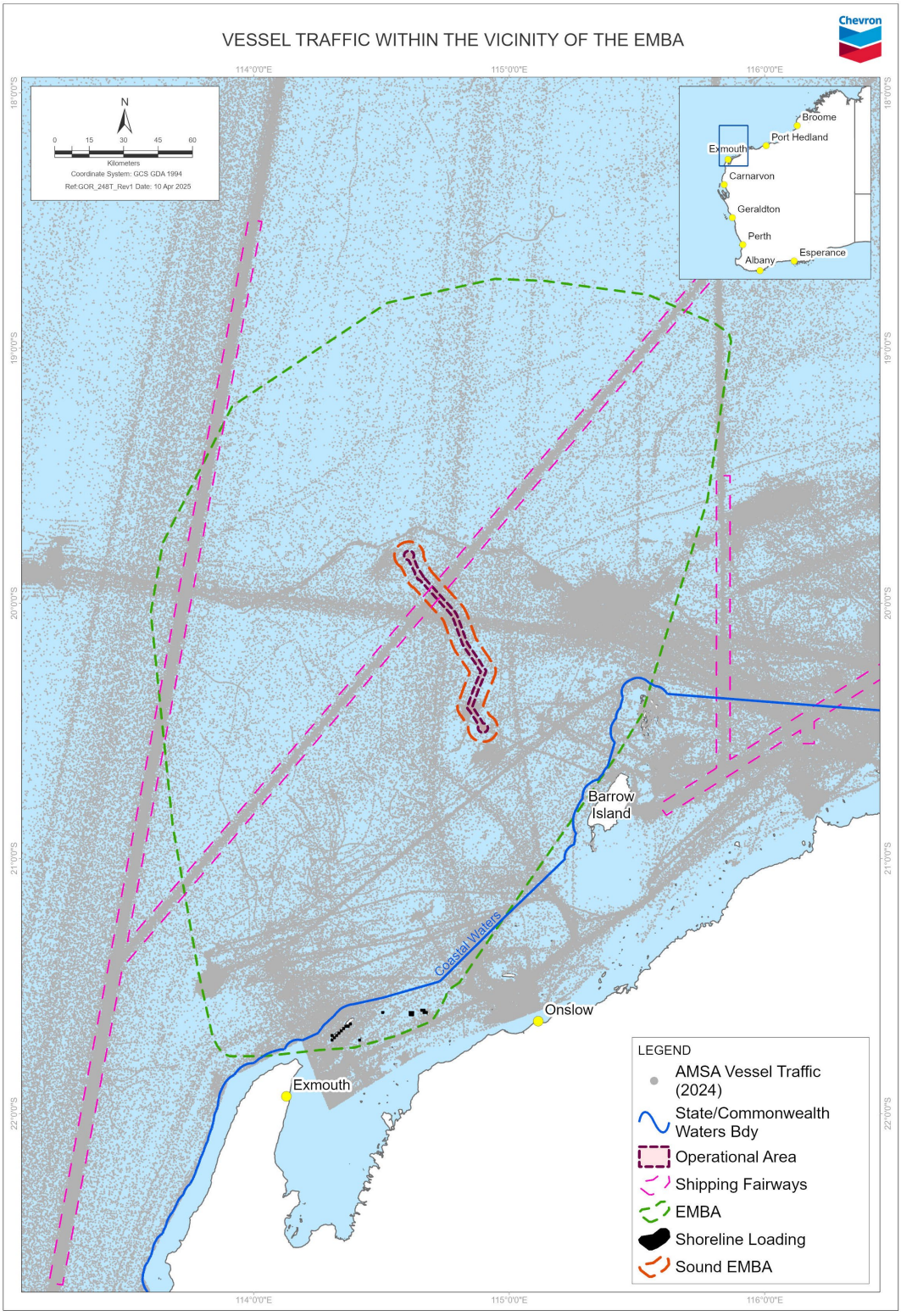


Figure 4-15: Vessel traffic within the vicinity of the EMBA

4.4.5 Tourism and recreation

Tourism is an important industry for WA, directly employing 66,700 people and indirectly employing a further 44,000 (Ref. 310). Charter fishing, diving, snorkelling, wildlife watching, and cruising are some of the commercial tourism activities in and adjacent to the NWMR (Ref. 153). Except for offshore fishing, most marine tourism and recreational activities occur in shallower State waters (Ref. 153).

The OA and Sound EMBA occur offshore and do not have any interface with the coast. As such there is limited tourism and recreational activities expected within the OA and Sound EMBA.

The Hydrocarbon EMBA interfaces with the coast, including parts of the Montebello Islands and other Pilbara inshore islands (Figure 4-1). As described in Section 4.3.5.1, tourism and recreational activities may occur around the Montebello Islands, other Pilbara islands and Ningaloo/Exmouth areas.

The Gascoyne and Pilbara regions are popular visitor destinations for both Australian and international tourists. The main marine nature-based tourist activities within the Gascoyne Region are concentrated around and within the Ningaloo Coast World Heritage property ~130 km southwest of the OA; Section 4.6). Activities undertaken include recreational fishing, snorkelling and scuba diving, wildlife watching and encounters (including Whale Sharks, Manta Rays, Humpback Whales and turtles) (Ref. 291), as well as beach access, surfing and paddling sports. Recreational fishing within the Pilbara region tends to be concentrated in State waters adjacent to population centres. Charter vessels may also frequent the waters surrounding the Montebello Islands (Ref. 125).

4.4.6 Other marine and coastal industries

Several other marine and coastal industries may be present within the Hydrocarbon EMBA (Table 4-20). No offshore renewable energy facilities, salt mines, or onshore processing facilities were identified within the Hydrocarbon EMBA.

Table 4-20: Presence of industries

Industry	OA	Sound EMBA	Hydrocarbon EMBA
Defence	*(none identified within the EMBAs)*		
Submarine cables			✓
Ports	*(none identified within the EMBAs)*		
Petroleum exploration and production	✓	✓	✓

The Royal Australian Air Force (RAAF) have a base located at Learmonth, and there is a designated maritime firing practices and exercise area associated with this base (Ref. 6). The Royal Australian Navy has three communication stations on the North West Cape peninsula. Harold E Holt Area A (outside of the Hydrocarbon EMBA) is at the northern extent of North West Cape, and includes a very low frequency radio, towers and associated infrastructure, the Point Murat

Navy Pier, and the waters extending 400 m around the pier (Ref. 137). There are no known sites of unexploded ordnance within the OA (Ref. 128).

Submarine telecommunications cables are underwater infrastructure linking Australia with other countries—these cables carry the bulk of Australia's international voice and data traffic. There are no known submarine telecommunications cables within the OA; however the Darwin-Jakarta-Singapore Cable intersects the Hydrocarbon EMBA. This cable links the existing Australia Singapore Cable to the North-West Cable System. Under Part 2 of the *Telecommunications Act 1997* (Cth), the Australian Communications and Media Authority (ACMA) can declare protection zones covering the cables to prohibit and/or restrict activities that may damage them. The protection zones are generally the area within 1.85 km (1 nm) either side of the cable and include both the waters and seabed within the area. No protection zone has been declared to the Darwin-Jakarta-Singapore Cable.

The *Port Authorities Act 1999* (WA) governs WA's port authorities, covering their functions, responsibilities, concept of operations and related matters. The *Shipping and Pilotage Act 1967* (WA) governs shipping and pilotage in and about ports, boat harbours, and mooring control areas of WA. The Barrow Island Port (outside of the Hydrocarbon EMBA) is a declared port under this Act.

The Northern Carnarvon Basin is one of the most heavily explored and developed petroleum basins in Australia. The Northern Carnarvon, Browse and Bonaparte basins together comprise most of Australia's natural gas reserves (Ref. 132). The Carnarvon Basin supports >95% of WA's oil and gas production, and accounts for ~63% of Australia's total production of crude oil, condensate, and natural gas (Ref. 132).

The OA intersects CAPL's Gorgon Gas Development petroleum titles and pipeline licences (refer to Table 4-21; Section 2.2). In addition, there are a number of other CAPL and non-CAPL operator projects and activities that may take place within 50 km of the OA. Table 4-21 lists the other planned petroleum activities identified within 50 km from the OA, and which may occur within the next 5 years (based on NOPSEMA-accepted EPs).

Table 4-21: Planned petroleum activities within 50 km from the OA

Nominated titleholder	Project	Description	Distance from the OA (~km)
CAPL	Gorgon and Jansz Gas Development operations	• operations • IMR activities • continuous operations will occur concurrently with the petroleum activity	intersects
	J–IC Infrastructure Project	• the installation, hook-up and pre-commissioning activities of the J–IC infrastructure are indicatively scheduled from 2025 to mid-2027 over multiple campaigns • J–IC infrastructure start-up activities are indicatively scheduled from 2027 to 2028 • J–IC activities may occur concurrently with the petroleum activity	intersects

Nominated titleholder	Project	Description	Distance from the OA (~km)
	Gorgon and Jansz drilling, well intervention and well abandonment activities	• drilling well intervention and/or plug and abandonment activities • activities are not currently scheduled but may occur concurrently with the petroleum activity if implemented.	intersects
	Wheatstone operations	• Wheatstone platform operations, including associated support vessel and helicopter activity (note the Wheatstone Platform is >50 km from the OA) • operations • pipeline IMR activities, noting a small section (~2 km of the 221 km trunkline) is located within ~5 km of the OA • continuous operations will occur concurrently with the petroleum activity	>5 km
	Wheatstone infill drilling, well intervention and well abandonment	• infill drilling activities (up to 7 wells) • contingency activities, including well intervention and/or plug and abandonment • drilling activities may occur concurrently with the petroleum activity	>50 km
Woodside	Julimar Development Project (JPD3)	• Drilling activities (up to five wells) and installation of subsea infrastructure • may occur at any time between Q3 2024 and 2026. • drilling activities may occur concurrently with the petroleum activity	>20 km
	Scarborough Project	• operations • trunkline IMR activities • continuous operations will occur concurrently with the petroleum activity	~10 km of the 430 km trunkline is located within ~10 km of the Jansz end of the OA
Santos	Halyard-2 drilling	• drilling and completion activities • subsea installation and pre-commissioning activities • indicatively scheduled to occur at any time until the end of 2026. • drilling activities may occur concurrently with the petroleum activity	~20 km

4.5 Qualities and characteristics of locations, places and areas

The qualities and characteristics of the protected places present within the Hydrocarbon EMBA are described in the following sections.

4.5.1 Australian marine parks

Marine parks help conserve marine habitats and the marine species that live within and rely on these habitats. Marine parks also provide places for people to watch wildlife, dive, and go boating, snorkelling, or fishing (Ref. 264).

The North-west Marine Parks Network Management Plan (Ref. 135) defines the following types of values for the Marine Parks in the North-west Network:

- natural values—habitats, species and ecological communities, and the processes that support their connectivity, productivity and function
- cultural values—living and cultural heritage recognising First Nations beliefs, practices and obligations for Country, places of cultural significance and cultural heritage sites
- heritage values—non-First Nations heritage that has aesthetic, historic, scientific or social significance
- socioeconomic values—the benefits for people, businesses and/or the economy.

The objectives of the North-west Marine Parks Network Management Plan (Ref. 135) are to provide for:

- the protection and conservation of biodiversity and other natural, cultural and heritage values of marine parks in the North-west Network
- ecologically sustainable use and enjoyment of the natural resources within marine parks in the North Network, where this is consistent with objective (a).

AMPs occur within Commonwealth waters and have been proclaimed under the EPBC Act in 2007 and 2013. There are no AMPs within the OA or Sound EMBA. The presence of AMPs within the Hydrocarbon EMBA are shown in Figure 4-16, and the values summarised in Table 4-22.

Table 4-22: Presence of AMPs

Australian Marine Park^	OA	Sound EMBA	Hydrocarbon EMBA
Gascoyne (Multiple use zone [IUCN VI)			✓
The Gascoyne Marine Park is located ~20 km off the west coast of the Cape Range Peninsula, adjacent to the Ningaloo Reef Marine Park and the Western Australian Ningaloo Marine Park, and extends to the limit of Australia's EEZ. The Marine Park covers an area of 81,766 km² and water depths between 15 m and 6,000 m. **Natural values** The Marine Park includes examples of ecosystems representative of: • Central Western Shelf Transition—continental shelf with water depths up to 100 m, and a significant transition zone between tropical and temperate species			

Australian Marine Park^	OA	Sound EMBA	Hydrocarbon EMBA
• Central Western Transition—characterised by large areas of continental slope; a range of topographic features such as terraces, rises, and canyons; seasonal and sporadic upwelling; and benthic slope communities comprising tropical and temperate species • Northwest Province—an area of continental slope comprising diverse and endemic fish communities. The marine park includes four KEFs characterised by seasonal and sporadic upwelling, nutrient-rich water and aggregations of marine life and high diversity of demersal fish assemblages. The Marine Park supports a range of species including those listed as threatened, migratory, marine, or cetacean under the EPBC Act. BIAs within the Marine Park include breeding habitat for seabirds; internesting habitat for marine turtles; a migratory pathway for Humpback Whales; and foraging habitat and migratory pathway for Pygmy Blue Whales. **Cultural values** First Nations people have a deep and ongoing connection to Sea Country which is central to their identity, health and sense of belonging. This deep connection is reflected in their languages, ceremonies, and customs, and bring with it obligations to protect their Sea Country. Across Australia, First Nations people have been sustainably using and managing their Sea Country for tens of thousands of years. The Baiyungu, Thalanyji and Yinggarda People have the Traditional Custodians for the Sea Country in the Gascoyne Marine Park. **Heritage values** No World, Commonwealth or national heritage listings apply to the Marine Park, however the Marine Park is adjacent to the Ningaloo Coast World, Commonwealth and national heritage. **Social and economic values** Commercial fishing, mining and recreation are important activities in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation.			
Montebello (Multiple use zone [IUCN VI])]			✓ [13]
The Montebello Marine Park is located offshore of Barrow Island and 80 km west of Dampier extending from the WA state water boundary, and is adjacent to the Barrow Island and Montebello Islands Marine Parks. The Marine Park covers an area of 3,413 km² and water depths from <15 m to 150 m. **Natural values** The Marine Park includes examples of ecosystems representative of the Northwest Shelf Province—a dynamic environment influenced by strong tides, cyclonic storms, long-period swells, and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline. The Ancient coastline at the 125 m depth contour KEF intersects the north-west boundary of the park, thought to be an important sea floor feature and migratory pathway for Humpback Whales (Section 4.3.3.1.1). The Marine Park supports a range of species including species listed as threatened, migratory, marine, or cetacean under the EPBC Act. BIAs within the Marine Park include breeding habitat for seabirds; internesting, foraging, mating, and nesting habitat for marine turtles; a migratory pathway for Humpback Whales; and foraging habitat for Whale Sharks. **Cultural values** First Nations people have a deep and ongoing connection to Sea Country which is central to their identity, health and sense of belonging. This deep connection is reflected in their languages, ceremonies, and customs, and bring with it obligations to protect their Sea Country. Across Australia, First Nations people have been sustainably using and managing their Sea Country for tens of thousands of years. The Thalanyji and Nhuwala People are the Traditional Custodians of the Sea Country in the Montebello Marine Park. **Heritage values**			

[13] Modelling predicts no contact of any hydrocarbon phases above the modelled thresholds to any AMPs. However, as the Hydrocarbon EMBA intersects The Montebello and the Ningaloo AMPs due to the smoothing applied during the EMBA shapefile generation, these features have been described.

Australian Marine Park^	OA	Sound EMBA	Hydrocarbon EMBA
No international, Commonwealth or national listings apply to the Marine Park, however the Marine Park is adjacent to the Western Australia Barrow Island and the Montebello– Barrow Island Marine Conservation Reserves which have been nominated for national heritage listing. **Social and economic values** Tourism, commercial fishing, mining and recreation are important activities in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation.			
Ningaloo Marine Park (Recreational Use Zone [IUCN IV], National Park Zone [IUCN II])			✓[13]
The Ningaloo Marine Park stretches ~300 km along the west coast of the Cape Range Peninsula, and is adjacent to the Western Australian Ningaloo Marine Park and Gascoyne Marine Park. The Marine Park covers an area of 2,435 km² and a water depth range of 30 m to more than 500 m. The Marine Park was originally proclaimed under the National Parks and Wildlife Conservation Act 1975 on 20 May 1987 as the Ningaloo Marine Park (Commonwealth Waters), and proclaimed under the EPBC Act on 14 December 2013 and renamed Ningaloo Marine Park on 9 October 2017. **Natural values** The Marine Park includes examples of ecosystems representative of: • Central Western Shelf Transition—continental shelf of water depths up to 100 m, and a significant transition zone between tropical and temperate species • Central Western Transition—characterised by large areas of continental slope; a range of topographic features such as terraces, rises, and canyons; seasonal and sporadic upwelling; and benthic slope communities comprising tropical and temperate species • Northwest Province—an area of continental slope comprising diverse and endemic fish communities • Northwest Shelf Province—a dynamic environment, influenced by strong tides, cyclonic storms, long-period swells, and internal tides. The bioregion includes diverse benthic and pelagic fish communities, and ancient coastline thought to be an important sea floor feature and migratory pathway for Humpback Whales. Key ecological features of the Marine Park are: • Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula—an area resulting in upwelling of nutrient-rich water and aggregations of marine life • Commonwealth waters adjacent to Ningaloo Reef—an area where the Leeuwin and Ningaloo currents interact, resulting in enhanced productivity and aggregations of marine life • Continental slope demersal fish communities—an area of high diversity among demersal fish assemblages on the continental slope. Ecosystems represented in the Marine Park are influenced by interaction of the Leeuwin Current, Leeuwin Undercurrent, and the Ningaloo Current. The Marine Park supports a range of species including species listed as threatened, migratory, marine, or cetacean under the EPBC Act. BIAs within the Marine Park include breeding and or foraging habitat for seabirds; internesting habitat for marine turtles; a migratory pathway for Humpback Whales; foraging habitat and migratory pathway for Pygmy Blue Whales; breeding, calving, foraging, and nursing habitat for dugong; and foraging habitat for Whale Sharks. **Cultural values** First Nations people have a deep and ongoing connection to Sea Country which is central to their identity, health and sense of belonging. This deep connection is reflected in their languages, ceremonies, and customs, and bring with it obligations to protect their Sea Country. Across Australia, Indigenous people have been sustainably using and managing their Sea Country for tens of thousands of years. The Baiyungu, Thalanyji and Yinggarda People are the Traditional Custodians for the Sea Country in the Ningaloo Marine Park.			

Australian Marine Park^	OA	Sound EMBA	Hydrocarbon EMBA
Heritage values World heritage The Marine Park is within the Ningaloo Coast World Heritage Property, recognised for its outstanding universal heritage values, meeting world heritage listing criteria vii and x. In addition to the Marine Park, the world heritage area includes the Western Australian Ningaloo Marine Park, the Muiron Islands, the Western Australian Cape Range National Park and other terrestrial areas. The area is valued for high terrestrial species endemism, marine species diversity and abundance, and the interconnectedness of large-scale marine, coastal and terrestrial environments. The area connects the limestone karst system and fossil reefs of the ancient Cape Range to the nearshore reef system of Ningaloo Reef, to the continental slope and shelf in Commonwealth waters. National heritage The Ningaloo Coast overlaps the Marine Park and was established on the National Heritage List in 2010, meeting the national heritage listing criteria A, B, C, D, and F. Commonwealth heritage The Ningaloo Marine Area (Commonwealth waters) was established on the Commonwealth Heritage List in 2004, meeting Commonwealth heritage listing criteria A, B and C. The Ningaloo Marine Area overlaps the Marine Park. **Historic shipwrecks** The Marine Park contains more than 15 known shipwrecks listed under the UCH Act. **Social and economic values** Tourism and recreation, including fishing, are important activities in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation.			

^*Source: Ref. 135*

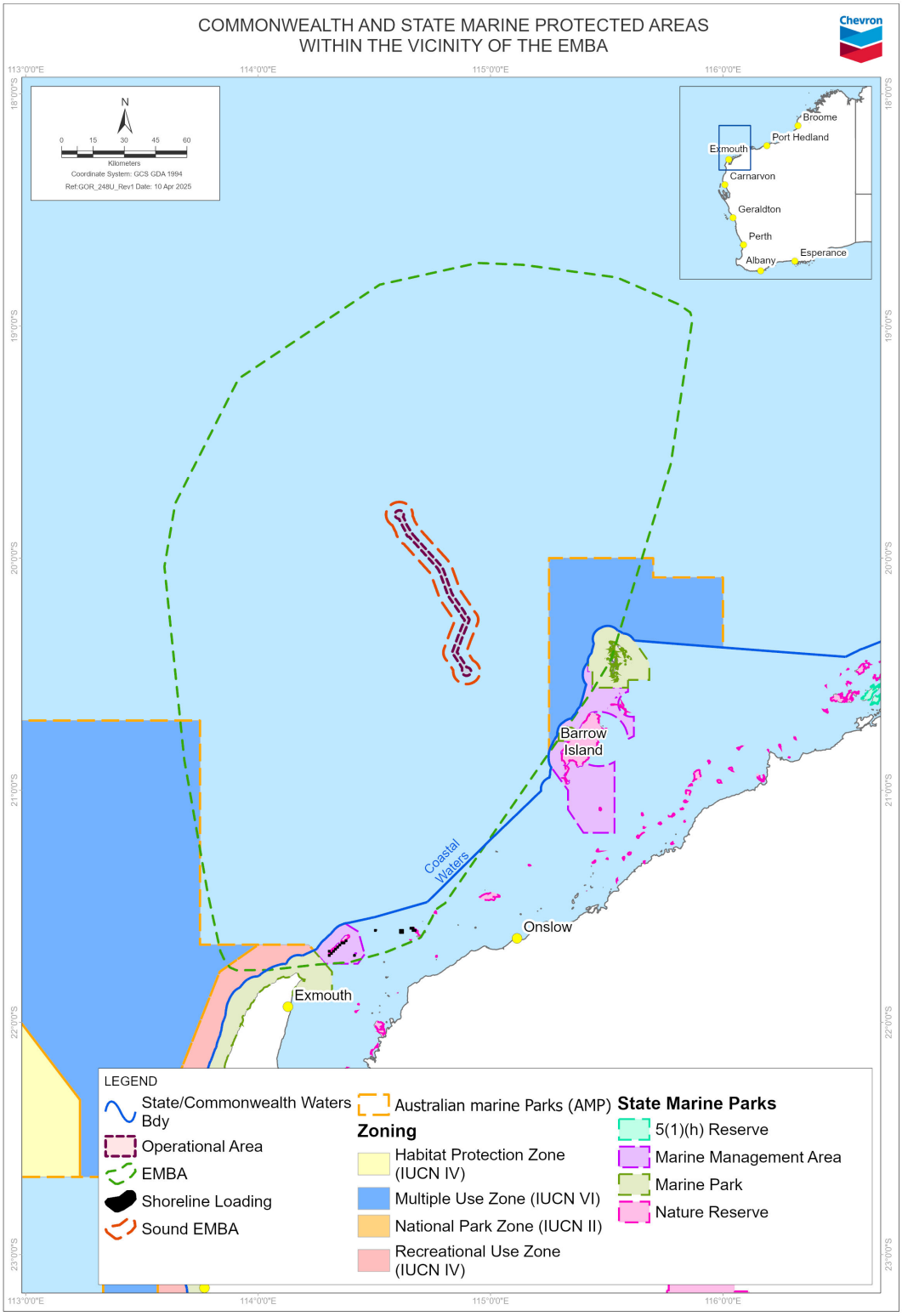


Figure 4-16: Commonwealth and State marine protected areas within the vicinity of the Hydrocarbon EMBA

4.5.2 State marine protected areas

State marine parks, and marine management areas are proclaimed under the *Conservation and Land Management Act 1984* (WA) (CALM Act), are located in State waters and are vested in the WA Conservation and Parks Commission.

There are no State marine parks, or management areas within the OA or Sound EMBA. Table 4-23 lists and Figure 4-16 illustrates the State marine parks and marine management areas within the Hydrocarbon EMBA.

Table 4-23: Presence of State marine protected areas

State marine protected areas	Zone Type (IUCN category)	OA	Sound EMBA	Hydrocarbon EMBA
Barrow Island Marine Park	Unassigned (IUCN IA)			✓
Barrow Island Marine Management Area	Unassigned (IUCN VI)			✓
Montebello Islands Marine Park	Sanctuary Zone (IUCN IA)			✓
	General Use Zone (IUCN II)			✓
	Special Purpose Zone – Pearling (IUCN VI)			✓
	Special Purpose Zone (Benthic Protection) (IUCN IV)			✓
Muiron Islands Marine Management Area	MMA (Unclassified) (IUCN VI)			✓
	Conservation Area (IUCN IA)			✓
Ningaloo Marine Park	General Use (IUCN II)			✓

The Barrow Island Marine Management Area (MMA) is the largest reserve within the Montebello/Barrow Islands marine conservation reserves, covering 114,693 ha (Ref. 125). The MMA includes most of the waters around Barrow Island, the Lowendal Islands and the Barrow Island Marine Park, with the exclusion of the port areas of Barrow Island (outside of the Hydrocarbon EMBA) and Varanus Island (outside of the Hydrocarbon EMBA). The MMA is not zoned apart from one specific management zone: the Bandicoot Bay Conservation Area (outside of the Hydrocarbon EMBA). This conservation area is on the southern coast of Barrow Island and has been created to protect benthic fauna and seabirds. It includes the largest intertidal sand/mudflat community in the reserves, is known to be high in invertebrate diversity and is an important feeding area for migratory birds. Barrow Island MMA includes significant breeding and nesting areas for marine turtles and the waters support a diversity of tropical marine fauna, important coral reefs and unique mangrove communities (Ref. 125).

The Barrow Island Marine Park covers 4,169 ha, all of which is zoned as sanctuary zone (the Western Barrow Island Sanctuary Zone). It includes Biggada Reef (outside of the Hydrocarbon EMBA), an ecologically significant fringing reef, and Turtle Bay (outside of the Hydrocarbon EMBA), an important turtle aggregation and breeding area. Representative areas of seagrass, macroalgal and deep water habitat are also represented within the marine park (Ref. 125).

The Montebello Islands Marine Park (58,331 ha) consists of two sanctuary zones, two recreation zones, one special purpose zone for benthic protection, eleven special purpose zones for pearling and general use zones. The Montebello Islands comprise over 100 islands, the majority of which are rocky outcrops; rocky shore accounts for 81% of shoreline habitat.

The ecological and conservation values of the Montebello Island Marine Park, Barrow Island Marine Park and Barrow Island MMA comprise habitats including corals reefs and bommies, mangroves, seagrass and macroalgae meadows, rocky shorelines and hard substrate, intertidal sand and mudflat communities. These habitats provide protection, food and habitat for a large diversity of species, including dugongs, turtles, whales, other protected cetaceans and birds as well as sea snakes and fish.

The Muiron Islands Marine Management Area, covers an area of 28,616 ha and is recognised for its rich marine biodiversity, coral reefs, filter-feeding communities and macroalgal beds (Ref. 101) and serve as important nesting sites for seabirds and green turtles (Ref. 97).

The Ningaloo Marine Park was established in May 1987 and covers an area of ~263,343 ha. Ningaloo Reef is the largest fringing coral reef in Australia. Temperate and tropical currents converge in the Ningaloo region resulting in highly diverse marine life including coral reefs, abundant fishes and species with special conservation significance such as turtles, whale sharks, dugongs, whales and dolphins (Ref. 97). The region has diverse marine communities including mangroves, algae and filter-feeding communities and has high water quality (Ref. 97).

4.5.3 State terrestrial protected areas

Terrestrial protected areas, proclaimed under the CALM Act, are on State lands and are vested in the WA Conservation and Parks Commission.

The OA occurs offshore and does not have any interface with the coast. Table 4-24 lists and Figure 4-16 illustrates the State terrestrial protected areas that intersect the Hydrocarbon EMBA.

Table 4-24: Presence of State terrestrial protected areas

Terrestrial protected areas	Zone Type (IUCN category)	OA	Hydrocarbon EMBA
Montebello Islands Conservation Park^	Conservation Park (IUCN II)		✓
Pilbara Islands Nature Reserves [14]*	Nature Reserve (IUCN IA)		✓

** Protected area is landward of low water mark*
^ Protected area is landward of HWM

Section 4.3.5.1 describes the Pilbara Islands Nature Reserves. The Montebello Islands Conservation Park incorporated the islands of the Montebello archipelago and are surrounded by the Montebello Islands Marine Park. The islands are located ~120 km west of Dampier and 8,000 years ago were once part of mainland Australia. Rising sea levels flooded the coastal plain leaving low-lying

[14] Specifically, the Hydrocarbon EMBA interacts with Bessieres, Serrurier, Muiron and Round Islands.

limestone remnants, a scattered group of islands comprising intertidal and subtidal coral reefs and sheltered lagoons.

4.6 Heritage value of places

Listed World Heritage properties and National Heritage places are MNES under the EPBC Act, and a relevant value and sensitivity under the OPGGS(E)R. There are no heritage protected places within the OA or Sound EMBA. Table 4-25 identifies the presence of these, and other marine or coastal heritage protected places, within the Hydrocarbon EMBA.

Table 4-25: Presence of heritage values

Feature	OA	Sound EMBA	Hydrocarbon EMBA
World Heritage property			
Ningaloo Coast			✓
National Heritage place			
Ningaloo Coast			✓
Commonwealth Heritage place			
Ningaloo Marine Area – Commonwealth Waters			✓
Indigenous Protected Areas			
N/A	*(none identified within the EMBAs)*		
Sites or artefacts protected under the *Underwater Cultural Heritage Act 2018* (Cth)			
Historic shipwrecks (>75 years old)			✓
Shipwrecks			✓
Sunken aircraft	*(none identified within the EMBAs)*		
In situ artefacts	*(none identified within the EMBAs)*		
Sites or artefacts protected under the *Aboriginal Heritage Act 1972* (WA) [15]			
N/A	(none identified within the EMBAs)		
Determined areas under the *Native Title Act 1993* (Cth)			
Native Title determination WCD2019/016			✓
Claim areas under the *Native Title Act 1993* (Cth)			
N/A	*(none identified within the EMBAs)*		

[15] Only Aboriginal Sites, being a place described under Section 5 of the *Aboriginal Heritage Act 1972* (WA), with a potential coastal and/or marine interface that intersect with the geographic extent of the EMBA (including areas of predicted shoreline loading) have been included. This is considered a conservative approach, as the heritage sites within the Department of Planning, Lands and Heritage (DPLH) spatial dataset (Ref. 150) include a buffer around sites to protect privacy regarding the location.

4.6.1 Ningaloo Coast

The Ningaloo Coast is located in WA adjacent to the East Indian Ocean. The area has a high level of terrestrial species endemism, and high marine species diversity and abundance (Ref. 317). The integration of the Ningaloo Reef and Exmouth Peninsula karst system as a cohesive limestone structure is at the heart of the natural heritage significance of the Ningaloo Coast (Ref. 105).

The marine portion of the World Heritage property contains a high diversity of habitats that includes lagoon, reef, open ocean, the continental slope, and the continental shelf (Ref. 317). Intertidal systems such as rocky shores, sandy beaches, estuaries, and mangroves are also present (Ref. 317). The most dominant marine habitat is Ningaloo Reef, which sustains both tropical and temperate marine fauna and flora, including marine reptiles and mammals (Ref. 317). The Commonwealth Heritage place is valued as an important feeding area for the Whale Shark and migration route for the Humpback Whale (Ref. 118).

The main terrestrial feature of the Ningaloo Coast is the extensive karst system and network of underground caves and water courses of the Cape Range (Ref. 317). The karst system includes hundreds of separate features such as caves, dolines, and subterranean water bodies and supports a rich diversity of highly specialised subterranean species (Ref. 317). Above ground, the Cape Range Peninsula belongs to an arid ecoregion recognised for its high levels of species richness and endemism, particularly for birds and reptiles (Ref. 317).

In addition to the natural values of the Ningaloo Coast, Indigenous values are identified under the National Heritage listing (Ref. 105). Archaeological deposits in the rock shelters on Cape Range show First Nations people's sophisticated knowledge of marine resources between 35,000 and 17,000 years ago. The rock shelters are considered to provide the best evidence in Australia for the use of marine resources during the Pleistocene (Ref. 105).

4.6.2 Underwater cultural heritage

Australia's UCH is primarily protected under the UCH Act[16]; this legislation protects shipwrecks, sunken aircraft and other types of underwater heritage, including First Nations underwater cultural heritage. Additional Acts that further provide for the recognition, protection and management of Aboriginal UCH depending on the jurisdiction within Australian waters include:

- The *Aboriginal Heritage Act 1972* (WA)
- The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth)
- The *Native Title Act 1993* (Cth)

Under section 15 of the UCH Act, UCH is defined as "any trace of human existence that has a cultural, historical, or archaeological character, and is located underwater". The UCH Act protects physical sites and artefacts; intangible heritage values with no physical component are not protected under the UCH Act (Ref. 108).Types of physical UCH protected may include sites, structures, buildings, artefacts, human or animal remains, vessels, aircraft, or other vehicles, together with their archaeological and natural context (Ref. 108).

A search of the online Australasian Underwater Cultural Heritage Database (Ref. 117) was undertaken and no known UCH was identified. Based on the

[16] The UCH Act applies to all Australian waters, including both State waters (coastal waters) and Commonwealth waters (extending from coastal waters to the edge of continental shelf).

database searches, both historic (>75 years old) shipwrecks and other shipwreck sites were identified in the Hydrocarbon EMBA (Table 4-25). No sunken aircraft, or other types or artefacts, were identified within the Hydrocarbon EMBA from the database searches.

Although outside the Hydrocarbon EMBA, evidence from offshore waters near Murujuga (Burrup Peninsula) and on Barrow Island are indicative of the historical and ongoing connection of First Nations people to the NWMR. Australia's first confirmed First Nations underwater archaeological sites were identified in 2020 in waters offshore from Murujuga (Burrup Peninsula) during the Deep History of Sea Country Project (Ref. 21). These findings confirmed an understanding that First Nations people would have lived on lands that are now submerged in water from rising seas after the last glacial maximum (LGM). Recent studies at Murujuga have demonstrated that archaeological material remains on the seabed, predating inundation by rising seas (Ref. 21; Ref. 20).

At the LGM sea level was ~125 m below present (Ref. 261); this coincides with the ancient coastline at 125 m depth KEF (see Section 4.3.6.1 for a description of this KEF). The outer south eastern boundary of the OA near the Gorgon CDU extends into water depths of >~115 m, therefore, this section of the OA would have been dry land for a brief period (~1,000 years) during the history of Aboriginal occupation.

Sea Country values (intangible values) may be identified through the consultation phases, although not protected under the UCH Act; however, it is noted that consideration of intangible cultural heritage can contribute to the understanding and potential identification of Aboriginal UCH that is eligible to be protected under the UCH Act (Ref. 108).

During this consultation, no specific Aboriginal UCH has been identified within the OA or the Hydrocarbon EMBA. The consultation undertaken during the preparation of this EP is summarised in Section 6.

4.6.3 Native Title

Native Title recognises the rights and interests of Aboriginal and Torres Strait Islander people in land and waters according to their traditional laws and customs, and is administered under the *Native Title Act 1993* (Cth).

A desktop review of the *National Native Title Tribunal Database* (Ref. 242) was undertaken to determine the presence of native title determinations or claims either within or intersecting the Hydrocarbon EMBA. This review identified that native title determination WCD2019/016 intersected with the Hydrocarbon EMBA.

4.6.3.1 Native Title determination (WCD2019/016)

A Native Title determination (WCD2019/016) extends over the Ningaloo Coast area. The Yinggarda, Baiyungu, and Thalanyji people received recognition as a Native Title holder over an area of 71,354 km^2. The determination area encompasses several pastoral leases, mining tenements, roads, and reserves, as well as portions of the Kennedy Range and Cape Range national parks, Ningaloo Marine Park, Lake MacLeod, and waters in the Exmouth Gulf and Ningaloo Marine Park (Ref. 337). Figure 7-1 of Appendix D of the OSMP illustrates the determination area (Ref. 65). The Yinggarda, Baiyungu and Thalanyji people have each maintained a physical presence in their respective part of the determination area and have a continuing physical or spiritual involvement in that area

(Ref. 337). The determination area contains places of special significance, such as cultural, spiritual and ceremonial sites and natural resources (Ref. 337).

The relevant Prescribed Bodies Corporate (PBC) is the Nganhurra Thanardi Garrbu Aboriginal Corporation RNTBC (NTGAC) (representing the Baiyungu, Thalanyji and Yinggarda people).

5 environmental impact and risk assessment methodology

This section provides a description of the methods used to identify and evaluate the environmental impacts and risks associated with the petroleum activity (as described in Section 3) and any potential emergency conditions associated with the activity. These methods support the environmental impact and risk assessment as required under regulation 21(5) of the OPGGS(E)R.

The impact and risk assessment for this EP was undertaken in accordance with the CAPL's *ABU OE Risk Management Process* (Ref. 49) and using Chevron Corporation's Integrated Risk Prioritization Matrix (Table 5-1). This approach generally aligns with the processes outlined in ISO 31000:2018 *Risk management – Principles and guidelines* (Ref. 302) and the HB 203:2012 *Managing environment-related risk* (Ref. 300).

The impact and risk assessment process and evaluation involved consulting with environmental, health, safety, commissioning, start-up, operations, maintenance, engineering, and emergency response personnel. The impacts and risks considered and covered in this EP were identified and informed by:

- experience gained during previous installation activities
- expertise and experience of CAPL personnel involved in operations
- relevant persons consultation (Section 6).

5.1 Identification and description of the petroleum activity

All components of the petroleum activity and potential emergency conditions relevant to the scope of this EP are described and evaluated during the impact and risk assessment. The petroleum activity is described in detail in Section 3.

5.2 Identification of particular values and sensitivities

The presence of environmental values and sensitivities within the Hydrocarbon EMBA is documented in Section 4. In accordance with regulation 21(3) of the OPGGS(E)R, particular values and sensitivities include the following:

- the world heritage values of a declared World Heritage property within the meaning of the EPBC Act
- the national heritage values of a National Heritage place within the meaning of the EPBC Act
- the ecological character of a declared Ramsar wetland within the meaning of the EPBC Act
- the presence of a listed threatened species or listed TECs within the meaning of the EPBC Act
- the presence of a listed migratory species within the meaning of the EPBC Act
- any values and sensitivities that exist in, or in relation to, part or all of:
  - a Commonwealth marine area within the meaning of the EPBC Act
  - Commonwealth land within the meaning of the EPBC Act.

Because many protected, rare, or endangered fauna have the potential to transit through the Hydrocarbon EMBA, CAPL considers that the habitat and/or temporal area that supports protected and endangered fauna (including areas defined as BIAs for these species) is considered part of the particular value or sensitivity.

Environmental values and sensitivities are also considered to be associated with each of the receptor groups identified and described throughout Section 4 (i.e. in addition to those particular values and sensitivities as identified under the OPGGS(E)R). All relevant environmental values and sensitivities have been taken into consideration during the consultation process (and identification in functions, interests, or activities; Section 6), and the impact and risk assessment (Section 7).

5.3 Identification of relevant aspects

CAPL defines an aspect as an element of CAPL's activities, products, or services related to an operation that has the potential to interact with the environment at present or later (e.g. wastewater discharge, greenhouse gas (GHG) emissions, legacy environmental obligations).

After describing the petroleum activity, an assessment was carried out to identify potential interactions between the petroleum activity and the receiving environment. The outcomes of relevant persons consultation also contributed to this scoping process.

Note: Potential interactions with safety, health, and assets are outside the scope of this EP.

Environmental aspects categorised for use in the impact and risk assessment of this petroleum activity include:

- physical presence
- seabed disturbance
- air emissions
- light emissions
- underwater sound
- invasive marine pests
- planned discharges
- unplanned releases.

5.4 Identification of relevant environmental impacts and risks

Potential impacts and risks arising from the aspects were then identified during a scoping exercise and then evaluated in detail.

5.5 Identification of cumulative impacts and risks

An evaluation of potential cumulative impacts from the petroleum activity and other activities occurring in the region over a similar period was conducted. The assessment considered cumulative environmental impacts that are successive, additive or synergistic from significant activities or projects with the potential for temporal and spatial overlap (Ref. 253).

The evaluation determined whether the cumulative impacts will not exceed acceptable levels and whether any additional control measures are required to mitigate potential cumulative effects.

5.6 Evaluation of impacts and risks

5.6.1 Consequence

After identifying the aspects, and associated potential impacts and risks, the potential consequences were evaluated using Chevron's Integrated Risk Prioritization Matrix (Table 5-1). The consequence level is determined by considering:

- the spatial scale or extent of potential interactions within the receiving environment
- the nature of the receiving environment (within the spatial extent), including proximity to sensitive receptors, relative importance, and sensitivity or resilience to change
- the impact mechanisms (cause and effect) of the aspect within the receiving environment (e.g. persistence, toxicity, mobility, bioaccumulation potential)
- the duration and frequency of potential effects and time for recovery
- the potential degree of change relative to the existing environment or to acceptability criteria.

For aspects that have the potential to cause both impacts and risks, the highest level consequence was carried through the remainder of the assessment to ensure the most conservative analysis is presented.

Table 5-1: Chevron Corporation's Integrated Risk Prioritization Matrix

Likelihood Descriptions	Expected to occur	Likely	1	6	5	4	3	2	1
	Conditions may allow to occur	Occasional	2	7	6	5	4	3	2
	Exceptional conditions may allow to occur	Seldom	3	8	7	6	5	4	3
	Reasonable to expect will not occur	Unlikely	4	9	8	7	6	5	4
	Has occurred once or twice in the industry	Remote	5	10	9	8	7	6	5
	Rare or unheard of	Rare	6	10	10	9	8	7	6
Consequence Descriptions				6	5	4	3	2	1
				Incidental	Minor	Moderate	Major	Severe	Catastrophic
				Limited impact	Localised, short-term impact	Localised, long-term impact or widespread, short-term impact	Localised, persistent impact or widespread, long-term impact	Widespread, persistent impact or landscape-scale, long-term impact	Landscape-scale, persistent impact

5.6.2 Control measures and ALARP

The process for identifying control measures depends on the ALARP decision context set for that particular aspect. Regardless of the process, control measures are assigned in accordance with the defined environmental performance outcomes, with the objective to eliminate, prevent, reduce, or mitigate consequences associated with each identified environmental impact and risk.

5.6.2.1 ALARP decision context

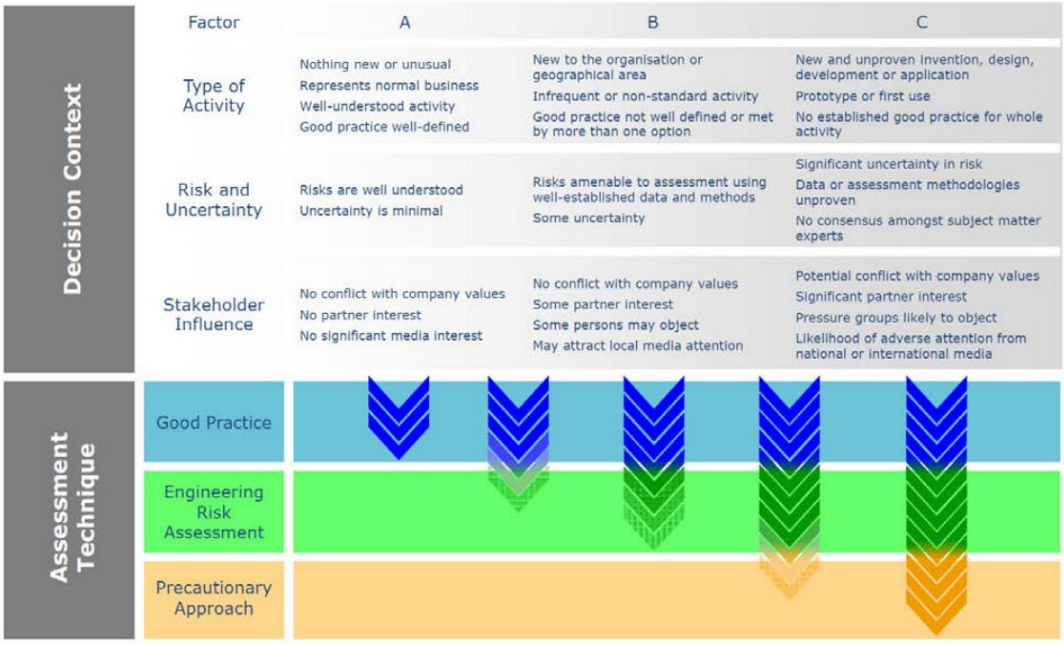
In alignment with NOPSEMA's ALARP guidance note (Ref. 249), CAPL has adapted the approach developed by Oil and Gas UK (OGUK) (Ref. 263) for use in an environmental context to determine the assessment technique required to demonstrate that impacts and risks are ALARP. Specifically, the framework considers the magnitude of impacts and risks along with these guiding factors:

- activity type
- risk and uncertainty
- stakeholder influence.

A Type A decision (Figure 5-1) is made for lower-order impacts and risks (Table 5-3) where they are relatively well understood, activities are well-practised, and there is no significant stakeholder interest. However, if good practice is not sufficiently well defined, additional assessment may be required. In addition, where an aspect associated with the activity is listed as either a key threat to a protected matter under a document made or implemented under the EPBC Act (such as recovery plans, conservation management plans, or a conservation advice), or identified as an aspect of concern to a listed conservation value under an EPBC Act marine bioregional plan, and can result in a credible impact or risk to these sensitivities, additional control consideration will be undertaken.

A Type B decision (Figure 5-1) is made for higher-order impacts and risks (Table 5-3) if there is greater uncertainty or complexity around the activity, and there are relevant concerns from stakeholders. In this instance, established good practice is not considered sufficient and further assessment is required to support the decision and ensure the risk is ALARP.

A Type C decision (Figure 5-1) typically involves sufficient complexity, higher-order impact and risks (Table 5-3), uncertainty, or stakeholder interest to require a precautionary approach. In this case, relevant good practice still has to be met, additional assessment is required, and the precautionary approach must be considered for those controls that only have a marginal cost benefit.



(Source: Ref. 249)

Figure 5-1: ALARP decision support framework

In accordance with the regulatory requirement to demonstrate that environmental impacts and risks are ALARP, CAPL has considered the above decision context in determining the level of assessment required. This is applied to each aspect described in Section 7. The assessment techniques considered include:

- good practice
- engineering risk assessment
- precautionary approach.

5.6.2.2 Good practice

OGUK (Ref. 263) defines 'good practice' as:

> *The recognised risk management practices and measures that are used by competent organisations to manage well-understood hazards arising from their activities.*

Good practice can also be used as the generic term for those measures that are recognised as satisfying the law. For this EP, sources of good practice include:

- requirements from Australian legislation and regulations
- relevant Commonwealth government policies
- relevant Commonwealth government guidance
- relevant industry standards
- relevant international conventions.

If the ALARP technique is determined to be good practice, further assessment (an engineering risk assessment) is not required to identify additional controls. However, additional controls that provide a suitable environmental benefit for an insignificant cost have been identified.

5.6.2.3 Engineering risk assessment

All impacts and risks that require further assessment are subject to an engineering risk assessment. Based on the various approaches recommended by OGUK (Ref. 263), CAPL believes the methodology most suited to this activity is a comparative assessment of risks, costs, and environmental benefit. A cost–benefit analysis should show the balance between the risk benefit (or environmental benefit) and the cost of implementing the identified measure, with differentiation required such that the benefit of the risk-reduction measure can be seen and the reason for the benefit understood.

5.6.2.4 Precautionary approach

After considering all available engineering and scientific evidence, OGUK (Ref. 263) state that if the assessment is insufficient, inconclusive, or uncertain, then a precautionary approach to hazard management is needed. A precautionary approach will mean that uncertain analysis is replaced by conservative assumptions that will result in control measures being more likely to be implemented.

That is, environmental considerations are expected to take precedence over economic considerations, meaning that a control measure that may reduce environmental impact is more likely to be implemented. In this decision context, the decision could have significant economic consequences to an organisation.

5.6.3 Likelihood

For environmental impacts (where there is a planned emission or discharge resulting in a known change to the environment) likelihood is not considered.

For risks where the aspect or event may lead to environmental impacts under certain circumstances, the likelihood (probability) of the defined consequence occurring is determined. The likelihood is considered on the assumption that all control measures are in place. The likelihood of a consequence occurring was identified using one of the six likelihood categories shown in Table 5-1.

5.6.4 Quantification of the level of risk

The Integrated Risk Prioritization Matrix (Table 5-1) was applied during an environmental risk assessment workshop. This matrix uses consequence and likelihood rankings of 1 to 6, which when combined, result in a risk level between 1 (highest risk) and 10 (lowest risk). Risk assessment outcomes are based solely on assessment of risk to the environment (as defined under the OPGGS(E)R).

5.7 Impact and risk acceptance criteria

NOPSEMA provides guidance on demonstrating that impacts and risks will be of an ‘acceptable level’ (Ref. 253). This guidance indicates that an acceptable level is the level of impact or risk to the environment that may be considered broadly acceptable with regard to all relevant considerations, including:

- principles of ecologically sustainable development (ESD)
- legislative and other requirements (including laws, policies, standards, conventions)
- matters protected under Part 3 of the EPBC Act, consistent with relevant policies, guidelines, threatened species recovery plans, management plans, management principles etc.

- internal context (titleholder policy, culture, processes, standards and systems)
- external context (existing environment, relevant persons consultation).

5.7.1 Principles of ESD and precautionary principle

The principles of ESD are considered in Table 5-2 in relation to acceptability evaluations.

Under the EPBC Act, the Minister must also take into account the precautionary principle in determining whether or not to approve the taking of an action. The precautionary principle (Section 391(2) of the EPBC Act) is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there may be threats of serious or irreversible environmental damage.

Table 5-2: Principles of ESD in relation to petroleum activity acceptability evaluations

Principles of ESD	How they have been applied
(a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social, and equitable considerations	CAPL's impact and risk assessment process integrates long-term and short-term economic, environmental, social, and equitable considerations. This is demonstrated through the Integrated Risk Prioritization Matrix (Table 5-1), which includes provision for understanding the long-term and short-term impacts associated with its activities, and the ALARP process, which balances the economic cost against environmental benefit. As this principle is inherently met by applying the EP assessment process, it is not considered separately for each evaluation.
(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation	Consider if there is serious or irreversible environmental damage (i.e. consequence level between Major [3] and Catastrophic [1]). If so, assess whether there is significant uncertainty associated with the aspect.
(c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity, and productivity of the environment is maintained or enhanced for the benefit of future generations	The risk assessment methodology ensures that impacts and risks are reduced to levels that are considered ALARP. If the impacts and risk are determined to be serious or irreversible, the precautionary principle is implemented to ensure that risks are managed to ensure that the environment is maintained for the benefit of future generations.
(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making	Evaluate if there is the potential to affect biological diversity and ecological integrity.
(e) improved valuation, pricing, and incentive mechanisms should be promoted	Not considered relevant for petroleum activity acceptability demonstrations.

Source: Section 3A of the EPBC Act

5.7.2 Defining an acceptable level of impact and risk

In alignment with NOPSEMA's ALARP guidance note (Ref. 249), CAPL has applied the approach that lower-order environmental impacts or risks (Table 5-3)

assessed as Decision Context A are 'broadly acceptable', while higher-order environmental impacts or risks determined to be Decision Context B or C require further evaluation against a defined acceptable level because they are not inherently 'broadly acceptable'. However, in alignment with NOPSEMA's decision making guidance (Ref. 253) even where the impact or risk is evaluated as being a lower-order impact or risk, but the aspect associated with the activity is listed as a threat to a protected matter under a document made or implemented under the EPBC Act, or identified as an aspect of concern to a listed conservation value under an EPBC Act Marine Bioregional Plans, and can result in a credible impact or risk, CAPL will define an acceptable level of impact and risk in accordance with a document made or implemented under the EPBC Act.

Table 5-3: CAPL definition of lower-order and higher-order impacts and risks

Magnitude	Impacts	Risk	Decision context
Lower-order	Consequence Level: 4–6	Risk Level: 7–10	A
Higher-order	Consequence Level: 1–3	Risk Level: 1–6	B or C

CAPL will consider these types of documents when defining the acceptable level of impact or risk:

- bioregional plans
- AMP plans
- conservation advice
- recovery plans
- government guidelines.

The objectives of the documents are identified and, having regard for the described petroleum activity, CAPL will set an acceptable level of impact that aligns with these objectives. Where the impact arising from the activity is inconsistent with the defined level (or objectives of the relevant documents), it is unacceptable.

5.7.3 Summary of acceptance criteria

Table 5-4 outlines the criteria that CAPL used to demonstrate that impacts and risks from each identified aspect are acceptable.

Table 5-4: Acceptability criteria

Criteria	Test
Principles of ESD	Is there the potential to affect biological diversity and ecological integrity? Do activities have the potential to result in permanent/irreversible, medium-large scale, and/or moderate-high intensity environmental damage?
	If yes: Is there significant scientific uncertainty associated with the aspect?
	If yes: Are there additional measures to prevent degradation of the environment from this aspect?
Relevant environmental legislation and other requirements	Confirm that impact and risk management is consistent with relevant Australian environmental management laws and other regulatory/statutory requirements.

Criteria	Test
Internal context	Confirm that all good practice control measures were identified for this aspect through CAPL's and/or Chevron Corporation's management systems and that impact and risk management is consistent with company policy, culture, and standards.
External context	What objections and claims regarding this aspect were made, and how were they considered/addressed?
Defined acceptable level	Is the impact and risk broadly acceptable (i.e. Decision Context A)?
	If no: For higher-order environmental impacts and risks (Decision Context B or C), what is the defined level of impact, and does the activity meet this level?

5.8 Environmental performance outcomes, standards, and measurement criteria

Environmental performance outcomes, performance standards, and measurement criteria were defined to address the environmental impacts and risks identified during the risk assessment.

CAPL is committed to conducting activities associated with the petroleum activity in an environmentally responsible manner and aims to implement best practice environmental management as part of a program of continual improvement to reduce impacts and risks to ALARP. CAPL defines environmental performance outcomes, standards, and measurement criteria that relate to the management of the identified environmental risks as:

- **Environmental performance outcomes**—a measurable level of performance required for the management of environmental aspects of an activity to ensure that environmental impacts and risks will be of an acceptable level
- **Environmental performance standards**—a statement of the performance required of a control measure
  - These statements will consider the effectiveness of the control measures, and, in accordance with NOPSEMA's decision making guidance (Ref. 253), effectiveness will be considered with regards to the controls' functionality, availability, reliability, survivability, independence, and compatibility with other control measures
- **Measurement criteria**—compliance and assurance statement or records that detail how CAPL enacts the outlined performance standard; these are used to determine whether the environmental performance outcomes and standards were met and whether the implementation strategy was complied with. If no practicable quantitative target exists, a qualitative criterion is set.

6 relevant persons consultation

This section provides a description of the methods used, and outcomes of, consultation with relevant authorities, persons, or organisations (a relevant person) undertaken during the preparation of this EP, as required under regulation 25 of the OPGGS(E)R.

Ongoing consultation, as required under regulation 22(15) of the OPGGS(E)R, is described in Section 8.3.4.1.

6.1 Purpose

Regulation 25 of the OPGGS(E)R allows the titleholder to properly understand all the environmental impacts and risks of the petroleum activity, and enables the titleholder to refine or change the control measures by taking into account the information acquired from relevant persons through consultations. Recent judicial consideration of regulation 25 assists in understanding the purpose of the consultation required under the provision:

> *"Regulation 25, like most statutory consultation provisions, imposes an obligation that must be capable of practicable and reasonable discharge by the person upon whom it is imposed. Consultation is a "real world" activity, with specific purposes. Here, its purpose is to ensure that the titleholder has ascertained, understood and addressed all the environmental impacts and risks that might arise from its proposed activity. Consultation facilitates this outcome because it gives the titleholder an opportunity to receive information that it might not otherwise have received from others affected by its proposed activity. Consultation enables the titleholder to better understand how others with an objective stake in the environment in which it proposes to pursue the activity perceive those environmental impacts and risks. As the Regulations expressly contemplate, it enables the titleholder to refine or change the measures it proposes to address those impacts and risks by taking into account the information acquired through the consultations. Objectively, the scheme intends that this is likely to improve the minimisation of environmental impacts and risks from the activity."*[17]

The consultation process should also inform the titleholder's understanding of the environment, including (amongst other things) people and communities, the heritage value of places, and their social and cultural features which may be affected by a titleholder's proposed activities (Ref. 254). The purpose of consultation is also to:

- identify the social and cultural features of communities within the ecosystem
- inform the control measures to eliminate, reduce and mitigate impacts and risks to those socio-cultural values and sensitivities in response to relevant persons concerns
- demonstrate to NOPSEMA that consultation has been carried out to inform NOPSEMA of relevant persons' identities, the nature of the consultation, and that the control measures adopted are both 'appropriate' and comply with legislation (Ref. 265 at paragraphs 55–57, and Ref. 164 at paragraph 48).

[17] Paragraph 89 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162). Note: The regulation number in the above text has been revised to reflect the OPGGS(E)R 2023, from the original Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC judgement transcript.

In particular, the details of the environmental impacts and risks of the activities cannot be ascertained unless the environment that may be affected by the activity is known, which includes an understanding of the social, economic and cultural features of the environment (Ref. 163 at paragraph 11).

In essence, the purpose of consultation is to enhance environment plans through the incorporation of input from relevant persons during consultation.

Regulation 25 establishes an obligation on titleholders to carry out consultation with relevant persons during preparation of an EP, and this obligation must be discharged prior to submitting an EP to NOPSEMA (Ref. 254).

Consultation is undertaken in the course of preparing an EP (Ref. 163). Once consultation has been closed prior finalising and submitting an EP, further consultation (including consultation during the assessment of the EP) is considered as contributing to discharging the ongoing consultation obligations in regulation 22(15) (see Section 8.3.4). This is because if the EP is in the assessment phase, any further consultation is no longer 'in the course of preparing an EP' for the purposes of regulation 25.

6.2 Consistency with regulatory guidance

The consultation design for preparation of this EP was undertaken in accordance with CAPL's *Stakeholder Engagement and Issues Management Process: ABU Standardised OE Process* (Ref. 47) and further guided by:

- NOPSEMA's *Environment plan decision making guideline* (Ref. 253)
- NOPSEMA's *Environment plan content requirements guidance note* (Ref. 252)
- NOPSEMA's *Consultation in the course of preparing an environment plan guideline* (Ref. 254)
- NOPSEMA's *Consultation with Commonwealth agencies with responsibilities in the marine area guideline* (Ref. 255)
- NOPSEMA's *Petroleum activities and Australian Marine Parks guidance note* (Ref. 256)
- Full Court of the Federal Court of Australia's decision in *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162)
- Colvin J of the Federal Court in *Cooper v National Offshore Petroleum and Safety Management Authority* [2023] FCA 1112 (Ref. 164)
- Colvin J of the Federal Court in *Cooper v National Offshore Petroleum and Safety Management Authority (No 2)* [2023] FCA 1158 (Ref. 163)
- Commonwealth of Australia's *Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environment Protection and Biodiversity Conservation Act 1999* (Ref. 104)
- Government of Western Australia's *Consultation policy for Section 18 application* (Ref. 180)
- WA Department of Energy, Mines, Industry Regulation and Safety (DEMIRS*) Guideline for the Development of Petroleum, Geothermal and Pipeline Environment Plans in Western Australia* (Ref. 134)
- Australian Fisheries Management Authority's (AFMA) Petroleum industry consultation with the commercial fishing industry (Ref. 5)

- Western Australian Fishing Industry Council's (WAFIC) *Oil & Gas Consultation Approach for Unplanned Events* (Ref. 322)
- DPIRDs *Guidance statement for oil and gas industry consultation with the Department of Fisheries* (Ref. 143)
- WA Department of Transport's (DoT) *Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements* (Ref. 145).

6.2.1 Consultation principles

Consistent with NOPSEMA's *Consultation in the course of preparing an environment plan guideline* (Ref. 254), CAPL conducts consultation consistently with the following key principles:

- **Effective**: CAPL as titleholder is responsible for running an effective consultation process that meets the OPGGS(E)R
- **Timely**: sufficient time will be allocated for consultation and for the provision of sufficient information to relevant persons. Relevant persons engagement is encouraged to take place early during the development of an EP with the timing and frequency guided by the nature and scale of the petroleum activity, environmental risks and impacts of the activity, EMBA, and co-design of consultation with relevant persons
- **Communication**: titleholders are responsible for letting potential relevant persons know if they may be affected by an activity, giving relevant persons an opportunity to identify as such, and the process for making comments, and for providing sufficient information (including information that is accurate and relevant). Relevant persons are expected to identify their function, activity or interest that may be affected, communicate their requirements and availability regarding consultation co-design, and provide comment on how their function, activity or interest may be affected. Communication with relevant persons should be open, accurate, accessible, clearly-defined and two-way. Relevant objections and claims from relevant persons must be used to inform risk assessments and control measures
- **Transparent and accountable**: the process and outcomes of relevant persons engagement should, wherever possible, be open and transparent. NOPSEMA will receive all copies of consultation correspondence (or in the case of face-to-face consultation, then consultation summaries or meeting minutes or equivalent) in the EP. CAPL will respect cultural concerns in providing copies of consultation correspondence in the EP, including engaging with NOPSEMA to share gender-specific information with the appropriate gender and not sharing culturally sensitive information at the relevant person's request. CAPL is accountable for ensuring that the EP complies with EP acceptance criteria in regulation 34 so that NOPSEMA can be reasonably satisfied that the EP should be accepted under regulation 33
- **Clear and sufficient**: sufficient information must be provided to relevant persons, and it should be simple, clear, and accurate. CAPL should avoid providing unnecessarily detailed and technical information unless of particular relevance to a relevant person (e.g. other titleholder) or requested by the relevant person. CAPL must give relevant persons sufficient time to respond to requests for consultation and provide comment on the information provided.

Relevant persons have a right to request additional information in order to determine how they might be affected

- **Collaboration**: a collaborative approach is key to effective engagement, and may include working with representative organisations to help reduce 'consultation fatigue', and relevant persons working with industry to provide evidence of how their function, interest, or activities may be affected
- **Inclusiveness:** identify and involve relevant persons early and throughout the process
- **Integrity:** engagement with relevant persons should aim to establish and foster mutual trust and respect (even in cases where relevant persons oppose a petroleum activity)
- **Scalability:** consultation should be scalable based on the nature and scale of the petroleum activity, EMBA, the impacts and risks of the activity, the likelihood of the risks, and how familiar relevant persons are with petroleum activities based on past consultation on similar petroleum activities (e.g. location).

In addition, Chevron Corporation acknowledges the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and strives to obtain free, prior and informed consent of Indigenous communities as described in the 2012 International Finance Corporation Performance Standard 7 and supporting guidance, and consistent with the law (Ref. 26). In the context of the OPGGS(E)R, CAPL considers this to be consent to the effect of environmental impacts or risks of the petroleum activity on Aboriginal relevant person's functions, interests or activities. It is noted that CAPL is not required to obtain consent from a relevant person to engage in the petroleum activity.

6.2.2 Relevant person

In accordance with regulation 25(1) of the OPGGS(E)R, a relevant person is defined as:

- regulation 25(1)(a)—each department or agency of the Commonwealth to which the activities to be carried out under the EP, or the revision of the EP, may be relevant
- regulation 25(1)(b)—if the plan relates to activities in the offshore area of a State—the Department of the responsible State Minister
- regulation 25(1)(c)—if the plan relates to activities in the Principal Northern Territory offshore area—the Department of the responsible Northern Territory Minister
- regulation 25(1)(d)—a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan
- regulation 25(1)(e)—any other person or organisation that the titleholder considers relevant.

Following the direction given by the Full Court of the Federal Court in *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162), and subsequent NOPSEMA guidance (Ref. 252), it is clear that the phrase "functions, interests or activities" stated in regulation 25(1)(d) should be broadly construed[18] on the basis

[18] Paragraph 51 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

that a broad construction best promotes the objects of the OPGGS(E)R. In *Santos NA Barossa Pty Ltd v Tipakalippa*, the Court construed the following terms used in regulation 25(1)(d) as follows:

- **functions**—a power or duty to do something [19]
- **interests**—in accordance with the accepted concept of "interest" in other areas of public administrative law, and including "any interest possessed by an individual whether or not the interest amounts to a legal right or is a proprietary or financial interest or relates to reputation" [20]
- **activities**—broadly and is broader than the definition of 'activity' in regulation 5 of the OPGGS(E)R and is likely directed to what the relevant person is already doing [21].

Persons or organisations are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R if their functions, interests or activities may be affected by the petroleum activity to be carried out under the EP. CAPL's approach has been to take a broad interpretation of "function, interest, and activity" and has screened in persons as potential relevance and contacted them to advise whether that individual or organization identifies themselves as a relevant person.

Where interests are held communally, CAPL has made a decisional choice to consult with representative bodies (Ref. 162 at paragraphs 96–102) and has sought to do so through meetings (Ref. 162 at paragraph 104). CAPL has sought to provide sufficient information to individuals who are relevant persons by providing information to representative bodies for dissemination with members and by attending meetings with group members (Ref. 162 at paragraph 47) and CAPL has also sought to identify those representative body organisations themselves as relevant persons (Ref. 162 at paragraph 48). As documented in the summary of consultation (appendix d), CAPL has asked these representative bodies if there are persons outside of the individuals they represent who may be relevant persons for the purposes of consultation to endeavour to make all necessary efforts to identify relevant persons.

6.2.3 Consultation co-design

Consultation co-design includes design of type of information, method of engagement, frequency of meetings and relationship-building (and may also include a relevant person determining they do not want to participate in consultation). As outlined above in Section 6.1, the purpose of consultation is to enhance EPs through input from relevant persons through enabling a better understanding of the social, economic and cultural features of the environment. Therefore, those relevant persons whose functions, interests, and activities are likely to be affected by planned activities are the focus for consultation as their input is most critical and relevant to enhancing the EP.

The consultation design is reviewed on a case-by-case basis to incorporate any feedback from relevant persons regarding the type of information or method of engagement that is preferred to ensure that the purpose of the consultation is achieved. The consultation method of engagement may change over time as the nature of the relationship evolves, the relevant person's understanding of

[19] Paragraph 60 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

[20] Paragraphs 63 and 65 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

[21] Paragraphs 58 and 59 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

petroleum activities matures, and the information provided by the relevant person is incorporated into enhanced EPs and is carried forward in subsequent submissions.

Face-to-face consultation is CAPL's preferred methodology, however it may be necessary to undertake consultation in writing where this is the relevant person's preferred methodology or where circumstances dictate.

Where it is agreed that it is appropriate by the parties (CAPL and relevant person), CAPL and relevant person will work together to develop an engagement plan that sets out the arrangements for consultation, reflecting the outcomes of the co-design process that has taken place. The engagement plan provides a structured approach to building a relationship with the relevant person and forming a partnership based on consultations, annual planning meetings, time on Country and work in progress meetings.

Where necessary, CAPL enters into consultation agreements with relevant persons. These agreements establish a framework for consultation and engagement, including agreed costs and fees associated with consultation engagements. CAPL considers Traditional Owner relevant persons to be Aboriginal cultural heritage subject matter experts and reimburses them for their time accordingly.

The agreement deals with consultation meetings (including meeting frequency and schedule) and consultation funding (and associated administrative and tax arrangements), and US extraterritorial Compliance law requirements. This may include payment for subject matter experts (e.g. environmental consultants, legal consultants) to advise the relevant person in relation to their consultation obligations, and assist with review and interpretation of technical information in consultation materials and discussion.

Further detail on consultation agreements, engagement plans, capacity building and relationship building is described in Section 8.3.4.3.

6.2.4 Sufficient information

Under regulation 25(2) of the OPGGS(E)R and NOPSEMA's guidelines (Ref. 253; Ref. 254), for the purpose of consultation, the titleholder must provide each relevant person with sufficient information to enable them to make an informed assessment of the possible consequences of the petroleum activity on their functions, interests, or activities.

The base level of information provided to all relevant persons whose functions, interests or activities may be affected by the environmental impacts or risks of the activity includes:

- maps of the proposed petroleum activity location and the associated EMBA
- a summary of the petroleum activity, including indicative schedule and duration
- a summary of the potential impacts and risks as identified by CAPL
- a preliminary assessment of how the potential impacts and risks may impact the environmental and socio-cultural values and sensitivities
- a summary of the proposed control measures that CAPL has adopted to reduce the predicted consequence and/or likelihood of the potential impact or risk.

This base level of information is the minimum required for relevant persons to make an informed assessment of the potential consequences to the persons' functions, interest, or activity because it informs the relevant person of:

- the activity (including spatial and timing information that may intersect with their function, interest, or activity)
- the impacts and risks of the petroleum activity (including the spatial extent of the Hydrocarbon EMBA and intersection with BIAs) to allow an assessment of how that may impact or create a risk to the relevant persons' functions, interests, or activities
- the control measures to reduce the impacts or risks of the petroleum activity to environmental and socio-cultural values and sensitivities.

Additional information may be provided to reflect the information requested through co-design of consultation, to better enable them to provide feedback related to potential interactions with their function, interest, or activity, or in response to their objection or claim. This includes verbal information and answers to questions during consultation discussions.

The following is a summary of materials released as part of the consultation for this EP:

- CAPL issued an initial factsheet to identified relevant persons in March 2025; this factsheet included information about the proposed petroleum activity, potential impacts and risks, control measures, and included maps showing Hydrocarbon EMBA
- CAPL published information regarding the proposed activity to the Online Consultation Hub (https://australia.chevron.com/our-businesses/upcoming-activities) on 31 March 2025and emailed the link to relevant persons; the Online Consultation Hub contains all the base level of information as described above
- CAPL published notices in The Australian and The West Australian on 1 April 2025; in the Pilbara News, Mid-West Times, and Northwest Telegraph on 2 April 2025, in Business News on 14 April 2025, and National Indigenous Times April 2025 edition
- CAPL published a LinkedIn and Instagram post on 31 March 2025 with a link to the Online Consultation Hub
- CAPL developed posters, presentation materials, and handouts for use and distribution in face-to-face meetings
- CAPL attended various face-to-face meetings with relevant persons (see appendix d)

A copy of the consultation material is included in appendix c. A summary of the consultation strategy and information provided to each category of relevant persons is included in Table 6-1.

Table 6-1: Consultation strategy and information provided to relevant persons

Category of persons or organisations	Consultation strategy and information provided
Commercial fishery licence holders and/or representative bodies	• initial correspondence with WAFIC to provide base level information on the petroleum activity and link to the CAPL Online Consultation Hub

Category of persons or organisations	Consultation strategy and information provided
	• follow up correspondence with WAFIC to confirm the commercial fishery licence holders to be consulted • in consultation with WAFIC, determine the level of consultation required and whether tailored consultation material needs to be developed • provision of consultation material to WAFIC for distribution to relevant commercial fishery licence holders • WAFIC provides any feedback received to CAPL, and CAPL provides information to respond to commercial fishery licence holders; any feedback received is considered in the development of the EP • where a commercial fishery that is not represented by WAFIC has been determined as relevant, the representative body is provided consultation material and feedback is requested • after a reasonable period has been provided to consider the consultation information (as outlined in Section 6.2.5), CAPL will confirm with WAFIC or the relevant industry body (as required) whether further consultation is required • ongoing consultation with follow up correspondence, phone calls and meetings as required.
First Nations people and/or representative bodies	• initial correspondence with relevant First Nations representative bodies to request a meeting with the board, Elders, and other relevant persons • provision of base level information on the petroleum activity and link to the CAPL Online Consultation Hub as a precursor to face-to-face meetings • initial face-to-face meeting held using bespoke consultation material, including posters, presentations and verbal discussions – a key objective of the initial meeting is to co-design the consultation strategy going forward and to determine if there are additional relevant persons not present at the meeting who should be informed and consulted with • follow up emails, phone calls and meetings, as required, to ensure the functions, interests and activities of First Nations peoples' have been identified and to gain an understanding of cultural values and sensitivities in the Hydrocarbon EMBA; any feedback received is considered in the development of the EP • site visits on Country with First Nations people may be conducted as required • after a reasonable period has been provided to consider the consultation information (as outlined in Section 6.2.5), CAPL provides the First Nations people and/or representative bodies a summary of consultation undertaken to date and requests agreement on the summary • ongoing consultation with follow up correspondence, phone calls and meetings as required.
Environmental non–government organisations (ENGOs) Government departments or agencies Other petroleum titleholders / commercial industries	• provision of base level information on the petroleum activity and link to the CAPL Online Consultation Hub via email with a request for feedback and an offer to meet face-to-face • where consultation guidance material is available (as outlined in Section 6.2.4), CAPL tailors its consultation to meet the requirements of the guidance material • local community / town meetings may be held using presentations, posters and verbal discussions as required

Category of persons or organisations	Consultation strategy and information provided
Tourism and recreation operators	• any feedback received is responded to and considered in the development of the EP. • after a reasonable period has been provided to consider the consultation information (as outlined in Section 6.2.5), CAPL will determine whether further consultation is required • ongoing consultation with follow up correspondence, phone calls and meetings as required.
WA World Heritage advisory committees	
Self-identified and other relevant persons	

6.2.5 Reasonable period

Under regulation 25(3) of the OPGGS(E)R and NOPSEMA's guidelines (Ref. 253; Ref. 254), relevant persons must be provided with a reasonable period for the consultation to occur, allowing the relevant person to make an informed assessment of the possible consequences of the proposed petroleum activity on their functions, interests, or activities and respond to the titleholder. "Reasonable period" was not defined by the Full Federal Court in *Tipakalippa* (Ref. 162), however, consistent with the Court's analysis in the "NTA authorities" Section of the judgment, CAPL has sought to identify existing guidelines and practices to help inform what a "reasonable period" may constitute for the relevant person.

Guidance on consultation with Commonwealth departments or agencies indicates that agencies will provide an initial response to consultation requests within 10 business days (Ref. 253) or up to eight weeks (Ref. 256).

Available guidance regarding consultation with State departments or agencies indicates a reasonable period for standard activities is no less than 20 business days (Ref. 143), and up to six weeks (Ref. 145).

Guidance taken from the *Aboriginal Cultural Heritage Act 2021—Consultation Guidelines* (Ref. 180) suggests that up to 12 weeks may be a reasonable period of time to allow identification, contact, and response, from First Nations peoples (subject to any alternative timeframe being agreed through co-design of consultation).

CAPL provided all relevant persons an initial period following the issue of consultation materials to respond. Where no response was received, CAPL followed up with each relevant person (via phone, email, or in person) to enquire if there was any clarifications or additional information required to aid their assessment of any interactions with their functions, interests, or activities.

6.2.6 Sensitive information

Regulation 25(4) of the OPGGS(E)R requires that "[t]he titleholder must tell each relevant person the titleholder consults that:

a) the relevant person may request that particular information the relevant person provides in the consultation not be published; and

b) information subject to such a request is not to be published under this Part".

Under regulation 26(8) of the OPGGS(E)R "[a]ll sensitive information (if any) in an environment plan, and the full text of any response by a relevant person to consultation under regulation 25 in the course of preparation of the plan, must be contained in the sensitive information part of the plan and not anywhere else in the plan".

In accordance with regulations 26(8) of the OPGGS(E)R, the full text of all responses received from relevant persons, as well as sensitive information, are included in the sensitive information report provided separately to NOPSEMA to preserve the privacy of those persons or organisations consulted. Specifically, the sensitive information includes records and responses considered to contain personal information (as defined by the *Privacy Act 1988* [Cth]) or information given by a relevant person in consultation under regulation 25 of the OPGGS(E)R in the course of preparing this EP that relevant persons requested not to be published.

6.2.7 Identification of relevant persons

In accordance with NOPSEMA's guideline for consultation (Ref. 254), titleholders must identify who is a relevant person and the rationale used to determine that identification as a relevant person. CAPL has a process to identify and 'screen in' potential relevant persons and also provides for self-identification.

CAPL achieved this in two ways, first by an assessment process supported by research and historical consultation and advice, secondly by providing an opportunity for those who may not have been identified through the assessment process to self-identify.

Identifying relevant persons requires an assessment of:

- the petroleum activity (Section 3)
- the environment in which the petroleum activity is being undertaken, including:
  - environmental, socio-economic, and cultural values and sensitivities of the environment
  - the spatial extent of the Hydrocarbon EMBA
  - any intersection between the Hydrocarbon EMBA and BIAs
- the possible environmental impacts and risks of the petroleum activity and the possible consequences on the functions, interests, activities of relevant persons.

The process undertaken by CAPL for the identification of relevant persons:

- identified what types of authorities, persons, or organisations may be relevant to the values and sensitivities present within the Hydrocarbon EMBA
- reviewed the functions, interests, or activities of the types of organisations or individuals identified, and determined if the functions, interests, or activities of organisations or individuals may be affected by the petroleum activity through multiple lines of evidence:
- existing industry guidance (e.g. Ref. 255; Ref. 256; Ref. 5; Ref. 322; Ref. 143; Ref. 145)
- online searches
- review of publicly available databases or registers (e.g. access and use authorisations within AMPs, DPIRD's register of fishery licence holders)
- historical consultation and advice
  - CAPL's previous identification of relevant persons for consultation history for an extensive history of multiple prior petroleum activities on the NWS within EMBAs in the same geographic area

- Advice from representative industry organisations, community organisations and representative organisations for Traditional Custodians.

The outcomes of this process are detailed in Table 6-2, which lists the relevant persons that were identified for this EP, and CAPL's reasoning for determining their inclusion.

In addition to this process, individuals and organisations were also given the opportunity to self-identify as relevant persons, which is further outlined in Section 6.2.7.1. Where individuals or organisations have been identified as relevant persons for previous petroleum activities, but fall outside the EMBA and are not relevant persons for this activity under regulation 25(1)(d), CAPL may consider them relevant persons under regulation 25(1)(e) (see Section 6.3.6).

Table 6-2: Potential authority, persons, or organisations that have functions, interests, or activities that are associated with environmental values or sensitivities present within the Hydrocarbon EMBA

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
Physical presence – other marine users • installation—permanent presence of the subsea infrastructure • installation—temporary presence of installation aids and equipment, and ROVs • field support—temporary (short-term) presence of vessels and helicopters.	Commercial shipping	Interest and activity – Commercial shipping	Temporary presence of vessels has the potential to result in disruption to other marine users	Commercial vessel traffic density within the OA is relatively low, including the section that intersects one of AMSA's north-west coast shipping fairways. Therefore, the temporary presence of the vessels within the OA are not expected to have consequences for the functions, interests or activities of commercial shipping. Notwithstanding, there may be an intersection with commercial shipping activities within the OA.	Commercial shipping industry Government departments or agencies
	Commercial fishing	Interest and activity – Commercial fishing	Potential for unplanned interactions between other marine users with the subsea infrastructure Temporary presence of vessels has the potential to result in disruption to other marine users	Subsea infrastructure has been in place within the OA since 2012, and to date, no incidences of commercial fishing activities interacting with the infrastructure has been communicated to CAPL. Although Commonwealth and State fisheries are present, the level of fishing effort within the OA is typically low (refer to Section 4.4.1). The temporary presence of vessels within the OA is not expected to significantly affect commercial fishers, however it is acknowledged there may be an intersection with commercial fishing and the OA.	Commercial fishery licence holders and/or representative bodies Government departments or agencies
	Tourism Recreation Cultural Values	Interest and activity – Recreational fishing	Potential for unplanned interactions between other marine users with	Due to the distance from the mainland coast, tourism, recreational and cultural activities (such as traditional fishing) within the OA are expected to be low. The temporary	Government departments or agencies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
		Marine recreation Cultural values, activities and obligations	the subsea infrastructure Temporary presence of vessels has the potential to result in disruption to other marine users	presence of vessels and ongoing presence of subsea infrastructure within the OA is not expected to significantly affect tourism and recreational activities.	Tourism and recreation operators First Nations people and/or representative bodies.
	Other commercial industries	Interest and activity – Petroleum exploration / production	Temporary presence of vessels has the potential to result in disruption to other marine users	The OA intersects petroleum titles held by other petroleum titleholders and therefore the functions, interests and activities of other petroleum titleholders may be affected.	Other petroleum titleholders
Physical presence – marine fauna • installation activities • field support—temporary (short-term) presence of vessels within the OA during installation or IMR activities.	Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Unplanned interactions with marine fauna	Several BIAs or HCTS of a species overlap with the OA, including: • Pygmy Blue Whale (migration BIA) • Humpback Whale (migration BIA) • Flatback Turtle (internesting buffer BIA, internesting HCTS of a species) • Whale Shark (foraging BIA). As vessels will be stationary or slow-moving (<5 knots) whilst implementing the activities within the scope of this EP, and due to the low number of vessels within the OA at any one time, incidences of fauna strike are not expected.	Government departments or agencies First Nations people and/or representative bodies ENGOs

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
				If a fauna strike occurred and resulted in death, it is not expected to have a detrimental effect on the overall population of protected species; this event would result in a limited environmental impact. However it is acknowledged that relevant persons may hold interests relating to the protection of marine fauna.	
Seabed disturbance – • installation—permanent presence of subsea infrastructure and span rectification • installation—contingency temporary umbilical and acoustic positioning lay down • IMR—as required by maintenance activities (e.g. span rectification) • field support—contingency anchoring by vessels, wet parking of ROVs within the OA.	Marine environmental quality Benthic habitat and communities Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Localised and temporary reduction in water quality Alteration of benthic communities and habitats Changes to tangible cultural heritage values	The petroleum activity may result in disturbance when sediment on the seabed is disturbed and becomes suspended in the water column when infrastructure or equipment is placed on the seabed. The impacts are expected to be localised to around the area of seabed disturbance. After the activities are completed, sediments will settle back to the seabed and water quality will return to background levels. No protected UCH sites or tangible UCH have been identified within the OA. Notwithstanding it is acknowledged that that relevant persons may hold interests relating to marine environmental quality, benthic habitats and communities and cultural values, in particular with respect to the protection of Sea Country.	Government departments or agencies First Nations people and/or representative bodies ENGOs
Air emissions – • field support—combustion of marine fuel from vessels, or aviation fuel from helicopters, within the OA.	Marine environmental quality Cultural values	Interest and activity – Environmental conservation	A localised and temporary reduction in air quality	As reduction in air quality will be temporary and highly localised and due to the overall *de minimis* contribution to the reduction of the global carbon budget from the activities under this EP, it is not	Government departments or agencies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
		Cultural values, activities and obligations	Contribution to the reduction of the global atmospheric carbon budget	expected that the functions, interests or activities of relevant persons will be affected. However it is acknowledged that relevant persons may hold interests relevant to this aspect.	First Nations people and/or representative bodies ENGOs
Light emissions – • field support—navigation and operational lighting from vessels during the petroleum activity (including installation and IMR activities) within the OA.	Marine environmental quality Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	A localised and temporary change in ambient light Change in fauna behaviour for light-sensitive species	CAPL expects that its activities could result in temporary changes to ambient light emissions. Several BIAs and/or HCTS of a species also overlap with the OA, including: • Wedge-tailed Shearwater (breeding BIAs) • Whale Shark (foraging BIA) • Flatback Turtle internesting buffer BIA and internesting HCTS. Given the OA is located ~55 km from the nearest land and the distance in which potential impacts to marine fauna from lighting has been identified as <1.8 km, impacts are expected to be temporary, localised and to limited to transient individuals. However, it is acknowledged that relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies ENGOs
Underwater sound – • field support—vessel or helicopter operations during the petroleum activity within the OA • Installation activities—acoustic positioning (LBL	Marine environmental quality Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Localised and temporary change in ambient underwater sound	Several BIAs or HCTS of a species overlap with the Sound EMBA, including: • Pygmy Blue Whale (migration BIA) • Humpback Whale (migration BIA)Flatback Turtle (internesting	Government departments or agencies First Nations people and/or representative bodies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
and USBL) associated with visual surveys (pre–lay, as-laid and IMR).			Behavioural disturbance, auditory impairment, temporary threshold shift (TTS), permanent threshold shift (PTS), recoverable or non-recoverable injury to marine fauna	buffer BIA, internesting HCTS of a species) • Whale Shark (foraging BIA). CAPL has undertaken underwater sound modelling which indicates localised and short-term behavioural impacts to transient individuals may arise (depending on the timing of the activity and seasonal presence of sensitive fauna). TTS and auditory impairment are considered highly unlikely to occur due to the need for fauna to remain in close proximity to for extended durations before auditory impairments or injuries occur. Notwithstanding, it is acknowledged that relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	ENGOs
Invasive marine pests • field support—planned discharged of ballast water or the presence of biofouling on vessels undertaking activities within the OA.	Benthic habitat and communities Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Displacement of, or competition with, native species.	The OA—water depths of ~115–1,350 m—is located offshore from the mainland coast and large ports, and the seabed is predominantly soft sediments such as sand and clay. Thus, the more favourable requirements of expansive hard substrate and sufficient light for invasive marine pest survival are not common within the OA. Although it is highly unlikely the activities in this EP would result in the introduction of invasive marine pests, once established, invasive marine pests can be difficult to eradicate and therefore there is the potential for a long-term change in	Government departments or agencies First Nations people and/or representative bodies ENGOs

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
				habitat structure. As a result, relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	
Planned discharges – vessel operations • field support—vessel operations during the petroleum activity (short-term) within the OA.	Marine environmental quality Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Localised and temporary reduction in water quality Changes to predator-prey dynamics	Impacts and risks associated with planned discharges from vessels are expected to be limited to close to the release location and temporary in nature. It is unlikely the functions and activities of relevant persons would be impacted by planned discharges from vessels, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies
Planned discharges – subsea discharges • installation—subsea discharges during hookup and span rectification activities.	Marine environmental quality Benthic habitats and communities Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Localised and temporary reduction in water quality Alteration of benthic communities and habitats	Impacts and risks associated with planned subsea discharges are expected to be limited to close to the release location and temporary in nature. It is unlikely the functions and activities of relevant persons would be impacted by planned subsea discharges, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies
Unplanned seabed disturbance • installation—dropped object (e.g. infrastructure) or incorrect positioning of infrastructure • field support—dropped object (e.g. tools or	Benthic habitats and communities Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Alteration of benthic communities and habitats	The potential impacts to benthic communities and habitats as a result of unplanned seabed disturbance would be limited to individual occurrences and localised (i.e. area of impact limited to the size of equipment). It is unlikely the functions and activities of relevant	Government departments or agencies First Nations people and/or representative bodies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
equipment) from vessels or ROVs.				persons would be impacted by unplanned seabed disturbance, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect. No protected UCH sites or tangible UCH identified within the OA, therefore potential impact is unlikely.	
Unplanned release – waste • field support—waste lost overboard from vessels during the activity.	Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Marine pollution resulting in entanglement or injury/mortality of marine fauna.	Unplanned releases of waste may result in impacts to injury/mortality to individual marine fauna. It is unlikely the functions and activities of relevant persons would be impacted by an unplanned release of waste, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies
Unplanned release – minor loss of containment • using, handling, and transferring hazardous materials and chemicals on board (<1 m^3) • hydraulic line failure from equipment (<2 m^3).	Marine environmental quality Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Indirect impacts to fauna arising from chemical toxicity	Based on the nature of the unplanned release – loss of containment scenarios considered credible in this EP, the extent and severity of any potential impact is expected to be spatially and temporally limited. It is unlikely the functions and activities of relevant persons would be impacted by an unplanned release, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies ENGOs
Unplanned release – vessel collision • field support—vessel operations during the	Marine environmental quality	Interest and activity – Environmental conservation	Marine pollution resulting in sublethal or lethal	Although highly unlikely, an unplanned emergency event resulting in a hydrocarbon spill may affect the functions, interests and	Government departments or agencies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
petroleum activity within the OA. Unplanned release – hydrocarbon system • installation—dropped object.	Benthic habitat and communities Coastal communities Marine fauna Marine protected areas World heritage properties National heritage places Cultural values Tourism Recreation Commercial fishing Commercial shipping Other commercial industries	Cultural values, activities and obligations Commercial fishing Commercial shipping Recreational fishing Marine recreation Petroleum exploration / production	effects to marine fauna Smothering of subtidal and intertidal habitats Indirect impacts to commercial fisheries and other industries Reduction in amenity resulting in impacts to tourism and recreation Changes to values and sensitivities of marine protected areas	activities of relevant persons within the spatial extent of the Hydrocarbon EMBA. Refer to Section 4.1 for information on the Hydrocarbon EMBA.	First Nations people and/or representative bodies WA World Heritage advisory committees ENGOs Commercial fishery licence holders and/or representative bodies Commercial shipping industry Tourism and recreation operators Other petroleum titleholders Submarine cable operators Research organisations
Ground disturbance – shoreline spill response	Marine fauna Coastal communities Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Potential to damage terrestrial habitats (including nests), with subsequent impacts to fauna such as turtles and birds.	Shoreline protection and deflection and clean-up activities have the potential to result in short-term and localised damage to or alteration of habitats and ecological communities. Shoreline activities will only be undertaken where there is likely to be a net benefit and therefore the functions, interests and activities of relevant persons are unlikely to be affected.	Government departments or agencies First Nations people and/or representative bodies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
Physical presence – oiled wildlife response	Marine fauna Coastal communities Cultural values	Interest and activity – Environmental conservation Cultural values, activities and obligations	Potential to cause further harm to oiled fauna due to hazing, barriers, deterrents, and cleaning activities, and has the potential to cause injury/death.	Oiled wildlife response has the potential to result in injury/mortality to fauna, however will only be undertaken where there is likely to be a net benefit and therefore the functions, interests and activities of relevant persons are unlikely to be affected.	Government departments or agencies First Nations people and/or representative bodies

6.2.7.1 Self-identification

As part of the consultation process (Figure 6-1), CAPL publicly advertised upcoming petroleum activities (refer to Section 6.2.4), to allow for any authorities, persons, or organisations that have not already been identified through the identification process to review information about the petroleum activity, self-identify as a relevant person, and register as a relevant person with CAPL.

This self-identification pathway was included in the consultation process to facilitate a sufficiently broad capture of ascertainable persons and allow for feedback that CAPL may not have otherwise received.

Where an authority, person, or organisation does self-identify, CAPL conducted an assessment to validate that they are a relevant person for an EP (aligned with the considerations described in Sections 6.3.1 to 6.3.5); and if they are, an assessment of the merits of objections or claims and a response was progressed (as per the process in Section 6.3.7).

No new relevant persons self-identified during the consultation period.

6.3 Consultation process

The consultation undertaken during the preparation of this EP used the following process (Figure 6-1):

- described the petroleum activity
- identified environmental aspects
- defined the Hydrocarbon EMBA and identified environmental values and sensitivities
- evaluated environmental impacts and risks and demonstrated these are reduced to ALARP and acceptable levels
- identified functions, interests, or activities that may be affected
- identified relevant persons
- undertook consultation, including co-design of consultation and provision of sufficient information to enable relevant persons to understand how this activity may affect their functions, interests, or activities
- assessed the merit of any objections or claims raised by the relevant persons, and, if appropriate, incorporated information from consultation in this EP to enhance the EP (through description of additional values and sensitivities, update to the risk assessment, additional control measures, addition information in the implementation strategy regarding capacity building for emergency response etc., as appropriate)
- provided a response to the objection or claim, and ensured the response was captured in the EP.

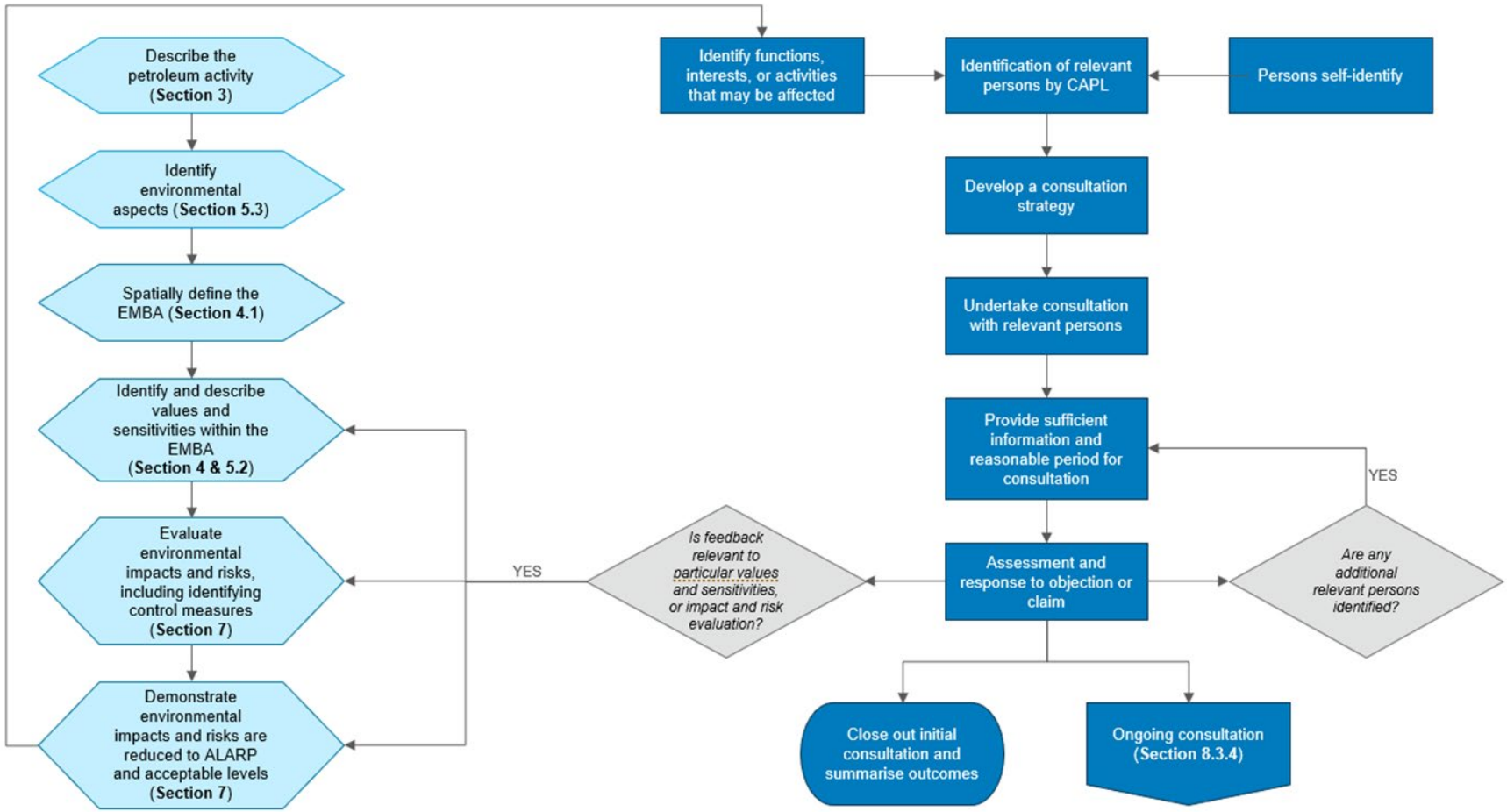


Figure 6-1: Relevant persons consultation process

6.3.1 Relevant persons under regulation 25(1)(a)

In accordance with the OPGGS(E)R, relevant persons include the Commonwealth and State departments or agencies to which activities under this EP may be relevant (Section 6.2.2).

CAPL determined relevant persons under these regulations by considering:

- the spatial extent of the Hydrocarbon EMBA
- the environmental aspects, and potential environmental impacts and risks associated with the petroleum activity
- the responsibilities of the Commonwealth or State department or agency, which was determined by:
  - CAPL's previous consultation history for petroleum activities on the NWS
  - online searches
  - published guidance, including NOPSEMA's *Consultation with Commonwealth agencies with responsibilities in the marine area* guideline (Ref. 255).

The Commonwealth and State departments or agencies that were identified as a relevant person for consultation during the preparation of this EP are presented in Table 6-4.

6.3.2 Relevant persons under regulation 25(1)(b)

In accordance with the OPGGS(E)R, the department or agency of the responsible State Minister is a relevant person (Section 6.2.2).

The petroleum activity within scope of this EP occurs in Commonwealth waters, off the coast of WA. As such, the Department of Energy, Mines, Industry, Regulation and Safety (DEMIRS) has been identified as a relevant person for consultation during the preparation of this EP (Table 6-4).

6.3.3 Relevant persons under regulation 25(1)(c)

In accordance with the OPGGS(E)R, if the petroleum activity occurs in the Principal NT offshore area, the department of the responsible NT Minister is a relevant person (Section 6.2.2).

The petroleum activity within the scope of this EP occurs in Commonwealth waters, off the coast of WA. As such, NT department has not been identified as a relevant person for consultation during the preparation of this EP.

6.3.4 Relevant persons under regulation 25(1)(d)

In accordance with the OPGGS(E)R, relevant persons include a person or organisation whose functions, interests or activities may be affected by the activities under this EP (Section 6.2.2). The considerations for determining the relevance of a person or organisation are described in Section 6.2.2 and Table 6-3.

The persons or organisations that were identified as a relevant person for consultation during the preparation of this EP are presented in Table 6-4.

Table 6-3: Identification of a person or organisation

Category of persons or organisations	Considerations for identifying a relevant person
Commercial fishery licence holders and/or representative bodies	Commonwealth commercial fisheries: • of recent active fishing effort (based on annual ABARES data) occurring within the OA • fishing method, preferred locations or water depths, fishing season • key target species, distribution, and behaviour • potential for temporal and/or spatial interaction between petroleum activity and the commercial fishery. State commercial fisheries: • guidance from WAFIC (Ref. 322) regarding separate consultation strategies for unplanned events such as oil spills, where the titleholder can demonstrate likelihood of an event is “extremely low” • fishery management area intersects the OA, and a record of recent active fishing effort (based on DPIRD FishCube data) occurring within the OA • fishing method, preferred locations or water depths, fishing season • key target species, distribution, and behaviour • potential for temporal and/or spatial interaction between petroleum activity and the commercial fishery. Peak industry bodies: • where a fishery has been determined as relevant, the representative body is also considered relevant.
ENGOs	• CAPL’s operating experience in the NWS and pre-existing knowledge of local ENGOs • Intersection between the spatial extent of the Hydrocarbon EMBA and/or values and sensitivities of the environment and the ENGO’s interests.
First Nations people and/or representative bodies	First Nations people utilise the coast and marine areas for their cultural identity, health and wellbeing, and their domestic and commercial economies. Therefore, the activities under the EP may be relevant to First Nations people who have an enduring cultural and spiritual connection to the sea. First Nations people or groups were identified through: • Native Title claims or determinations intersecting with, or within the vicinity of the Hydrocarbon EMBA • where an AMP is present within the Hydrocarbon EMBA, a review of any identified First Nations people or groups • review of Native Title determinations to determine cultural and/or spiritual link with BIAs • Country located within or coastally adjacent to the Hydrocarbon EMBA. Representative bodies: • CAPL’s operating experience in the NWS and previous interactions with First Nations representative bodies • where people or a group has been determined as relevant, the representative body is also considered relevant.
Local government departments or agencies	• local government boundary intersects the Hydrocarbon EMBA.
Other petroleum titleholders	• CAPL’s operating experience in the NWS and pre-existing knowledge of other petroleum operators

Category of persons or organisations	Considerations for identifying a relevant person
	• other Commonwealth (based on spatial data from NOPTA) petroleum titles that intersect with the Hydrocarbon EMBA, and with current or proposed activities occurring (based on publicly available EPs from NOPSEMA's EP submission website) within the Hydrocarbon EMBA • other State (based on spatial data from DEMIRS) petroleum titles that intersect with the EMBA, and with current or proposed activities occurring (based on publicly available EP summaries from DEMIRS Environmental Assessment and Regulatory System [EARS] Online database) within the Hydrocarbon EMBA • potential for temporal and/or spatial interaction between petroleum activity and the operator of another petroleum title.
Tourism and recreation operators	Tourism and recreation operators: • CAPL's operating experience in the NWS and pre-existing knowledge of local tour and recreational operators • a record of recent active tour operator fishing effort (based on DPIRD FishCube data) occurring within the Hydrocarbon EMBA • where an AMP is present within the Hydrocarbon EMBA, a review of the 'authorisations issued' from Parks Australia (Ref. 265) • potential for temporal and/or spatial interaction between petroleum activity and the tourism/recreational operator. Peak industry bodies: • where a tourism or recreational operator has been determined as relevant, the representative body is also considered relevant.
WA World Heritage advisory committees	• World Heritage area intersects the Hydrocarbon EMBA, and an Australian World Heritage advisory committee exists.

6.3.5 Relevant persons under regulation 25(e)

In accordance with the OPGGS(E)R, relevant persons may include any other person or organisation that CAPL considers relevant.

Where a person or organisation on this list does not already become a relevant person under regulation 25(d) (using the process as described in Section 6.3.3), CAPL may voluntarily opt to include them in the consultation for the petroleum activity as part of wider and ongoing engagement with their broad stakeholder base.

6.3.6 Conclusion on relevant persons identified

As a result of application of the methodology and identification, the relevant persons identified for the purposes of regulation 25 of the OPGGS(E)R are listed in Table 6-4. CAPL is confident that it has used multiple lines of evidence to identify all relevant persons.

Table 6-4: Relevant persons identified for consultation during preparation of the EP

Relevant person	Rationale
Commonwealth department or agencies (regulation 25[1][a])	
Australian Communications and Media Authority (ACMA)	ACMA is a relevant agency for consultation where an activity has the potential to impact economic or social benefits communications infrastructure for Australia. As identified in Section 4.4.6, the Hydrocarbon EMBA overlaps existing submarine cables. Therefore, the activities under the EP may be relevant to ACMA.
Australian Fisheries Management Authority (AFMA)	As identified in NOPSEMA's consultation guideline (Ref. 255), AFMA is a relevant agency for consultation where an activity can impact or has the potential to impact on fisheries resources in AFMA managed fisheries. Commonwealth fishery management areas have been identified as overlapping with the Hydrocarbon EMBA (Section 4.4.1). Therefore, the activities under the EP may be relevant to the AFMA.
Australian Hydrographic Office (AHO)	As identified in NOPSEMA's consultation guideline (Ref. 255), AHO is a relevant agency for consultation when nautical products or other maritime safety information is required to be updated. Vessel operations are required for the activities within scope of this EP (Section 3.4.1), a safety exclusion zone will be requested around the vessels (Section 3.4.1). Therefore, the activities under the EP may be relevant to the AHO.
Australian Maritime Safety Authority (AMSA)	As identified in NOPSEMA's consultation guideline (Ref. 255), AMSA is a relevant agency for consultation where a proposed activity may impact on the safe navigation of commercial shipping in Australian waters. The Hydrocarbon EMBA intersects shipping routes (Section 4.4.4). Therefore, the activities under the EP may be relevant to the AMSA.
Clean Energy Regulator	As identified in NOPSEMA's consultation guideline (Ref. 255), the Clean Energy Regulator is a relevant agency for consultation where: • a change to an existing NGER-reporting facility or activity that triggers an EP revision • a revision for an existing Safeguard-covered facility or activity. • construction, installation or operation of a new facility or activity that is expected to trigger the Safeguard Mechanism. • a greenhouse gas appraisal or storage activity. As part of the Gorgon Gas Development, the activities under the EP may be relevant to the Clean Energy Regulator.
Department of Agriculture, Fisheries and Forestry (DAFF)	As identified in NOPSEMA's consultation guideline (Ref. 255), DAFF is a relevant agency for consultation where an activity has the potential to impact on fishing operations and/or fishing habitats in Commonwealth waters. Commonwealth and State managed fisheries have been identified as overlapping with the Hydrocarbon EMBA (Section 4.4.1). Therefore, the activities under the EP may be relevant to DAFF.
Director of National Parks (DNP)	As identified in NOPSEMA's consultation guideline (Ref. 255), DNP is a relevant agency for consultation where: • the activity or part of activity is within the boundaries of a proclaimed AMP • activities proposed to occur outside a reserve may impact on the values within an AMP

Relevant person	Rationale
	• an environmental incident occurs in Commonwealth waters surrounding an AMP and may impact on the values within the park. The Hydrocarbon EMBA intersects AMPs (Section 4.5.1). Therefore, the activities under the EP may be relevant to the DNP.
Department of Climate Change, Energy, Environment and Water (DCCEEW)	As identified in NOPSEMA's consultation guideline (Ref. 255), DCCEEW is a relevant agency for consultation where an activity has the potential to directly or indirectly adversely impact on protected UCH. The Hydrocarbon EMBA overlaps with UCH (shipwrecks) (Section 4.6.2). Therefore, the activities under the EP may be relevant to the DCCEEW.
Department of Defence (DoD)	As identified in NOPSEMA's consultation guideline (Ref. 255), DoD is a relevant agency for consultation where: • a proposed activity may impact DoD training and operational requirements; • a proposed activity encroaches on known training areas and/or restricted airspace • there is a risk of unexploded ordnance in the area where the activity is taking place. DoD areas and/or facilities do not intersect the Hydrocarbon EMBA (Section 4.4.6). However, the activities under the EP may be relevant to the DoD.
State or Northern Territory departments or agencies (regulation 25[1][b])	
Department of Biodiversity, Conservation and Attractions (DBCA)	DBCA promotes biodiversity and conservation through sustainable management of WA's species, ecosystems, lands and the attractions in their care. The Hydrocarbon EMBA intersects State terrestrial and marine protected areas (Sections 4.5.2 and 4.5.3). Therefore, the activities under the EP may be relevant to DBCA.
Department of Primary Industries and Regional Development (DPIRD)	DPIRD's responsibility is to conserve, sustainably develop and share the use of WA's aquatic resources and their ecosystems. As identified in their consultation guideline (Ref. 143), DPIRD considers that it is a relevant person where a petroleum activity may potentially affect commercially and recreationally important fish species, their prey and habitats, and the business activities of the fishers who harvest these resources in State or Commonwealth waters. State managed fisheries and recreational fisheries have been identified as overlapping with the Hydrocarbon EMBA (Sections 4.4.1 and 4.4.2). Therefore, the activities under the EP may be relevant to DPIRD.
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	DoT (MEER) is the hazard management agency for marine oil pollution and maritime transport emergencies in Western Australian waters. The MEER's role is to develop marine oil spill response capabilities, provide resources and support during response operations, training programs, assist in the development of oil spill contingency plans and raise community awareness about the impact of oil spills. MEER considers that it is a relevant person if activities have the potential to cause a marine oil pollution incident in State waters (Ref. 145). The unplanned hydrocarbon release scenario predicted some areas of State waters may be exposed (Sections 7.14 and 7.15). Therefore, the activities under the EP may be relevant to DoT.
Department of Water and Environment (DWER)	DWER supports WA's community, economy and environment by managing and regulating the state's environment and water resources on behalf of the Minister for the Environment. Therefore, the activities under this EP may be relevant to DWER.
Pilbara Ports Authority	The Pilbara Ports Authority assumes oversight of Barrow Island, Onslow, Port of Ashburton and more and operates as a corporatized entity that reports to the State Government of WA's Minister of Ports. The activity occurs within Commonwealth

Relevant person	Rationale
	and State waters, requires vessels and ports for use. Therefore, the activities under the EP may be relevant to the Pilbara Ports Authority.
Environmental Protection Authority (EPA)	The WA EPA is established under the *Environmental Protection Act 1986* (Cth), with the objective to protect the environment and to prevent, control and abate pollution and environmental harm. The EPA provides strategic advice to the Minister of the Environment. Therefore, the activities under this EP may be relevant to the EPA.
Department of the responsible State or Northern Territory Minister (regulation 25[1][c])	
Department of Energy, Mines, Industry, Regulation and Safety (DEMIRS)	DEMIRS is the department of the responsible State Minister. Therefore, they are considered a relevant person as per regulation 25(1)(c) of the OPGGS(E)R.
Person or organisation whose functions, interests, or activities may be affected by the petroleum activity (regulation 25[1][d])	
First Nations people and/or representative bodies	
Baiyungu Aboriginal Corporation (BAC) Baiyungu people	Baiyungu Country extends from Point Cloates (north of Carnarvon) along the coast to Point Quobba, then stretches east to Manberry Station and north to Winning Pool Station. A major area of significance is Coral Bay and neighbouring Cardabia Station (a pastoral station run by BAC and the Baiyungu people). The Hydrocarbon EMBA does not directly intersect with this area of coast, however the EMBA does extend into the offshore waters of the Gascoyne. No Native Title determination currently exists within the Hydrocarbon EMBA and this representative body have not been identified in an AMP Management Plan. However, given that the Hydrocarbon EMBA occurs offshore from the Gascoyne coast, and engagement with BAC identified that Sea Country is of recognised value to the Baiyungu people, the activities under the EP may therefore be relevant to this organisation and the Baiyungu people. Note: CAPL has also consulted NTGAC who also represents the Baiyungu people for Native Title rights and interests. BAC have advised CAPL to undertake EP engagement with them via NTGAC.
Buurabalayji Thalanyji Aboriginal Corporation (BTAC) Thalanyji people	The BTAC was registered in 2008 to represent, protect, and support the interests of the Thalanyji people. Thalanyji Country spreads out across the Ashburton River coastal plain south to Tubridji Point, then across to Yannarie River and upstream to Emu Creek, across the range hills of southwest Pilbara to Henry River and Cane River in the north. The Hydrocarbon EMBA does not directly intersect with this area of coast, however the Hydrocarbon EMBA does extend into the offshore waters of the Pilbara. No Native Title determination currently exists within the Hydrocarbon EMBA and this group have not been identified in an AMP Management Plan. However, given that the Hydrocarbon EMBA occurs offshore from the Pilbara coast, and engagement with BTAC identified that Sea Country is of recognised value to the Thalanyji people, the activities under the EP may therefore be relevant to this RNTBC and the Thalanyji people. Note: CAPL has also consulted NTGAC who also represents the Thalanyji people for Native Title rights and interests.

Relevant person	Rationale
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	The NTGAC was registered in 2019 to represent, protect and support the interests of the Baiyungu, Thalanyji and Yinggarda people. The RNTBC represents an area that extends approximately from Exmouth Gulf to Lake Macleod. The Hydrocarbon EMBA does not intersect this area of coast, however the Hydrocarbon EMBA is within the offshore waters of the Pilbara and Gascoyne. Native Title determination WCD2019/016 intersects the outer extent of the Hydrocarbon EMBA (Section 4.6.3). Therefore, the activities under the EP may be relevant to this RNTBC and the Baiyungu, Thalanyji and Yinggarda people.
Baiyungu people	
Thalanyji people	
Yinggarda people	
MCH (individual representative)	An individual contacted CAPL via phone in August 2023 and identified themselves as a Traditional Custodian for the Mardathoonera people. The Mardathoonera people are a Pilbara language group, and engagement with the individual identified that Barrow Island was culturally significant. Given that the waters off Barrow Island overlap the Hydrocarbon EMBA (and within ~55 km to the OA) for this EP, CAPL considers that the individual and the family organisation has functions, interests or activities that may be affected by the petroleum activity to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
MCH (family organisation)	
Nhuwala Claimants	The Nhuwala Claim Group filed a Native Title Determination Application (WC2024/008) on 18 December 2024. The claim area is located in the Pilbara region and extends offshore. No Native Title determination currently exists within the Hydrocarbon EMBA. However, given that the Hydrocarbon EMBA occurs offshore from the Pilbara coast, the activities under the EP may therefore be relevant to the Nhuwala Claimants.
Wirrawandi Aboriginal Corporation (WAC) RNTBC	The WAC was registered in 2018 to hold and manage the native title rights and interests for the Mardathoonera and Yaburara people. Mardathoonera and Yaburara Country is in the Pilbara region (approximately between Maitland and Robe rivers). The Hydrocarbon EMBA does not directly intersect with this area of coast, however it does extend into the offshore waters of the Pilbara. Native Title determination (WCD2018/006) is also located outside of the Hydrocarbon EMBA. Therefore, the activities under the EP may be relevant to this RNTBC and the Mardathoonera and Yaburara people.
Mardathoonera people	
Yaburara people	
Commercial fishery licence holders and/or representative bodies	
Australian Council of Prawn Fisheries	These organisations are peak bodies representing the commercial fishers within Commonwealth or State-managed commercial fisheries. Commonwealth and State managed fisheries have been identified within the Hydrocarbon EMBA (Section 4.4.1). As such, these organisations have functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Aquaculture Council of Western Australia	
Commonwealth Fisheries Association	

Relevant person	Rationale
Tuna Australia	
Western Australian Fishing Industry Council (WAFIC)	
Tourism and recreation operators	
Recfishwest	This organisation is the peak body representing the State-managed recreational fisheries. Recreational fishing has been identified within coastal and nearshore areas of the Hydrocarbon EMBA (Section 4.4.2). As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Ningaloo Visitor Centre	Ningaloo Visitor Centre is located in Exmouth and provides advice and services to both locals and tourists. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions (Section 4.4.5). As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Boating Industry Association Western Australia (BIAWA)	BIAWA is the voice of the West Australian recreational boating industry, with the main purpose to promote and encourage safe boating and other aquatic sports and pastimes within WA. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions. As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Ashburton Anglers	Ashburton Anglers are a local fishing club. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions. As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Apache Fishing Charters	Recreational fisheries, tourism and recreational activities have been identified as occurring within or adjacent to the Hydrocarbon EMBA (Section 4.4.2). As such, these businesses may have functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Aquatic Adventure Exmouth	
Archipelago Adventures	
Blue Juice Charters	
Blue Lightning Fishing Charters	
Bluesun 2 Boat Charters	
Cape Immersion Tours	
Exmouth Dive and Whalesharks Ningaloo	
Exmouth Dive Centre	

Relevant person	Rationale
Exmouth Game Fishing Club	
Image Dive and Charters	
Innkeeper Sport Fishing Charter	
Kings Ningaloo Reef Tours	
Live Ningaloo	
Mackerel Islands and Onslow Beach Resort	
Mahi Mahi Charters	
Montebello Island Safaris	
Ningaloo Blue Dive	
Ningaloo Coral Bay Boats	
Ningaloo Discovery	
Ningaloo Fly Fishing	
Ningaloo Marine Interaction	
Ningaloo Reef Dive	
Ningaloo Reef to Range Tours	
Ningaloo Safari Tours	
Ningaloo Sportfishing Charters	
Ningaloo Whaleshark n Dive	
Ningaloo Whaleshark Swim	
Ocean Eco Adventures	
On Strike Charters	
Peak Sportfishing Charters	

Relevant person	Rationale
Sail Ningaloo	
Three Islands Whale Shark Tours	
Top Gun Charters	
Ultimate WaterSports	
View Ningaloo	
Wilderness Island	
Yardi Creek Boat Tours	
Local government departments or agencies	
Shire of Ashburton	The Hydrocarbon EMBA intersects State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions. Therefore, local governments may be considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Shire of Exmouth	
WA World Heritage advisory committees	
Ningaloo Coast World Heritage Advisory Committee	The Ningaloo Coast World Heritage Advisory Committee provides advice to the Commonwealth and State Environment Ministers on the protection, conservation and management specific to Ningaloo Coast World Heritage Area. The Hydrocarbon EMBA intersects the Ningaloo Coast World and National heritage areas (Section 4.6). Therefore, Ningaloo Coast World Heritage Advisory Committee is considered a relevant person under regulation 25(1)(d) of the OPGGS(E)R.
Other petroleum titleholders	
Carnarvon Energy	Petroleum operations have been identified to occur within the spatial extent of the Hydrocarbon EMBA (Section 4.4.6). Therefore, other petroleum titleholders are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Eni Australia	
Exxon Mobil	
Jadestone Energy	
Kato Energy / Kato NWS Pty Ltd	
Kufpec	
Santos	
Shell	

Relevant person	Rationale
Western Gas	
Woodside	
ENGOs	
Australian Marine Conservation Society	ENGOs are organisations concerned about public welfare, people and the environment. Several environmental receptors intersect with the Hydrocarbon EMBA (Section 4). Therefore, ENGOs may be considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Cape Conservation Group	
Protect Ningaloo	
Other	
Australian Institute of Marine Science (AIMS)	AIMS undertake research at Rankin Bank. The Hydrocarbon EMBA overlaps Rankin Bank (Section 4.3.1.2). Therefore, AIMS may be considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Australian Marine Oil Spill Response Centre (AMOSC)	AMOSC are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Care for Hedland Environmental Association	A representative from the Care for Hedland Environmental Association contacted CAPL via the Online Consultation Hub to self-identify for consultation. Care for Hedland run a community-based Flatback Turtle monitoring program, and engagement with the representative identified that a genetic link existed between the Flatback Turtles nesting populations at Port Hedland, Barrow Island, and the broader NWS. While the Hydrocarbon EMBA is >300 km from Port Hedland, and any direct interaction with Port Hedland is not predicted to occur from planned activities or an unplanned event associated with this EP, given the migratory nature of marine turtles and that the Pilbara Coast represents a single genetic stock (Ref. 83), CAPL considers that the Care for Hedland Environmental Association has functions, interests or activities that may be affected by the petroleum activity to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Exmouth Chamber of Commerce and Industry (ECCI)	The ECCI is a representative organisation that promotes the interests of members and the business community in Exmouth, The EMBA for this EP intersects Commonwealth and State waters offshore of the Pilbara and Gascoyne regions. Therefore, ECCI may be considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Onslow Chamber of Commerce and Industry (OCCI)	The OCCI is a representative organisation that promotes the interests of members and the business community in Onslow and the Pilbara Region. The EMBA for this EP intersects Commonwealth and State waters offshore of the Pilbara and Gascoyne regions. Therefore, OCCI may be considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Oil Spill Response Limited	Oil Spill Response Limited are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.

Relevant person	Rationale
Telstra	Telstra are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Vocus Communications	Vocus Communications are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Any other person or organisation that the titleholder considers relevant (regulation 25[1][e])	
Commercial fishery licence holders and/or representative bodies	
Pearl Producers Association	Pearl Producers Association are the peak representative body of the Australian South Sea Pearling Industry. Relevant pearling operations occur outside the boundary of Hydrocarbon EMBA, however under regulation 25(1)(e) CAPL selected to include the council in consultation.
Western Rock Lobster Council	Western Rock Lobster Council is the peak industry body representing the interests of the western rock lobster fishery. The Western Rock Lobster fishery operates outside the boundary of Hydrocarbon EMBA, however under regulation 25(1)(e) CAPL selected to include the Western Rock Lobster Council in consultation.
Tourism and recreation operators	
Tourism Western Australia	The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e), CAPL selected to include this organization in consultation.
Karratha Tourism and Visitor Centre	
Other	
Pilbara Development Commission	The Pilbara Development Commission works across government to support economic growth, stimulate job growth and increase industry innovation among other things. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Exmouth Gulf Taskforce	The Exmouth Gulf Taskforce provides high level advice to the Minister for Environment on the environmental management of the Exmouth Gulf and its surrounds, to help preserve the region's unique environmental, cultural and social values. The Hydrocarbon EMBA intersects Commonwealth and State waters around Exmouth, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
WA Coastal and Marine Community Network	The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
WA Marine Science Institute	The Western Australian Marine Science Institution is a collaboration of state and federal government and academic science organisations working together to provide independent marine research for the benefit of the environment, the community and the Blue Economy. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands,

Relevant person	Rationale
	within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Western Australian Museum	The Western Australian Museum is the State's premier cultural organisation, housing WA's scientific and cultural collection. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Centre for Whale Research Western Australia	The Centre for Whale Research (Western Australia) Inc. is a non-profit research established in 1993 to conduct scientific research into marine mammals. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore, and some offshore islands, within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Wilderness Society	ENGOs are organisations concerned about public welfare, people and the environment. The Hydrocarbon EMBA intersects Commonwealth and State waters offshore of the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Whale and Dolphin Conservation Society	
International Fund for Animal Welfare	
Greenpeace	
Conservation Council of Western Australia	
Australian Conservation Foundation	

6.3.7 Assessment and response

CAPL has assessed the merits of all objections and claims regarding the consequences of the petroleum activity on a relevant persons functions, interests, or activities received during the consultation period that relate to the petroleum activity, consistent with regulation 24(b)(ii) of the OPGGS(E)R. This was done by evaluating appropriate evidence, including evidence provided by the relevant person submitting the objection or claim, and identifying potential impacts or risks on the totality of the values and sensitivities that could be affected by the petroleum activity. Potentially adverse impacts of the petroleum activity may need to be mitigated through the application of appropriate control measures. Claims or objections not directly related to the petroleum activity (such as statements of fundamental objection to the oil and gas industry) are not considered to have merit under the OPGGS(E)R because they are not relevant to the petroleum activity itself, or the impacts and risks of the petroleum activity. However, the consultation report summarises these statements and explains why they have not been considered in preparing the EP.

A summary of the outcomes of consultation undertaken with relevant persons during the preparation of this EP is provided in appendix d. The table provides a description of the matters, objections or claims, assessment of the merits of the objection or claim, how CAPL responded to the relevant person, and where or how any changes resulting from the consultation were incorporated into the EP.

A record of all consultation undertaken specifically for this petroleum activity is included in the engagement log, which is provided to NOPSEMA in the sensitive information report.

6.3.8 Summary information

Regulation 24 of the OPGGS(E)R requires that an EP contain:

- a report on all consultations under regulation 25 of any relevant person by the titleholder, that contains:
  - a summary of each response made by a relevant person
  - an assessment of the merits of any objection or claim about the adverse impact of each activity to which the EP relates
  - a statement of the titleholder's response, or proposed response, if any, to each objection or claim
  - a copy of the full text of any response by a relevant person.

Regulation 34(g)(ii) of the OPGGS(E)R requires that the EP demonstrates that "the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate".

A summary of each response, CAPL's assessment of the merits of any objection or claim, and CAPL's response to each objection or claim is provided within appendix d. The consultation summary also describes what (if any) changes to the EP, including control measures, were made in response to each objection or claim.

6.3.9 Conclusion on consultation

The objective of consultation, which is referred to above in Section 6.1, but reiterated below, informs whether consultation has been closed:

"Regulation 25, like most statutory consultation provisions, imposes an obligation that must be capable of practicable and reasonable discharge by the person upon whom it is imposed. Consultation is a "real world" activity, with specific purposes. Here, its purpose is to ensure that the titleholder has ascertained, understood and addressed all the environmental impacts and risks that might arise from its proposed activity. Consultation facilitates this outcome because it gives the titleholder an opportunity to receive information that it might not otherwise have received from others affected by its proposed activity. Consultation enables the titleholder to better understand how others with an objective stake in the environment in which it proposes to pursue the activity perceive those environmental impacts and risks. As the Regulations expressly contemplate, it enables the titleholder to refine or change the measures it proposes to address those impacts and risks by taking into account the information acquired through the consultations. Objectively, the scheme intends that this is likely to improve the minimisation of environmental impacts and risks from the activity."[22]

As stated above in Section 6.1, the purpose of consultation is also to:

- identify the social and cultural features of communities within the ecosystem
- inform the control measures to eliminate, reduce, and mitigate impacts and risks to those socio-cultural values and sensitivities in response to relevant persons concerns
- to inform NOPSEMA of relevant persons' identities, the nature of the consultation, and the control measures adopted[23].

Regulation 25(2) of the OPGGS(E)R requires the titleholder to give the relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person. Regulation 25(3) of the OPGGS(E)R requires the relevant person to be afforded a reasonable period for the consultation.

Consultation is a process that is not indeterminate and must be reasonably capable of being closed once the process is complete. As Lee J stated in *Santos NA Barossa Pty Ltd v Tipakalippa* "[*i*]*t must be taken to be the regulatory intention that the consultation requirement cannot be one that is incapable of being complied with within a reasonable time*."[24]

Regulation 33(1)(a) of the OPGGS(E)R requires that if NOPSEMA is reasonably satisfied that the EP meets the criteria in regulation 34 of the OPGGS(E)R then NOPSEMA must accept the EP. Meeting these requirements is the evaluative judgment to determine reasonable satisfaction of the consultation obligation, and as such, NOPSEMA uses its discretion to determine if these criteria are met. The Full Federal Court determined that this is a state of satisfaction that is a prerequisite to an exercise of a statutory power, and that there must be an evident and intelligible justification that must be objectively ascertained by a reviewing Court[25].

CAPL has undertaken the consultation process as described in Section 6, and in doing so has met the objective of consultation as articulated in the relevant case law, and met the requirements of regulation 25. This therefore provides

[22] Paragraph 89 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

[23] Paragraphs 55–57 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

[24] Paragraph 136 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

[25] Paragraphs 31 and 32 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 162).

NOPSEMA with evident and intelligible justification for being reasonably satisfied that the EP acceptance criteria for consultation are met.

CAPL has completed all practicable and reasonable steps to discharge its consultation obligations. As detailed in this EP, CAPL has provided sufficient information (Section 6.2.4) and a reasonable period of time (Section 6.2.5) to enable relevant persons to make an informed assessment of the possible impacts and risks of the petroleum activity on their functions, interests or activities (meeting the requirements of regulation 25). The consultation process has informed CAPL's understanding of the environment, including (amongst other things) people and communities, the heritage value of places, their social and cultural features which may be affected by the proposed activities. CAPL has provided sufficient time to relevant persons to provide relevant input for CAPL to assess relevant persons claims and objections, and to action the input from relevant persons. CAPL has:

- updated its description of environment (Section 4) to include values and sensitivities raised by relevant persons
- updated its impact and risk assessment (Section 7) to include assessment of input from relevant persons on their values and sensitivities (particularly in relation to marine fauna and songlines), including revision and/or addition of control measures
- through this EP, informed NOPSEMA of relevant persons identities, the nature of the consultation, and the control measures adopted.

For further detail, see appendix d and the sensitive information report.

CAPL notes it has discharged its obligations under regulation 25 considering:

- CAPL has implemented a thorough process to 'screen in' potential relevant persons and has allowed potential relevant persons opportunities to self-identify
- Consultation on this EP commenced on 31 March 2025, and information on the activity, including information on potential impacts and risks associated with the activity, has been presented on CAPL's website during this time with the option to provide feedback online
- CAPL has maintained a toll-free contact number for persons or organisations to call and participate in consultation
- CAPL published notices in seven newspapers, as outlined in Section 6.2.4
- CAPL has attended face-to-face meetings with First Nations representative bodies while consulting on this EP (as outlined in appendix d), and provided tailored and bespoke consultation material for consideration
- Three months was provided for consultation, with consultation closing on the 27th June.

CAPL has also provided a reasonable opportunity for relevant persons to engage in genuine two-way dialogue on environmental impacts and concerns, and CAPL will undertake its ongoing consultation obligations (Section 8.3.4.1).

Based on the above, CAPL has discharged its duty under regulation 25. CAPL considers that consultation under regulation 25 is complete.

It is noted that CAPL is not required to obtain consent from a relevant person to engage in the petroleum activity.

To the extent a relevant person says that it has further information to share or claims that consultation under regulation 25 has not completed, appendix d provides reasons specifically why CAPL considers consultation under regulation 25 has been met in relation to that relevant person. It is noted that further information can be considered during ongoing consultation under regulation 22(15).

7 environmental impact and risk assessment and management strategy

This section provides an evaluation of the impacts and risks associated with the petroleum activity appropriate to the nature and scale of each impact and risk, details the control measures implemented to reduce the risks to ALARP and to an acceptable level, and identifies the associated environmental performance outcomes, performance standards, and measurement criteria, as required under regulations 21(5), 21(6) and 21(7) of the OPGGS(E)R.

Table 7-1 summarises the impacts and risks that were identified and evaluated for this activity.

Table 7-1: Summary of impact and risk evaluation

Section	Aspect	Impact	Risk			Decision context	ALARP	Acceptable
		C^	C^	L	R			
7.1	Physical presence—other marine users	–	6	4	9	A	Yes	Yes
7.2	Physical presence—marine fauna	–	5	4	8	A	Yes	Yes
7.3	Seabed disturbance	4	5	6	10	A	Yes	Yes
7.4	Air emissions	6	–	–	–	A	Yes	Yes
7.5	Light emissions	6	5	4	8	A	Yes	Yes
7.6	Underwater sound—field support (vessels and helicopters)	5	5	3	7	A	Yes	Yes
7.7	Underwater sound—acoustic surveys	6	6	4	9	A	Yes	Yes
7.8	Invasive marine pests	–	2	6	7	A	Yes	Yes
7.9	Planned discharges—vessel operations	6	6	5	9	A	Yes	Yes
7.10	Planned discharges—subsea	6	6	6	10	A	Yes	Yes
7.11	Unplanned seabed disturbance	–	6	4	9	A	Yes	Yes
7.12	Unplanned release—waste	–	6	5	10	A	Yes	Yes
7.13	Unplanned release—minor loss of containment	–	6	2	7	A	Yes	Yes
7.14	Unplanned release—vessel collision	–	5	5	9	A	Yes	Yes
7.15	Unplanned release—hydrocarbon system	–	5	6	10	–	–	–
7.16.4.1	Ground disturbance – shoreline spill response	–	5	5	9	A	Yes	Yes
7.16.4.2	Physical presence – oiled wildlife response	–	5	5	9	A	Yes	Yes
7.17	Intangible cultural heritage values	–	5	4	8	A	Yes	Yes

C = consequence, L = likelihood, R = risk level

^ Where an aspect is identified as having both potential impacts and risks, the highest-level consequence was evaluated in detail to ensure that justification is provided to support the highest consequence level for that aspect.

Table 4-21 lists the other CAPL and non-CAPL planned petroleum activities, including the distances to the OA. Table 7-1 identifies those activities with the potential for temporal and spatial overlap with the petroleum activity covered under this EP, with cumulative impacts further evaluated under the relevant aspect risk assessment. Activities not considered to credibly contribute to cumulative impacts are not discussed further.

Given that other CAPL and non-CAPL unplanned events are not intended to occur during the implementation of this EP, no reasonable estimate of the frequency, intensity or duration can be made. Should an unplanned event occur, it is reasonably assumed that it will be a discrete event with localised impacts, particularly considering the short-term duration of the petroleum activity (~3–6 months). The likelihood of multiple unplanned events with significant environmental consequences occurring concurrently in the same vicinity is not considered credible, based on industry standards and typical control measures. CAPL has therefore assessed that unplanned events would result in negligible cumulative impacts and would not change the overall consequence level, and are therefore not discussed further.

While unplanned events involving other marine users (Section 7.1) and marine fauna interactions (Section 7.2) are not intended to occur during the implementation of this EP, cumulative impacts have been considered to acknowledge the potential for managed cumulative interactions.

Table 7-2: Potential cumulative impact screening summary

Nominated titleholder	Activity (EP reference)	Description of other CAPL and non-CAPL petroleum activities	Potential cumulative planned impacts								
			Physical presence-other marine users	Physical presence-marine fauna	Seabed disturbance	Air Emissions	Light emissions	Underwater sound–field support (vessels and helicopters)	Underwater sound–acoustic positioning	Planned discharges-vessel operations	Planned discharges-subsea discharge
CAPL	Gorgon and Jansz Gas Development: Gorgon operations (Ref. 61)	IMR activities that may be carried out on the Gorgon and Jansz pipeline and infrastructure within the OA. IMR activities may occur at any time during the petroleum activity, and typical IMR activities consist of one vessel for approximately one to two weeks.									
	J–IC Infrastructure Project (Ref. 70, Ref. 61)	The following activities are planned to occur within or within proximity to the OA: • installation, hook-up and pre-commissioning activities of the J–IC infrastructure (Ref. 70): – indicatively scheduled to occur from 2025 to mid-2027. The duration of vessel presence will vary with the activity, ranging from ~5 days to ~6 months. Up to 10 vessels may be on site within the OA at any time, noting that vessel presence will vary during different stages of the activity. – IMR activities carried out on the pipeline or subsea infrastructure, which may occur at any time during the petroleum activity. Typical IMR activities consist of one vessel for approximately one to two weeks. • start-up of the J–IC infrastructure (Ref. 61): – start-up activities indicatively scheduled to occur from 2027/2028, supported by one vessel.	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Gorgon and Jansz drilling, well intervention and well abandonment activities (Ref. 42)	Limited to contingency remediation works that may be required to restore well productivity. Remediation works may include re-drilling of existing wells, well interventions and/or abandonment. Each activity is expected to take up to ~65 days. Drilling, well abandonment and some well intervention activities at Gorgon require an anchored MODU, with up to three support vessels. Well interventions may also be conducted by a light well intervention vessel at Gorgon. Drilling, some well interventions and well abandonment at Jansz will use a DP MODU supported by up to two support vessels. Well interventions may also be conducted by a light well intervention vessel at Gorgon. These activities would take place over the Gorgon and/or Jansz production wells, which overlap sections of the OA. Cumulative impacts are possible when umbilical installations are taking place at either end of the OA.	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Wheatstone operations (Ref. 59)	IMR activities carried out on the Wheatstone trunkline, which may occur at any time during the petroleum activity, noting that only a small section (~2 km of the 221 km trunkline) is located within ~5 km of the OA. Typical IMR activities would involve one vessel for approximately one to two weeks.	N/A	✓	N/A	N/A	✓	✓	✓	N/A	N/A
	Wheatstone drilling, well intervention and well abandonment activities (Ref. 72)	The proposed Wheatstone infill drilling program is >50 km from the OA. Infill drilling of up to seven wells consecutively may take place, with MODU operations occurring over ~455 days. Well intervention and/or plug and abandonment activities may take place over a period of ~60 days per well. Wheatstone drilling will use an anchored MODU, with up to three support vessels. Well intervention and abandonment activities are also accounted for in the EP as contingency activities. Well intervention activities may use a light well intervention vessel, supported by up to two support vessels or an anchored MODU supported by up to three support vessels. Well abandonment will use an anchored MODU, with up to three support vessels.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Woodside	JDP3 (Ref. 333)	The following activities, which may occur at any time during petroleum activity between 2025 and 2027 and are located >20 km from the southern end of the OA: • Drilling and completion activities may be developed over one to two campaigns, with each well estimated to take ~60 days to complete (up to five wells). These activities will use a MODU and up to three support vessels. In addition, the contingency well intervention will also require the use of a light well intervention vessel. • Subsea installation activities are likely to take 60 days and will use up to four support vessels.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Nominated titleholder	Activity (EP reference)	Description of other CAPL and non-CAPL petroleum activities	Potential cumulative planned impacts								
			Physical presence-other marine users	Physical presence-marine fauna	Seabed disturbance	Air Emissions	Light emissions	Underwater sound–field support (vessels and helicopters)	Underwater sound–acoustic positioning	Planned discharges-vessel operations	Planned discharges-subsea discharge
	Scarborough Project (Ref. 334)	Limited to any IMR activities carried out on the Scarborough trunkline proximal to the Jansz end of the OA, noting that only a small section (~10 km of the 430 km pipeline) is located within ~10 km of the northern end of the OA. Typical IMR activities consist of one vessel for approximately one to two weeks.	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A	N/A
Santos	Halyard-2 drilling (Ref. 289)	Limited to the following activities, which may occur at any time during petroleum activity until the end of 2026 and are located ~20 km from the southern end of the OA: • Drilling and completion activities are estimated to take ~50 days to complete (one well). This activity will use a MODU and up to four support vessels. • Subsea installation and pre-commissioning activities are estimated to take ~15 days and will use one support vessel.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7.1 Physical presence—other marine users

Source

Activities identified as having the potential to result in an interaction with other marine users are:

- installation—permanent presence of the subsea infrastructure
- installation—temporary presence of installation aids and equipment, and ROVs
- field support—temporary (short-term) presence of vessels and helicopters.

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	Unplanned interactions with other marine uses may result in: • disruption to commercial shipping or fishing • entanglement of fishing gear on subsea structures • disruption to other petroleum activities.	 6 6 6

Consequence evaluation

The permanent presence of subsea infrastructure and temporary presence of installation aids and equipment, and ROVs associated with this activity is contained wholly within the OA. Vessels undertaking activities will also be temporarily present within the OA. The total duration of the activity is estimated to be ~3–6 months. The crossings and umbilical lay activities are expected to be completed within ~4 weeks and the hook-up activities are likely to be completed within ~4 weeks. The OA occurs in water depths ranging from ~115 m to 1,350 m, and comprises an area of ~193 km^2.

The potential for unplanned interactions between other marine users and subsea structures is limited to where these users interact with the seafloor. Marine users that have the potential to interact with the seafloor have been identified as commercial fisheries that utilise trawl or trap fishing methods. The potential risks to fishing vessels from subsea structures includes disruption to fishing efforts caused by the need for vessels to avoid the infrastructure or physical damage (via entanglement) to fishing gear that contacts the infrastructure.

One Commonwealth-managed commercial fishery—NWSTF—is periodically active within the OA. The NWSTF uses trawl methods typically between 200 m isobath and the outer boundary of the fishing zone (Section 4.4.1).

The OA overlaps with ~0.05% of the total fishery management area for the NWSTF. The entire fishery has a small number of active permits and vessels (e.g. seven permits with three vessels active during the 2022-2023 season [Ref. 27]). The fishery also does not regularly record fishing effort within the OA (e.g. only one year [2020] out of the 2018-2023 period recorded fishing effort within a single [one block per year] 60 nm graticular reporting block that intersected with the OA; Section 4.4.1.1).

State-managed fisheries with management areas that overlap the OA that have recent fishing effort recorded and use methods that would intersect with the seafloor include the Pilbara Line Fishery and the Pilbara Trap Managed Fishery. However, fishing effort is typically low within the 60 nm fishery grid blocks that intersect with the OA (Section 4.4.1). The Pilbara Trap Managed Fishery is managed primarily by the use of input controls in the form of individual transferable effort allocations monitored with a satellite-based VMS and through a partial closure of the fishery since 1998. It has six licences operated across three vessels that operate within the 60 nm fishery grid blocks that intersect with the OA (Ref. 341). The Pilbara Line Fishery is made up of nine fishing boat licenses that are allowed to operate on an exemption basis that enables them to commercially fish for any nominated five-month block period during the year (Ref. 341).

Subsea infrastructure has been in place within the OA since 2012, and to date, no incidences of commercial fishing activities interacting with the infrastructure has been communicated to CAPL. Consequently, the long-term presence of the additional subsea structures, or any temporarily placed infrastructure, is not expected to result in a significant impact on commercial fishing operations (via loss of catches or damage to fishing equipment). Any deviation required by fishing vessels around the subsea structures is not expected to impact on the functions, interests, or activities of commercial fisheries.

The use of vessels during the petroleum activity has the potential to result in a disruption to other marine users, including commercial shipping or fishing vessels.

As identified in Section 4.4.1, there are four State-managed commercial fisheries that have recent fishing effort that overlaps with the OA. Fishing effort records obtained from DPIRD (Ref. 149) for State managed commercial fisheries indicate that fishing effort within the OA varies each year, but that there may be up to >6 vessels operating some years (Ref. 149).

Commercial vessel traffic density within the OA is relatively low (Section 4.4.4), including the section that intersects one of AMSA's north-west coast shipping fairways (Figure 4-15).

Therefore, the presence of vessels within the OA is not expected to result in significant adverse affects to commercial fishing or shipping operators. Any deviation required by these vessels is not expected to impact on their respective functions, interests, or activities.

Given the short duration, the activity is not expected to impact on the functions, interests, or activities of other titleholders, and has not been evaluated further.

In summary, the physical presence of the subsea infrastructure and vessels is not expected to cause significant impacts to other marine users, and the risks are considered to have limited potential consequences. Therefore, CAPL has ranked the potential consequence to other marine users from physical presence as Incidental (6).

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL and non-CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. These activities include IMR activities, installation and start-up of the J–IC infrastructure, and potential drilling and well intervention activities at Gorgon and Jansz (Ref. 61, Ref. 70, Ref. 42).

These activities may result in incremental increases in potential interactions with other marine users. However, given the low intensity of marine user activity within the OA (refer to the "consequence evaluation" above), the short-term duration of the petroleum activity and the application of industry-standard control measures, the additive and cumulative effects to marine users can reasonably be expected to be negligible. No change to the overall consequence level is expected.

ALARP decision context justification

The installation of subsea infrastructure and the use of vessels are commonplace and well-practised nationally and internationally. The control measures to manage the risks associated with unplanned interactions with other marine users are well defined and understood by the industry.

During relevant persons consultation, a claim was raised regarding the risk of vessel collision within designated shipping fairways, notification requirements with AMSA and AHO and anti-collision measures. This claim was responded to by CAPL (see summary in 'external context' below and within appendix d.

The risks arising from the physical presence of subsea infrastructure and support vessels to other marine users are considered lower-order risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Relevant persons consultation—Ongoing consultation (notifications)	Communicating the activity details, location, requested safety exclusion area (i.e. 500 m radius buffer around the vessels undertaking installation activities), and presence of vessels to other marine users ensures they are informed and aware, thereby reducing the risk of unplanned interactions. In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) relevant persons that have requested ongoing notifications will also be notified of the commencement and completion of the petroleum activity (Table 8-5).
Maritime safety information	Maritime safety information, such as AUSCOAST navigational warnings, are issued by the Joint Rescue Coordination Centre (JRCC) Australia, part of AMSA. Under the *Navigation Act 2012* (Cth), the AHO is also responsible for maintaining and disseminating navigational charts and publications, including providing safety-critical information to mariners (including any

	change to prohibited/restricted areas, obstructions to surface navigation, etc.) via the Notice to Mariners system. Notice to Mariners can be permanent or temporary notifications. Maritime safety information (radio-navigation warnings and/or Notice to Mariners) will be issued; thus, enabling other marine users to also safely plan their activities.
Marine Standard	*Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) ensures that various legislative and Chevron requirements and activities necessary for safe, reliable, and efficient marine services are met. These requirements include ensuring that crew meet the minimum competency requirements for safely operating a vessel.
Watchkeeping	Marine Order 28—Operations standards and procedures sets out requirements and responsibilities for vessel crew, including watchkeeping standards.
Vessel lights and signals	Marine Order 30—Prevention of collisions and Section 176 of the *Navigation Act 2012* (Cth) gives effect to the COLREGS, which has lighting and signal requirements for vessels. These requirements include the use of appropriate lights and shapes to reflect the nature of vessel activities (e.g. restricted in the ability to manoeuvre, vessels underway, etc.). These requirements ensure other marine users in the vicinity are aware of the nature of the vessel activities.
Automatic identification system (AIS)	Marine Order 27—Safety of navigation and radio equipment sets out requirements for safe navigation, radio equipment and communications. The AIS is a maritime communications device, and AIS equipped vessels (shipborne AIS) can use it to send and receive identifying information. This identifying information can be displayed on an electronic chart, computer display, chart plotter or compatible navigation radar. As such, this identifying information can: • aid in situational awareness • provide a means to assist in collision avoidance.
Control of Work (CoW) process	CAPL's CoW process (Ref. 35) ensures that workplace safety and health hazards are assessed and managed. The work authorisation system is part of this process and includes simultaneous operations (SIMOPS) and hazard analysis. Where required under the CoW process, a SIMOPS Plan will be developed to identify and manage hazards arising from the activity and other CAPL planned petroleum activities when occurring within the same area (refer to Table 7-2).
Concurrent operations plan (COP)	Where required, a COP (or equivalent) will be developed to identify and manage hazards arising from the activity and other planned non-CAPL petroleum activities when occurring within the same area. No potential for concurrent (non-CAPL) petroleum activities have been identified within the OA at this stage, however if a COP is required to be developed because ongoing consultation with other operators identifies concurrent operations, it will be in place prior to the activities under this EP commencing.

Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A

Likelihood and risk level summary	
Likelihood	Due to the nature and scale of vessel activities within the scope of this EP, the slow-moving nature of vessels within the OA, and the limited area of operation, the likelihood of interaction with other marine users is considered low. Interaction with subsea infrastructure is expected to be limited based on operational experience. As such, CAPL consider that the likelihood of the consequence occurring is Unlikely (4).
Risk level	Very low (9)

<table>
<tr><th colspan="3">Determination of acceptability</th></tr>
<tr><td>Principles of ESD</td><td colspan="2">The risks associated with this aspect are associated with unplanned interactions causing incidental disruption to other marine users, which is not considered as having the potential to affect biological diversity and ecological integrity.
The consequence associated with this aspect is Incidental (6).
Therefore, no further evaluation against the Principles of ESD is required.</td></tr>
<tr><td rowspan="4">Relevant environmental legislation and other requirements</td><td colspan="2">Legislation and other requirements considered relevant for this aspect include:
• Navigation Act 2012 (Cth).
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.</td></tr>
<tr><td>Requirement</td><td>Demonstration</td></tr>
<tr><td>Navigation Act 2012 (Cth)
Notice to Mariners</td><td>Requirement to issue a Notice to Mariners has been incorporated into the maritime safety information control measure.</td></tr>
<tr><td>Navigation Act 2012 (Cth)
Use of lights and signals as per COLREGS and Marine Order 30</td><td>Requirement to exhibit appropriate lights and signals to reflect the nature of vessel operations has been incorporated into the vessel lights and signals control measure.</td></tr>
<tr><td>Navigation Act 2012 (Cth)
Use of AIS as per Marine Order 27</td><td>The use of shipborne AIS has been incorporated into the automatic identification system control measure.</td></tr>
<tr><td>Internal context</td><td colspan="2">These CAPL management processes or procedures were deemed relevant for this aspect:
• Chevron Marine Standard Non Tankers: Corporate OE Standard (Ref. 63)
• ABU Operations Process: Control of Work Manual (Ref. 67).
Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</td></tr>
<tr><td>External context</td><td colspan="2">During relevant persons consultation, a claim regarding risk of vessel collision within designated shipping fairways, notification requirements to AMSA and AHO and anti-collision measures was received (appendix d). CAPL provided a response that confirmed:
• the OA (and therefore planned vessel activities) intersects with one NWS shipping fairway and this activity has a duration of one day
• notifications to AMSA and AHO are included within standard control measures (refer to ‘maritime safety information’ control) and notification requirements (refer to Table 8-5).
• Vessel collision controls are standard with EPs and are already contained within the EP.
No further objections or claims were raised regarding interaction with other marine users arising from the activity.</td></tr>
<tr><td>Defined acceptable level</td><td colspan="2">These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</td></tr>
</table>

Environmental performance outcome	Environmental performance standard	Measurement criteria
(EPO 1) Other marine users are aware of the petroleum activity	**(EPS 1.1) Relevant persons consultation—Ongoing consultation (notifications)** Relevant persons that have requested notifications will be advised of the commencement and expected completion dates	(MC 1.1.1) Relevant persons consultation records
	(EPS 1.2) Maritime safety information Notify relevant agency of activities, vessel movements, and requested safety exclusion zone, to enable them to generate radio-navigation warnings and/or Notice to Mariners prior to commencing offshore activities	(MC 1.2.1) Record of lodgement of notification to relevant agency
	(EPS 1.3) Marine Standard Vessels will meet the crew competency, navigation equipment, and radar requirements of the Marine Standard	(MC 1.3.1) Records indicate that vessels meet the crew competency, navigation equipment, and radar requirements of the Marine Standard
	(EPS 1.4) Watchkeeping Vessels will implement watchkeeping standards in accordance with Marine Order 28	(MC 1.4.1) Records indicate that watchkeeping was undertaken in accordance with the requirements of Marine Order 28 during the petroleum activity
	(EPS 1.5) Vessel lights and signals In accordance with regulatory requirements, vessels will implement light and signals appropriate to the nature of their operations	(MC 1.5.1) Records indicate that vessel lights and signals were consistent with the requirements of COLREGS and the *Navigation Act 2012* (Cth) during the petroleum activity
	(EPS 1.6) Automatic identification system Vessels will use shipborne AIS during the petroleum activity	(MC 1.6.1) Records indicate that shipborne AIS was used by the vessel/s during the petroleum activity
(EPO 2) Reduce disruption to other titleholders' petroleum activities within the OA from vessel activity associated with the petroleum activity	**(EPS 2.1) CoW process** CAPL will develop and implement SIMOPS Plan(s) to manage the activity and other planned CAPL petroleum activities that occur within the OA	(MC 2.1.1) Records indicate that if other CAPL activities within the OA are identified, a SIMOPS Plan will be developed and in place before the activity commences
	(EPS 2.2) Concurrent operations plan Where required, CAPL will develop and implement a COP (or equivalent) to manage the activity and other planned non-CAPL petroleum activities within the OA	(MC 2.2.1) Records indicate that if other concurrent non-CAPL activities within the OA are identified, a COP will be developed and in place before the activity commences

7.2 Physical presence—marine fauna

Source

Activities identified as having the potential to result in an interaction with marine fauna are:

- Installation and IMR activities such as surveys, installation of the umbilical and flying leads, structures or foundations, crossing preparations and span rectification
- field support—temporary (short-term) presence of vessels and helicopters within the OA during installation or IMR activities.

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	Unplanned interactions with marine fauna may result in: • injury or death of marine fauna	5

Consequence evaluation

Injury or death of marine fauna

Surface-dwelling fauna are the species most at risk from this aspect and are the focus of this evaluation. As identified in Section 4.3.3, several marine species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the OA. Several BIAs or HCTS of a species also overlap within the OA, including:

- Pygmy Blue Whale (migration BIA)
- Flatback Turtle (internesting buffer BIA, internesting HCTS of a species)
- Whale Shark (foraging BIA).

A review of the documents made or implemented under the EPBC Act for all turtle, shark and cetacean species likely to be present within the OA (i.e. Flatback Turtle, Green Turtle, Hawksbill turtles [Ref. 83], Whale Sharks [Ref. 314], Fin Whale [Ref. 313], Sei Whale [Ref. 312], Blue Whale [Ref. 139], Australian Snubfin Dolphin [Ref. 113] and Australian Humpback Dolphin [Ref. 121]) indicates that either vessel disturbance or interaction (such as collisions) as a key threat to the recovery of these species.

For cetacean species that may be present within the OA, these documents indicate that management actions are limited to reporting of incidents via the national database (refer to the identified control measures) and ensuring that the risk of vessel strike is assessed (see the following text below).

Cetaceans are naturally inquisitive marine mammals that are often attracted to offshore vessels and facilities. The reaction of whales to the approach of a vessel is quite variable. Some species remain motionless when near a vessel, while others are curious and often approach vessels that have stopped or are slow moving, although they generally do not approach, and sometimes avoid, faster-moving vessels (Ref. 284).

The *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 139) indicates that although all forms of vessels can collide with whales, severe or lethal injuries are more likely to occur by larger or faster vessels. Laist et al. (Ref. 216) found that larger vessels with reduced manoeuvrability moving >10 knots may cause fatal or severe injuries to cetaceans, with the most severe injuries caused by vessels travelling >14 knots. Laist et al. (Ref. 216) showed that high speed vessels travelling >14 knots, were involved in 15% of the 40 accounts of ship strikes reported worldwide. Given that vessels will be stationary or slow moving (<5 knots) whilst undertaking the activities within the scope of this EP, any interaction with marine fauna would not be expected to cause severe injuries.

The OA overlaps with the migration BIA for Pygmy Blue Whales. Depending on specific activity timing, there is the potential for overlaps with the predicted migration periods. However, it is expected based on satellite tracking and acoustic detection studies that Pygmy Blue Whales are likely to travel predominantly to the north-west of the OA in deeper waters, particularly on their southern migration (peak period November to December), but also during the northern migration (peak period May to June) (Section 4.3.3.1.2).

There have been few recorded instances of cetacean deaths in Australian waters. Mackay et al. (Ref. 222) report that four fatal and three non-fatal collisions with Southern Right Whales were recorded in Australian waters between 1950 and 2006, with one fatal and one non-fatal collision reported between 2007 and 2014. The death of a Bryde's Whale in Bass Strait in 1992 (Ref. 327)

was also recorded, noting this data indicates deaths are more likely to be associated with container ships and fast ferries.

The *Recovery Plan for Marine Turtles in Australia* (Ref. 83) identifies vessel disturbance as a key threat; however, it also notes that this is particularly an issue in shallow coastal foraging habitats, internesting areas with high numbers of recreational and commercial craft, or in areas of marine development. The OA for this EP occurs in Commonwealth waters (at its shallowest the OA is ~115 m water depth, and ~55 km from nearest coast), and is not within an area of high vessel usage or large coastal (e.g. ports) developments. The part of the OA that intersects the HCTS for Flatback turtles is associated with the UTA installation adjacent to the Gorgon CDU (Section 3.2.3).

The Recovery Plan (Ref. 83) defines the internesting HCTS of a species as a distance seaward from nesting HCTS of a species as 60 km for Flatback Turtles (Ref. 83). Recent studies (Ref. 329) have indicated that the internesting behaviour of Flatback Turtles on the NWS appears more spatially restricted than that suggested by the Recovery Plan (Ref. 83). Whittock et al. (Ref. 329) reported that Flatback Turtles preference habitats within proximity of the coast and at relatively shallow depths during the internesting periods. Unsuitable Flatback Turtle internesting habitat was defined as waters >25 m deep and >27 km from the coast (Ref. 329). This suggests that although the OA does overlap with some internesting HCTS, due to the OA being located offshore in water depths of >115 m, and given that Flatback Turtle nesting occurs on the east coast beaches of Barrow Island (Ref. 43) (i.e. opposite side of the island to the OA), the OA is not likely to provide preferred internesting habitat for this species.

A review of the documents made or implemented under the EPBC Act for Whale Sharks indicate that management actions should consider minimising offshore developments and transit time of large vessels in areas close to marine features likely to correlate with whale shark aggregations (Ningaloo Reef, Christmas Island and the Coral Sea).

Whale Sharks are known to spend considerable time close to the surface increasing their vulnerability to vessel strike. Whale sharks tagged off WA (Ref. 331, Ref. 179) spent ~25% of their time <2 m from the surface and >40% of their time in the upper 15 m of the water column. Spending such considerable time within 15 m of the surface leaves them vulnerable to collision with smaller vessels as well as larger commercial vessels that have drafts greater than 20 m below the surface. On the basis that vessel activities are minimised to the smallest practicable extent (as also driven by economic considerations), the high-density foraging BIA is not located within the OA (Ningaloo Reef is >150 km away), and the nature and scale of vessel operations over the course of this EP are limited, the activity is considered to be consistent with all relevant management actions.

Dugongs occur throughout the shallow waters between the Pilbara offshore islands and the mainland, and are generally associated with seagrass meadows (Ref. 29). Dugongs are known to occur around the islands of the Rowley Shelf such as Barrow Island, the Lowendal Islands and the Montebello Islands (Ref. 29); however dugong populations are known to be greater in Exmouth Gulf or Shark Bay than around the offshore islands (Ref. 29; Ref. 280; Ref. 279). Studies in Queensland showed that dugongs spend around 47% of their time within ~1.5 m of the surface including ~3.5% resting at the surface (Ref. 192; Ref. 82). As such, similar to Whale Sharks, this high proportion of time within surface waters makes dugongs vulnerable to vessel strikes. In addition, there is evidence to suggest that dugongs fail to flee or evade the approach of fast moving vessels until an interaction is unavoidable (Ref. 182; Ref. 82). Collision with vessels has been identified as a pressure ‘of potential concern’ within the NWMR, however it is noted that this risk is greatest in shallow nearshore waters and vessels operating at higher speeds (Ref. 154).There are no known major seagrass meadows along the west coast of Barrow Island (Ref. 36) that are likely to be critical feeding habitats for dugong and therefore any presence within the OA (~55 km off the coast of Barrow Island) is expected to be intermittent and transitory.

The threatened Short-nosed Seasnake or Leaf-scaled Seasnake are not expected to be present within the OA given known habitat preferences for shallow water and reef habitat; vessel strike has also not been identified as a threat for either species (Ref. 151; Ref. 152). Other EPBC marine listed seasnake species may occur in broader habitats within the NWMR, and collision with vessels has been identified as a pressure ‘of less concern’ (Ref. 155).

Vessels within the OA will be stationary or slow-moving (<5 knots) whilst implementing the activities within the scope of this EP. Consequently, incidences of fauna strike are not expected considering the slow vessel speed, the low number of vessels within the OA at any one time and that vessel strikes are relatively uncommon.

Nevertheless, if a fauna strike occurred and resulted in death, it is not expected to have a detrimental effect on the overall population; this event would result in a limited environmental impact (individual impacts); thus, a fauna strike is evaluated as having the potential to result in an Minor (5) consequence.

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. These activities include IMR activities, installation and start-up of the J–IC infrastructure, potential drilling and well intervention activities at Gorgon and Jansz (Ref. 61, Ref. 70, Ref. 42, Ref. 59). The details of the relevant vessel operations, including fleet composition, numbers and duration, are provided in Table 7-2. Therefore, there is potential for cumulative marine fauna interactions within the OA.

The OA overlaps three known marine fauna BIAs—Flatback Turtle (internesting buffer), Pygmy Blue Whale (migration) and Whale Shark (foraging)—the BIAs are not restricted to the OA, and neither are migratory pathways, foraging areas and interesting habitats. There is one known HCTS of a species (flatback turtle) within the OA, however based on the water depth and proximity to nesting beaches, the OA is considered unsuitable for internesting. Vessels will be limited and stationary or slow moving while undertaking the activities within their respective OAs. As such, any interaction with transient marine fauna is expected to be infrequent and isolated to transiting individuals. Concurrent activities are not expected to significantly increase additive or cumulative effects to marine fauna

Therefore, no change to the overall consequence level is expected.

ALARP decision context justification

Offshore commercial vessel operations are commonplace and well-practised nationally and internationally. The control measures to manage the risk associated with fauna strike are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.

During relevant persons consultation, no objections or claims were raised regarding the interaction with marine fauna arising from the activity.

The risks arising from the physical presence of vessels are considered lower-order risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Marine fauna caution, approach and separation distances	For vessels under transit within the OA, the following caution, approach, or separation distances (and associated vessel speeds) will be maintained by the vessels: • caution and no approach zones for cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth) • separation distance of 30 m for whale sharks and 100 m for dugongs (as described in the Biodiversity Conservation Regulations 2018 [WA]) • separation distance of 30 m for marine turtles • vessels must operate at ≤6 knots within caution zones or when moving away to maintain a no-approach zone or separation distance. For helicopters under transit within the OA, the following marine fauna interaction requirements will be maintained by the helicopters: • height and distance from cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth) • separation distance of 500 m for whale sharks, dugongs, and marine turtles.

Additional control measures and cost benefit analysis

Control measure	Benefit	Cost
Petroleum activity schedule—Adjust to reduce likelihood of presence of EPBC listed threatened	By altering the timing of the petroleum activity to reduce overlap with the predicted seasonal presence of protected marine fauna within the OA may	N/A

and/or migratory species	consequently reduce the likelihood (and residual risk) of an unplanned interaction occurring. However, as shown in Table 4-15, activities during any month of the year will result in overlap with predicted presence of protected marine fauna, and therefore avoidance of all seasonal sensitivities is not possible.	
Petroleum activity schedule—Adjust to avoid turtle nesting period	Flatback Turtles nest on the east coast of Barrow Island (Ref. 43), with peak nesting periods predicted between November to January (Table 4-15). While the OA does overlap with an internesting HCTS for the Flatback turtle, it is considered that internesting behaviour is likely to occur closer to shore and in shallower water depths than those within the OA (Section 4.3.3.2.1). Scheduling the petroleum activity to avoid the predicted peak turtle nesting season on Barrow Island would result in the petroleum activity coinciding with predicted peak periods for other marine fauna (e.g. migration for cetaceans, fledging of seabirds) (Table 4-14). Given the low number of vessels within the OA (and particularly within the OA nearest to Barrow Island), and preferred types of internesting habitats for marine turtles being located outside of the OA, any change to the approximate activity schedule (Table 3-1) is not expected to result in a reduction of residual risk level.	The cost of implementing temporal schedule restrictions is considered grossly disproportionate to the negligible environmental benefit (and no change in residual risk) they may provide for marine turtles. Therefore, the control measure has not been adopted for use.
Vessel speed restrictions within the OA	Vessel speeds within the OA are restricted to 10 knots or less to reduce the likelihood and consequence of fauna collisions by allowing more time for avoidance. This conservative control measure is consistent with the National Oceanic and Atmospheric Administration's (NOAA) seasonal speed restrictions along the U.S. eastern seaboard, which has demonstrated a >80% reduction in whale strike risk and mortality (Ref. 85). Although vessel speeds in the OA are typically low and unlikely to result in significant impacts, this restriction further mitigates potential risks.	Reduced vessel speeds may increase activity duration and overall costs. However, the benefit of reducing the likelihood and consequence (causing harm) of collisions with marine fauna is considered to outweigh the scheduling and financial impacts from not implementing this control. Therefore, the control measure has been adopted for use.

Bridge-watch marine fauna observations—Vessels under transit	In recognition of the potential temporal and spatial overlap of predicted peak presence of EPBC Act listed threatened and/or migratory species (refer to Table 4-15), marine fauna observations from the bridge-watch crew on the vessels will be used while the vessels are in transit within the OA. These observations are not intended as a dedicated marine fauna observer (MFO) role, as bridge-watch crew will also be required to fulfil their primary responsibilities onboard the vessel. However, any observations will assist in reducing the risk of unplanned vessel strikes. The following will be implemented (irrespective of activity timing) while in transit within the OA: • where practicable (given primary crew duties), the bridge-watch from the vessel/s will record observations for marine fauna within their field-of-view • if marine fauna are observed within the bridge-watch field-of-view, the vessel will continue to monitor the presence and movement of the marine fauna • if the marine fauna comes within the nominated separation distance, the vessel will where practicable, implement a mitigation manoeuvre (e.g. divert or slow) if considered operationally safe and viable to do so.	No additional personnel costs. However, the detection of marine fauna may lead to increased activity duration and overall costs due to transit deviations (e.g. to maintain caution zones, no approach zones, or separation distances; or to avoid potential collision with observed marine fauna). However, the benefit of reducing impacts to marine fauna is considered to outweigh the financial costs from not implementing this control. Therefore, the control measure has been adopted for use.
Likelihood and risk level summary		
Likelihood	Due to the nature and scale of vessel activities within the scope of this EP, the slow-moving nature of vessels within the OA, and the limited area of operation, the likelihood of a vessel collision with marine fauna is considered low. Based upon previous operating experience in the OA, CAPL consider that the likelihood of the consequence occurring is Unlikely (4).	
Risk level	Low (8)	
Determination of acceptability		
Principles of ESD	The risks associated with this aspect are associated with unplanned interactions causing minor disruption to individual marine fauna, which is not considered as having the potential to affect biological diversity and ecological integrity. The consequence associated with this aspect is Minor (5).	

<table>
<tr><td></td><td colspan="2">Therefore, no further evaluation against the Principles of ESD is required.</td></tr>
<tr><td>Relevant environmental legislation and other requirements</td><td colspan="2">Legislation and other requirements considered relevant for this aspect include:
EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans
Conservation Management Plan for the Blue Whale 2015–2025 (Ref. 139)
Conservation Advice Balaenoptera borealis Sei Whale (Ref. 312)
Conservation Advice Balaenoptera physalus Fin Whale (Ref. 313)
Conservation Advice Rhincodon typus Whale Shark (Ref. 314)
Conservation Advice for Sousa sahulensis (Australian Humpback Dolphin) (Ref. 121)
Conservation Advice for Orcaella heinsohni (Australian Snubfin Dolphin) (Ref. 113)
Recovery Plan for Marine Turtles in Australia (Ref. 83)
Approved Conservation Advice for Dermochelys coriacea (Leatherback Turtle) (Ref. 131)
Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) (Ref. 151)
Conservation Advice for Pristis pristis (Largetooth sawfish) (Ref. 344)
National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (Ref. 82).
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.</td></tr>
<tr><td></td><td>Requirement</td><td>Demonstration</td></tr>
<tr><td></td><td>EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans
Caution and no approach zones for interacting with cetaceans from vessels</td><td>Requirements of regulation 8.05 and 8.06 for vessels interacting with cetaceans has been incorporated into the Marine fauna caution, approach and separation distances control measure.</td></tr>
<tr><td></td><td>Conservation Management Plan for the Blue Whale 2015–2025
Management action A.4.2: Ensure all vessel strike incidents are reported in the National Ship Strike Database
Management action A.4.3: Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented</td><td>Requirements to report vessel strike incidents is included in Section 8.4.2.
This section provides a risk evaluation for vessel strikes on Blue Whales, and control measures have been identified.
Therefore, this activity is not considered to be inconsistent with the Conservation Management Plan for the Blue Whale.</td></tr>
<tr><td></td><td>Conservation Advice Balaenoptera borealis Sei Whale
Conservation action: Ensure all vessel strike incidents are reported in the National Vessel Strike Database</td><td>Requirements to report vessel strike incidents is included in Section 8.4.2.
Therefore, this activity is not considered to be inconsistent with the Conservation Advice Balaenoptera borealis Sei Whale.</td></tr>
</table>

	Conservation Advice Balaenoptera physalus Fin Whale Conservation action: Ensure all vessel strike incidents are reported in the National Vessel Strike Database	Requirements to report vessel strike incidents is included in Section 8.4.2. Therefore, this activity is not considered to be inconsistent with the Conservation Advice Balaenoptera physalus Fin Whale.
	Conservation Advice Rhincodon typus Whale Shark Conservation action: Minimise offshore developments and transit time of large vessels in areas close to marine features likely to correlate with whale shark aggregations (Ningaloo Reef, Christmas Island and the Coral Sea) and along the northward migration route that follows the northern Western Australian coastline along the 200 m isobath	The OA is outside of whale shark aggregation areas (i.e. Ningaloo Reef, Christmas Island and the Coral Sea). This activity has the potential to overlap the northward migration (July to November) period. As such, transient whale sharks may be present within the OA. Based on both environmental and economic considerations, vessel activities are minimised to the smallest practicable extent. Therefore, this activity is not considered to be inconsistent with the *Conservation Advice Rhincodon typus Whale Shark*.
	Conservation Advice for Sousa sahulensis (Australian Humpback Dolphin) No specific conservation action identified.	N/A
	Conservation Advice for Orcaella heinsohni (Australian Snubfin Dolphin) No specific conservation action identified.	N/A
	Recovery Plan for Marine Turtles in Australia No specific management action identified.	N/A
	Approved Conservation Advice for Dermochelys coriacea (Leatherback Turtle) No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) No specific conservation action identified.	N/A
	Conservation Advice for Pristis pristis (Largetooth sawfish) *No specific conservation action identified.*	N/A
	National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna No specific action identified.	N/A

<table>
<tr><td>Internal context</td><td colspan="2">No management processes or procedures were deemed relevant for this aspect.</td></tr>
<tr><td>External context</td><td colspan="2">No objections or claims were raised regarding interaction with marine fauna arising from the activity.</td></tr>
<tr><td>Defined acceptable level</td><td colspan="2">These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.
However, in alignment with Section 5.7.2, given that vessel strike is listed as a threat to protected matters under documents made or implemented under the EPBC Act, CAPL has defined an acceptable level of impact such that it is not inconsistent with these documents. Objectives of the relevant documents are shown below
<table>
<tr><th>Plan</th><th>Objective</th></tr>
<tr><td>Conservation Management Plan for the Blue Whale 2015–2025</td><td>Recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.
Interim objective 4 Anthropogenic threats are demonstrably minimised.</td></tr>
<tr><td>Recovery Plan for Marine Turtles in Australia</td><td>Recovery objective: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.
Interim objective 3: Anthropogenic threats are demonstrably minimised.</td></tr>
</table>
Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:
• impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species
CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</td></tr>
<tr><th>Environmental performance outcome</th><th>Environmental performance standard</th><th>Measurement criteria</th></tr>
<tr><td rowspan="3">(EPO 3) No injury or mortality to marine fauna within the OA from vessel activities associated with the petroleum activity</td><td rowspan="3">(EPS 3.1) Marine fauna caution, approach and separation distances
For vessels under transit within the OA, the following caution, approach, or separation distances (and associated vessel speeds) will be maintained by the vessels:
• caution and no approach zones for cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth)</td><td>(MC 3.1.1) Induction materials include relevant marine fauna caution and no approach zone requirements</td></tr>
<tr><td>(MC 3.1.2) Training records confirm offshore personnel involved in activities have completed the induction</td></tr>
<tr><td>(MC 3.1.3) Vessel marine fauna sighting records show if marine fauna interaction occurred within caution or approach zones, and what mitigation (e.g. divert or slow vessel) measure was implemented</td></tr>
</table>

	• separation distance of 30 m for whale sharks and 100 m for dugongs (as described in the Biodiversity Conservation Regulations 2018 [WA]) • separation distance of 30 m for marine turtles • vessels must operate at ≤6 knots within caution zones or when moving away to maintain a no-approach zone or separation distance. For helicopters under transit within the OA, the following marine fauna interaction requirements will be maintained by the helicopters: • height and distance from cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth) • separation distance of 500 m for whale sharks, dugongs, and marine turtles	(MC 3.1.4) Helicopter records show if marine fauna interaction occurred, and what mitigation (e.g. divert) measure was implemented
	(EPS 3.2) Vessel speed restrictions within the OA Vessel speeds within the OA will be limited to ≤10 knots to reduce the likelihood and consequence of collisions with marine fauna	(MC 3.2.1) Induction materials include detail speed limit requirements
		(MC 3.2.2) Training records confirm personnel involved in offshore vessel activities have completed the induction
	(EPS 3.3) Bridge-watch marine fauna observers—Vessels under transit When vessels are under transit within the OA: • where practicable (given primary crew duties), the bridge-watch from the vessel/s will record observations for marine fauna within their field-of-view • if marine fauna are observed within the bridge-watch field-of-view, the vessel will continue to monitor the presence and movement of the marine fauna • if the marine fauna comes within the nominated separation distance, the vessel will where practicable, implement a mitigation manoeuvre (e.g. divert or slow) if considered operationally safe and viable to do so	(MC 3.3.1) Induction records show vessel bridge-watch crew were provided with marine fauna observations and reporting guidelines
		(MC 3.3.2) Records show that marine fauna observations were undertaken by bridge-watch crew when vessels are under transit within the OA
		(MC 3.3.3) Vessel marine fauna sighting records show if marine fauna were observed when vessel was under transit what mitigation (e.g. divert or slow vessel) measure was implemented

7.3 Seabed disturbance

Source

Activities identified as having the potential to result in seabed disturbance within the OA are:

- installation—permanent presence of the umbilical and associated subsea infrastructure and span rectification
- installation—contingency temporary umbilical and acoustic positioning equipment lay down
- IMR—as required by maintenance activities (e.g. span rectification)
- field support—contingency anchoring by vessels and wet parking of ROVs.

Potential impacts and risks

Impacts	C	Risks	C
Seabed disturbance may result in: • localised and temporary reduction in water quality • alteration of benthic communities and habitats	6 4	Seabed disturbance may result in: • changes to tangible cultural heritage values	5

Consequence evaluation

Localised and temporary reduction in water quality

The petroleum activities within scope of this EP will result in a localised and temporary reduction of water quality. However, the area of increased suspended sediment in the water column is likely to be localised around the physical seabed disturbance points (e.g. installation of infrastructure). After the activities are completed, sediments will settle back to the seabed and water quality will return to background levels.

Dredging for both the Gorgon and Wheatstone projects and rock placement along the Wheatstone Trunkline and portions of the Gorgon and Jansz feed gas pipelines have previously been undertaken. Dredging for the Gorgon Project moved ~7 million m^3 of sand and calcrete material, while the Wheatstone Project moved ~31 million m^3 of sand and underlying rock. Both projects described alterations to water quality as a result of dredging (Ref. 303). In particular, turbidity monitoring programs implemented during trenching activities for the Wheatstone Project indicated that a turbid plume may be evident up to ~70 m from the trench area, depending on environmental conditions. However, within two hours of ceasing trenching operations, the turbidity level had returned to background or very close to background level (Ref. 75, Ref. 76).

The nature and scale of the seabed disturbance for the petroleum activity covered by this EP is significantly smaller than that of the previous dredging and trenching programs, where water quality demonstrated rapid recovery after seabed disturbance. Therefore, the turbidity resulting from the described activities is not expected to result in any significant environmental impacts.

Consequently, CAPL believes that the change in water quality from the activities covered in this EP is limited to a localised area and is expected to rapidly return to ambient conditions following completion of the activities; therefore, any impacts are Incidental (6).

Alteration of benthic communities and habitats

Benthic communities and habitats may be altered via physical disturbance or indirectly by the temporary increase in suspended sediment near the seabed as a result of the physical seabed disturbance.

The petroleum activities are expected to result in disturbance to the seabed within the vicinity of existing subsea infrastructure. The umbilical will be installed within close proximity to existing infrastructure and areas previously disturbed as part of the Gorgon development (Figure 3-1). The area of benthic communities and habitat physically disturbed for the petroleum activities is confined to within the OA (~193 km^2), with total estimated disturbance footprint of ~0.5 km^2 representing <0.3% of the OA.

The particular values and sensitivities within the OA with the potential to be impacted by seabed disturbance include the following KEFs (Figure 4-11):

- Ancient coastline at 125 m depth contour
- Continental slope demersal fish communities.

Although KEFs were identified as having the potential to be exposed, any planned disturbance would be in close proximity of existing infrastructure (as the intersection between the KEFs and the OA).

As described in Section 4.3.1.1, the benthic habitats within the OA comprise unvegetated and soft sediments within deeper areas, and sands, clays, or gravels overlying subcropping cemented sediments in the shallower waters. The only area identified as a high likelihood of biota being present was some patches over the scarp. Recent surveys indicated that habitat within the Ancient coastline at 125 m depth contour KEF in proximity to the OA consisted of smooth seabed with bioturbation and appeared devoid of biota (Ref. 4; Table 4-17), and as such any potential impact to hard substrates within the KEF is not expected to occur. Similarly habitat within the Continental slope demersal fish communities KEF in proximity to the OA comprise irregular and smooth seabed with bare substrates, discrete depressions of bare substrate, and scarps with bare substrate, were the most dominant benthic features (Ref. 262; Table 4-17).

Impacts of increased turbidity on marine organisms as a result of dredging were extensively examined by CAPL during construction phases of the Gorgon and Wheatstone projects. Specifically, dredging for both projects and rock placement along the Wheatstone Trunkline and portions of the Gorgon and Jansz feed gas pipelines have been undertaken, and extensive monitoring programs were implemented that tracked changes in water quality and organism response. Both projects described alterations to water quality as a result of dredging (Ref. 303). However, neither project detected any significant impacts of dredging and altered water quality on coral assemblages (coral cover of whole assemblage), nor on non-coral assemblages including filter feeder (sponges cover etc.), macroalgae (cover), and seagrass (cover, seed, and shoot density). Turbidity monitoring programs implemented during construction activities indicated plumes were highly localised and resulted in only short-term exposures (Ref. 75, Ref. 76, Ref. 33). Post-installation monitoring indicated no changes to benthic habitats above natural variation (Ref. 33).

Physical presence of anthropogenic structures on the seabed is known to provide hard substrate that can provide habitat for algae, fish, and invertebrates (Ref. 319). Analysis of habitats on wellheads and associated infrastructure in water depths of 78–825 m on the NWS indicates that the presence of fish assemblages and invertebrate habitats were strongly influenced by depth, age and height of the structures (Ref. 234). Older, taller wellheads in depths <135 m possessed greater abundances of groupers, snappers, site-attached reef species, and transient pelagic fish species (Ref. 234). Beyond 350 m depth, the number of species and total fish abundance declined markedly, as did the percent cover of invertebrates (e.g. ascidians, black/octocorals, sponges) (Ref. 234). A review of ROV video footage recorded between 2015 and 2018 along the Jansz pipeline in water depths ~737–1,348 m also indicated some spatial differences in assemblage between non-infrastructure and infrastructure sites, with greater overall abundances, species richness, and species diversity generally associated with infrastructure (Ref. 22). The review also indicated a decrease in richness, abundance, and diversity with depth as found in other studies both in the north-west of WA and elsewhere (Ref. 22). Given the installation depths range from ~130 m to ~1,350 m, the infrastructure may provide a hard substrate for colonisation by benthic invertebrates and fish assemblages over time with a greater diversity and abundance at the shallower areas.

Given the nature of the receiving environment within the OA, ecosystem function or connectivity of communities is not expected to be affected. The installation and presence of subsea infrastructure is not expected to significantly adversely impact the existing benthic communities and habitats, and may potentially lead to the establishment of additional benthic communities (i.e. a change, albeit not considered a negative change). However, as the infrastructure is proposed to be left in place until EOFL, in accordance with the Integrated Risk Prioritization Matrix (Table 5-1), CAPL has ranked the consequence as Moderate (4).

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL and non-CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. These activities include IMR activities, installation and start-up of the J–IC infrastructure, and potential drilling and well intervention activities at Gorgon and Jansz (Ref. 61, Ref. 70, Ref. 42). Collectively, these activities will result in cumulative seabed disturbance, with an additional seabed footprint of ~1 km^2 (including contingency allowances) within the OA.

The benthic habitat in areas of planned seabed disturbance (i.e. soft sediment, typically unvegetated, and with low benthic invertebrate habitation) is widespread throughout the region. The concurrent activities also intersect the two KEFS—Ancient coastline at 125 m depth contour and Continental slope demersal fish communities. However, the seafloor features associated with these KEFs were not observed within the OA during surveys. The turbidity generated during seabed disturbance activities is expected to be short-term and localised within the Activity OA.

As such the potential cumulative disturbance footprint (~1.5 km^2; comprising of ~0.5 km^2 from this activity and ~1.0 km^2 from other petroleum activities that intersect the OA) is highly localised, expected to recover, and not expected to affect ecosystem function or connectivity of communities. Therefore, these activities are not expected to significantly increase the additive or cumulative effects.

Therefore, no change to the overall consequence level is expected.

Changes to tangible cultural heritage values

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6), and no protected UCH[26] sites or artefacts have been identified within the OA (Section 4.6.2). Therefore, no impacts to known protected seabed-based UCH (e.g. shipwrecks or archaeology), including First Nations UCH, are expected to occur.

Given known sea level history, the southern outermost extent of the of the OA (i.e. areas in water depths <125 m) would have been emergent land during the extended history of First Nations occupation of Australia. However, planned infrastructure installation activities are located in water depths ≥130 m. At the time of writing, CAPL understands through consultation with the relevant First Nations people and/or representative bodies that there are no known artefacts or specific sites of cultural value associated with the seabed within the OA. As such, planned seabed disturbance within the OA is not expected to result in significant adverse impacts to tangible heritage features.

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. It is understood that the term 'Country' refers to more than just a geographical area, and includes values, places, resources, stories, and cultural obligations associated with that geographical area (Ref. 299; Ref. 298). One of the specific tangible values of Sea Country identified through consultation was the ocean (Table 4-16)—consequence evaluations to related receptors (i.e. marine environmental quality, benthic communities and habitats) are provided above.

No impact pathway to a change in access to Country from planned seabed disturbance within the OA is anticipated. The consequence evaluation to benthic communities and habitats is provided above and was assessed as resulting in localised and minor environmental impacts. Further, as described in the above evaluation, changes to the benthic habitat within the disturbance footprint associated with seabed infrastructure is not expected to affect ecosystem function or connectivity.

Given the relatively small footprint associated with the petroleum activity (~0.5 km^2) and that it predominantly occurs within the vicinity of other existing infrastructure, a significant adverse change to cultural values attributed to the offshore marine area from planned seabed disturbance is not predicted to occur. As such, CAPL has ranked the consequence for cultural values as Minor (5).

ALARP decision context justification

Seabed disturbance from petroleum activities is commonplace; the activities causing this aspect are practised nationally and internationally. The control measures to manage the impacts associated with seabed disturbance are well understood and implemented by the industry.

During relevant persons consultation, no objections or claims were raised regarding seabed disturbance arising from the activity.

The impacts and risks associated with seabed disturbance are considered lower-order impacts and risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Pre-lay survey	As described in Section 3.2.2, a pre-lay survey of the umbilical route (or selected parts of the route) and mudmat foundation locations will be undertaken prior to installation works commencing. CAPL conducts pre-lay surveys to ensure that any uncertainty is mitigated before installing subsea infrastructure. These surveys detect obstructions such as emergent features, and where such obstructions are identified, the proposed installation location may be amended if practicable.

[26] Under Section 15 of the UCH Act, UCH is defined as "any trace of human existence that has a cultural, historical, or archaeological character, and is located under water".

Marine Standard	The *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) ensures that various legislative requirements are met including that vessels will meet the crew competency, navigation equipment, and radar requirements.
Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4), CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3). Ongoing consultation with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPL's understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.
First Nations UCH	As described in Section 4.3.5.2.1, there are no known First Nations artefacts or specific sites of cultural value associated with the seabed within the OA. CAPL acknowledge that the identification of First Nations UCH is an area of uncertainty, and as such, CAPL is committed to implementing an adaptive management process to ensure that impacts and risks associated with this receptor are continually reduced to ALARP and managed to acceptable levels. To address the uncertainty the following adaptive management process will be implemented: • implement ongoing consultation with First Nations people and/or representative bodies (as described in the above control measure) • if ongoing consultation identifies the presence of First Nations UCH or potential UCH is identified during the petroleum activity, then CAPL will undertake an MoC evaluation that will include a consideration of whether other data (e.g. archaeological survey) or additional control measures (e.g. use of buffers around underwater artefacts) are required to ensure that impacts and risks to UCH are being reduced to ALARP and managed to an acceptable level.
UCH Procedure	The Inadvertent Underwater Cultural Heritage Discovery Procedure (UCH Procedure) (Ref. 64) has been developed in alignment with the *Assessing and Managing Impacts to Underwater Cultural Heritage in Australian Waters guideline* (Ref. 108). The UCH Procedure will be implemented where there are activities interacting with the seabed with the risk of disturbing unlocated UCH. The UCH Procedure outlines how inadvertent discoveries of UCH (including First Nations UCH) are identified on site and responded to through adequate conservation and management actions. The UCH Procedure will identify actions to be taken should potential UCH be identified within the OA.

Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A

Likelihood and risk level summary	
Likelihood	Due to the limited area of seabed disturbance and the pre-disturbed nature of the OA, and with the control measures in place, the likelihood of impacts to cultural values from seabed disturbance is Rare (6).
Risk level	Very low (10)

Determination of acceptability		
Principles of ESD	The potential impacts associated with this aspect are limited to localised effects that are not expected to affect biological diversity and ecological integrity. The consequence associated with this aspect is Moderate (4). Therefore, no further evaluation against the Principles of ESD is required.	
Relevant environmental legislation and other requirements	CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.	
Internal context	These CAPL management processes or procedures were deemed relevant for this aspect: • Chevron *Marine Standard* Non Tankers: Corporate OE Standard (Ref. 63). Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
External context	No objections or claims were raised regarding seabed disturbance arising from the activity.	
Defined acceptable level	These impacts and risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 4) Reduce the risk of impacts to sensitive environmental receptors within the OA from petroleum activities	**(EPS 4.1) Pre-lay survey** Where pre-lay surveys are undertaken, if emergent seabed features or obstacles are present, the proposed infrastructure will be repositioned if practicable	(MC 4.1.1) Pre-lay surveys verify no emergent seabed features or obstacles are present at proposed infrastructure locations
		(MC 4.1.2) If emergent seabed features or obstacles are identified within the proposed infrastructure footprint during pre-lay surveys, records indicate that these have been repositioned where practicable
	(EPS 1.3) Marine Standard Vessels will meet the crew competency, navigation equipment, and radar requirements of the Marine Standard	(MC 1.3.1) Records indicate that vessels meet the crew competency, navigation equipment, and radar requirements of the Marine Standard
(EPO 5) No impacts to underwater cultural heritage values from the petroleum activity	**(EPS 5.1) Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)** Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective	(MC 5.1.1) Relevant persons consultation records

	engagement plan and/or consultation protocol	
	(EPS 5.2) Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies) If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation	(MC 5.2.1) As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA
	(EPS 5.3) First Nations UCH If ongoing consultation identifies the presence of, or potential for, First Nations UCH, then CAPL will undertake a MoC (Section 8.3.2.2) evaluation to determine what, if any, further actions are required to ensure that impacts and risks to UCH are being reduced to ALARP and managed to an acceptable level	(MC 5.3.1) Where required, records show that the MoC process was undertaken in response to any identified First Nations UCH
	(EPS 5.4) UCH Procedure CAPL will implement the UCH Procedure to identify and manage any potential UCH during the petroleum activity	(MC 5.4.1) Induction materials include relevant UCH requirements
		(MC 5.4.2) Training records confirm personnel involved in offshore vessel activities and/or ROV operations have completed the induction
		(MC 5.4.3) Records show if UCH (or potential UCH) were identified within the OA, and what conservation and management actions were implemented
	(EPS 5.5) UCH Procedure If First Nations UCH (or potential UCH) is identified during the petroleum activity, the finding is shared with the relevant First Nations representative bodies	(MC 5.5.1) Relevant persons consultation records
	(EPS 5.6) UCH Procedure Where required, UCH finds have been reported to the relevant agency (Table 8-13)	(MC 5.6.1) Record of lodgement of notification to relevant agency

7.4 Air emissions

Source
Activities identified as having the potential to result in air emissions: • field support—combustion of marine fuel from vessels or aviation fuel from helicopters, within the OA.

Potential impacts and risks			
Impacts	**C**	**Risks**	**C**
Generation of air emissions will result in: • a localised and temporary reduction in air quality • contribution to the reduction of the global atmospheric carbon budget	6 6	N/A	–

Consequence evaluation

Localised and temporary reduction air quality

Atmospheric emissions will result in a decline in local air quality, within the immediate vicinity of the emissions source (i.e. vessels). The spatial extent and duration of this localised change in air quality will vary with emission volume and frequency.

Atmospheric emissions generated during the combustion of fuels typically include sulfur oxides (SOx), nitrogen oxides (NOx), particulates, and volatile organic compounds (VOCs). SOx and particulate matter emissions are influenced by the fuel used and its relative sulfur content (e.g. MDO usually has a lower sulfur content than HFO).

The National Environment Protection (Ambient Air Quality) Measure (NEPM AAQ) establishes quantifiable standards and goals against which ambient air quality can be assessed. The NEPM AAQ is aimed at achieving ambient air quality that allows for the adequate protection of human health and wellbeing. However, in the absence of other standards, it is considered appropriate to use these standards as the criteria for comparison. Air emissions dispersion modelling undertaken for the Wheatstone Platform demonstrated the concentrations of NOx, carbon monoxide, particulate matter, and VOCs are predicted to be well below NEPM AAQ standards indicating there was no significant degradation of ambient air quality (Ref. 32).

Given the total volume of air emissions from an operational platform are expected to be much larger than those produced from vessels used during activities within scope of this EP, no significant degradation of the local air shed around the vessels is expected to occur. Therefore, CAPL has ranked the potential consequence to air quality as Incidental (6).

Contribution to the reduction of the atmospheric carbon budget (direct emissions)

One of the main principles of GHG accounting and reporting is relevance, of which an integral aspect is defining an appropriate GHG emissions inventory boundary (Ref. 336). CAPL has defined the emissions boundary for the assessment of direct GHG emissions in relation to the planned petroleum activity[27] within the OA as described in Section 3.1.1. Any unplanned events, including emergency events, have been excluded from the emissions inventory. The following activities have been identified as direct emission sources from planned activities under this EP:

- marine fuel combustion by vessels within the OA
- aviation fuel combustion by helicopters activities within the OA.

Any equipment (e.g. ROVs) used to support vessel-based activities are powered by the vessel itself, and as such these don't represent an additional emission source to that already accounted for by the vessel.

Based on the boundary and inventory described above, an estimate of direct GHG emissions from activities within this EP are estimated to be 0.005 Mtpa CO_2-e. These direct emissions represent ~0.0012% of national Australian annual emissions (based on a comparison to 2024 reported data) (Ref. 111).

According to the Intergovernmental Panel on Climate Change (IPCC), Assessment Sixth Report for Working Group 1, "the total anthropogenic effective radiative forcing in 2019, relative to 1750, was 2.72 [1.96 to 3.48] Wm^{-2} (*medium confidence*) and has likely been growing at an increasing rate since the 1970s, [and]...Over 1750–2019, CO_2 increased by 131.6 ± 2.9 ppm (47.3%)" [28] (Ref. 16).

The IPCC defines the term "carbon budget" as "refer[ing] to the maximum amount of cumulative net global anthropogenic CO_2 emissions that would result in limiting global warming to a given level with a given probability, taking into account the effect of other anthropogenic climate forcers. This is referred to as the total carbon budget when expressed starting from the pre-industrial period, and as the remaining carbon budget when expressed from a recent specified date.

[27] Where 'petroleum activity' is as defined within regulation 5 of the OPGGS(E)R.

[28] IPCC, AR6, WG1, at TS-35.

Historical cumulative CO_2 emissions determine to a large degree warming to date, while future emissions cause future additional warming. The remaining carbon budget indicates how much CO_2 could still be emitted while keeping warming below a specific temperature level (Ref. 199)."[29]

The remaining carbon budget for a 50% likelihood to limit global warming to 1.5°C, 1.7°C, and 2°C is respectively, 500 GT CO_2, 850 GT CO_2, and 1,350 GT CO_2 from the beginning of 2020 (Ref. 199).[30]

If the total direct GHG emissions from activities associated with this EP are 0.005 Mtpa CO_2-e, then the activities under this EP may contribute: ~0.37 – 1.0 x10^{-6}% to the reduction in the total remaining global carbon budget, which is determined to be a *de minimis* decrease.

Due to the overall *de minimis* contribution to the reduction of the global carbon budget from the activities under this EP, the impact of contribution to the global carbon budget has been evaluated as having the potential to result in an Incidental (6) consequence.

Contribution to the reduction of the atmospheric carbon budget (indirect emissions)

To determine the relevance of indirect GHG emissions to the activities under this EP, CAPL undertook an assessment against the factors for determining what is an indirect consequence, in accordance with the 'Indirect consequences' of an action: *Section 527E of the EPBC Act Policy Statemen*t'. For the purposes of the assessment:

- the "primary action" is the activities covered by this EP, as described in Section 3
- the "secondary action" is the operation of the Gorgon Project, which is out of scope of this EP (Section 2.3)
- the "indirect consequence" is indirect GHG emissions.

Given that the purpose of installing the umbilical is to provide electrical power and other services to the Jansz gas field, CAPL has determined that the primary action (i.e. installation of the umbilical) therefore facilitates to a major extent the secondary action (i.e. the ongoing operation of the Gorgon Project, and specifically the Jansz gas field). As such, the following activities have been identified as indirect emission sources for planned activities under this EP:

- operational activities associated with the Gorgon hydrocarbon system
- gas processing at the Gorgon Gas Treatment Plant on Barrow Island
- transport and third party end-use of Liquefied Natural Gas, condensate and domestic gas products.

These indirect emissions for the activities under this EP comprise the direct and indirect emissions detailed in the NOPSEMA-accepted *Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan* (Ref. 61).

In accordance with regulation 56 of the OPGGS(E)R, as this information has been previously supplied for another purpose, and is publicly available[31], the emissions inventory, impact and risk assessment, control measures, and acceptability assessment have not been repeated here.

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. These activities include IMR activities, installation and start-up of the J–IC infrastructure, and potential drilling and well intervention activities at Gorgon and Jansz (Ref. 61, Ref. 70, Ref. 42).

The consequence evaluation of the potential for impact from air emissions from other CAPL planned activities determined that there was a limited spatial extent of the change arising from air emissions. Similarly, the overall contribution to the reduction of the global carbon budget from the activities was considered *de minimis*.

Given the conclusion reached in each assessment that the potential consequence for atmospheric emissions from planned activities may result in no significant degradation of ambient air quality/a localised and temporary decline in air quality with no lasting effects, these concurrent activities are not expected to significantly increase additive or cumulative effects from air emissions.

Therefore, no change to the overall consequence level is expected.

[29] IPCC, AR6, WG1, at SPM-48 footnote 43.

[30] IPCC, AR6, WG1, at SPM-29 Table SPM.2.

[31] The NOPSEMA-accepted Gorgon and Jansz Feed Gas Pipeline and Wells Operations (Commonwealth Waters) Environment Plan is available from: https://info.nopsema.gov.au/activities/20/show_public. Section 6.5 presents the impact and risk assessment associated with GHG emissions.

ALARP decision context justification		
Offshore commercial vessel operations and subsequent atmospheric emissions arising from these activities are commonplace in offshore environments, both nationally and internationally. The control measures to manage the risk associated with atmospheric emissions are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL. During relevant persons consultation, no objections or claims were raised regarding air emissions arising from the activity. The impacts arising from atmospheric emissions constitute lower-order impacts (Table 5-3). As such, CAPL applied ALARP Decision Context A for this aspect.		
Good practice control measures		
Control measure	**Description**	
Reduced sulfur content fuel	Sulfur content of marine diesel/fuel oil complies with Marine Order 97 and regulation 14 of MARPOL 73/78 Annex VI. Only low-sulfur (0.50 mass % concentration [m/m]) fuel oil will be used to minimise sulfur oxides (SOx) emissions.	
Marine Order 97: Marine Pollution Prevention – Air Pollution	Before commencing the petroleum activity, Chevron's Offshore Vessel Information System (OVIS) assessment requirements within *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) are used to verify that all vessels will comply with Marine Order 97—Marine pollution prevention—air pollution (appropriate to vessel class) for emissions from combusting fuel, including: • vessels will hold a valid International Air Pollution Prevention (IAPP) certificate and a current international energy efficiency (IEE) certificate. • all vessels (as appropriate to vessel class) will have a Ship Energy Efficiency Management Plan (SEEMP) as per MARPOL 73/78 Annex VI. • vessel engine NO_x emission levels will comply with regulation 13 of MARPOL 73/78 Annex VI.	
Fuel consumption	The combustion of vessel fuels has been identified as the predominant source of direct GHG emissions associated with the petroleum activity within this EP. Consequently, vessel fuel usage will be monitored and recorded during the petroleum activity such that usage (and therefore associated GHG emissions) are managed to only those required to perform the petroleum activity.	
Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A
Determination of acceptability		
Principles of ESD	The impact and risk associated with atmospheric emissions is a temporary reduction in air quality to a localised area, which are not considered to have the potential to affect biological diversity and ecological integrity. The consequence associated with these impacts and risks is Incidental (6). The impact and risk associated with direct GHG emissions is a *de minimis* contribution to the reduction of the global carbon budget, which is not considered to have the potential to affect biological diversity and ecological integrity, or intergenerational equity. The consequence associated with these impacts and risks is Incidental (6). The risk associated with indirect GHG emissions (i.e. those associated with the Gorgon Gas Development) is a change in cultural heritage values. The principle of inter-generational equity is considered to be met for the Gorgon Gas Development. Energy is fundamental to society, and access to reliable and affordable energy sources is interlinked with their ability to sustainably develop and maintain health, diversity, and productivity for future generations (Ref. 321).	

<table>
<tr><td></td><td>GHG emissions from the Gorgon Gas Development are managed under Environmental Protection Act 1986 (WA) approvals and associated conditions, including the requirement for Scope 1 net emissions to be reduced to net zero by 2050, together with 5-yearly reduction targets commencing in 2030. By not materially or substantially contributing to Australia's GHG emissions, the Gorgon Gas Development will support Australia's global efforts to reach net zero by 2050. If Australia achieves its efforts to meet net zero by 2050, then it will contribute to global efforts to keep warming to the Paris Agreement target of below 2°C above pre-industrial levels and reduce the risks and impacts of climate change.

Through supporting Australian and global efforts to manage GHG emissions (including Paris Agreement targets) and associated risks and impacts of climate change, the risks of adverse impacts to access and connection to Country are managed thereby mitigating adverse risks to the rights of First Nations people to practice and revitalise their cultural traditions and customs (as per Article 11 of the United Nations Declaration on the Rights of Indigenous People; Ref. 318).

The principle of intergenerational equity is considered to be met because the Gorgon Gas Development is consistent with Australia's carbon budget and therefore Australia's efforts to keep warming to the Paris Agreement target of below 2°C above pre-industrial levels and reduce the risks and impacts of climate change, thereby ensuring that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. Therefore, no further evaluation against the Principles of ESD is required.</td></tr>
<tr><td>Relevant environmental legislation and other requirements</td><td>Legislation and other requirements considered relevant to this aspect include:
• Marine Order 97
• MARPOL 73/78
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.
<table>
<tr><th>Requirement</th><th>Demonstration</th></tr>
<tr><td>Marine Order 97
Gives effect to Annex VI of MARPOL 73/78</td><td>Prescribed limits (as per Division 7) for sulfur content of fuel oil have been incorporated into the reduced sulfur content fuel control measure

IAPP and IEE certificate (as per Division 2), SEEMP (as per Division 6), and NOx emission requirements (as per Division 3) have been incorporated into the Marine Order 97: Marine Pollution Prevention – Air Pollution control measure</td></tr>
</table></td></tr>
<tr><td>Internal context</td><td>This management process or procedure was deemed relevant for this aspect:
• Chevron Marine Standard Non Tankers: Corporate OE Standard (Ref. 63).
Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</td></tr>
<tr><td>External context</td><td>No objections or claims were raised regarding air emissions arising from the activity.</td></tr>
<tr><td>Defined acceptable level</td><td>These impacts and risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</td></tr>
</table>

Environmental performance outcome	Environmental performance standard	Measurement criteria
(EPO 6) Planned air emissions from vessel operations during the petroleum activity will meet Marine Order 97 requirements	**(EPS 6.1) Reduced sulfur content fuel** Only low-sulfur (0.50 mass % concentration [m/m]) fuel oil will be used to minimise SO_x emissions	(MC 6.1.1) Bunker receipts verify the use of low-sulfur fuel oil
	(EPS 6.2) Marine Order 97: Marine Pollution Prevention – Air Pollution Prior to commencement of activities, the following will be verified, as per the Marine Standard: • vessels will hold a valid IAPP certificate and a current IEE certificate • all vessels (as appropriate to vessel class) will have a SEEMP as per MARPOL 73/78 Annex VI • vessel engine NOx emission levels will comply with regulation 13 of MARPOL 73/78 Annex VI	(MC 6.2.1) OVIS report/ABU Marine OE Inspection Checklist confirms vessels hold IAPP and IEE certificates, and a SEEMP is in place (as appropriate to class), and NO_x emission levels comply with regulations
	(EPS 6.3) Fuel combustion Vessel fuel usage will be recorded during the petroleum activity	(MC 6.3.1) Records confirm vessel fuel usage during the petroleum activity

7.5 Light emissions

Source

Activities identified as having the potential to result in light emissions are:

- field support—navigation and operational lighting from vessels during the petroleum activity (including installation and IMR activities) within the OA.

Potential impacts and risks

Impacts	C	Risks	C
Light emissions may result in: • localised and temporary change in ambient light.	6	A change in ambient light may result in: • change in fauna behaviour for light-sensitive species	5

Consequence evaluation

Localised and temporary change in ambient light

Vessels will be present within the OA during the petroleum activity. The duration of construction vessel presence will vary, ranging from ~2 days (installation of UTA mudmat foundations) to ~30 days for hook-up and commissioning. IMR and resupply activities will be undertaken as required (non-routine) and typically take up to two weeks and approximately 6-12 hours to complete respectively (Sections 3.3 and 3.4.1). As activities under this EP may be undertaken 24 hours a day, lighting is required at night for navigation and to ensure safe operations when working on the vessels.

Monitoring undertaken by Woodside (Ref. 332) indicates that light density from lighting on a drill rig attenuated to below 1.0 lux and 0.03 lux at distances of ~300 m and ~1.4 km, respectively. Light densities of 1.00 and 0.03 lux are comparable to natural light densities experienced during deep twilight and during a quarter moon.

Previous modelling of light emissions from a pipelay vessel indicated that at distances ~1.8–5.7 km from the pipelay vessel, light may be visible, but is not expected to be biologically relevant and result in behavioural impacts (Ref. 272). Lighting is expected to be the same or less on vessels within scope of this EP compared to a drill rig and/or pipelay vessel, therefore the use of previous monitoring (Ref. 332) and modelling (Ref. 272) is considered a conservative approach to

inform this consequence evaluation. As discussed in Section 3.4.1.1, there is potential for up to two vessels to operate within the OA. Where this may occur, vessels are often not in close proximity (i.e. spatial light exposure areas would not overlap). Where proximity does occur, the overlap is of limited duration (up to 2 days for non-routine IMR activities) and may result in an insignificant increase beyond the modelled exposure distances.

Navigational and operational lighting is expected to be less on IMR and support vessels in comparison to a construction vessel. However, as a conservative approach for this consequence evaluation, CAPL estimates that vessel activities have the potential to result in temporary changes to ambient light no greater than a radius of ~1.4 km from the non-routine IMR or support vessels.

Given the ad hoc and short-term nature of proximal vessel operations and negligible cumulative light impacts, the scenario of two vessels working alongside each other is not discussed further.

Based on previous monitoring and modelling undertaken by Woodside (Ref. 332; Ref. 272), CAPL expects that its activities could result in temporary changes to ambient light conditions in the order of kilometres from the emission sources. Given the limited extent of the change arising from vessel lighting, the impacts associated with a direct change in ambient light levels was determined to be Incidental (6).

Change in fauna behaviour for light-sensitive species

Light-sensitive fauna (including reptiles, birds and fish) are the species most at risk from this aspect and thus are the focus of this evaluation.

As identified in Section 4.3.3, several marine species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the OA. Several BIAs and/or HCTS of a species also overlap with the OA, including:

- Wedge-tailed Shearwater (breeding BIA)
- Whale Shark (foraging BIA)
- Flatback Turtle internesting buffer BIA and internesting HCTS.

The *National Light Pollution Guidelines for Wildlife* (Ref. 106) indicate that a 20 km buffer or exposure area can provide a general precautionary light impact limit based on observed effects of sky glow on marine turtle hatchlings demonstrated to occur at 15–18 km (Ref. 210; Ref. 191) and fledgling seabirds grounded in response to artificial light 15 km away (Ref. 285).

Studies conducted between 1992 and 2002 in the North Sea confirmed that artificial light was the reason that birds were attracted to and accumulated around illuminated offshore infrastructure (Ref. 227) and that lighting can attract birds from large catchment areas (Ref. 330). These studies indicate that migratory birds are attracted to lights from offshore platforms when travelling within a radius of 5 km from the light source, but their migratory paths are unaffected outside this zone (Ref. 293).

Fledglings are considered more vulnerable to artificial light than adults for several factors, including immature development of ganglions in the eyes, disturbance to sea-finding cues, and potential connection between light and food (Ref. 84). At its closest, the OA is located ~55 km from Barrow Island. As light emissions are expected to be visible, but not be biologically relevant or result in behavioural impacts at distances >1.8 km from a vessel, no coastal areas (and therefore fledgling seabirds) are expected to be exposed. In addition, the duration of activities occurring within the part of the OA closest to Barrow Island is expected to be relatively low, with vessels typically moving along the umbilical route and away from the island, and not remaining stationary for extended durations.

Anthropogenic disturbance (including artificial lighting) is identified as a threat within the *Wildlife Conservation Plan for Migratory Shorebirds* (Ref. 140) and light pollution is identified as a threat within the *Wildlife Conservation Plan for Seabirds* (Ref. 84). It is possible that nocturnally active seabirds and/or migratory shorebirds may be affected by light-spill and make alterations to their normal behaviours. It is suggested that procellariforms (shearwaters, petrels and albatross) species that forage at night are instinctively attracted to light because they exploit bioluminescent prey (Ref. 195; Ref. 330). The mechanism of birds being attracted to light is not proven, but it is proposed that the artificial lighting may override the internal magnetic compass of migratory shorebirds or nocturnal seabirds (Ref. 174). However, Marquenie (Ref. 226) estimated that a change in migratory behaviour of birds was limited to <5 km from a light source. Therefore, this type of impact is expected to be spatially restricted to the immediate vicinity of the vessel/s and affect only individuals (rather than populations).

The *Recovery Plan for Marine Turtles in Australia* (Ref. 83) identifies light emissions as a key threat because it can disrupt critical behaviours, such as nesting, hatchling orientation, sea finding, and dispersal behaviour.

The *Recovery Plan for Marine Turtles in Australia* (Ref. 83) defines the HCTS of each species at a stock level. The closest nesting HCTS of a species to the OA include Barrow, Montebello, and Lowendal islands, which have been identified as nesting habitat for Flatback turtles (Ref. 83). At its closest, the OA is located ~55 km from the coast (Barrow Island). As light emissions are expected to be visible, but not be biologically relevant or result in behavioural impacts at distances >1.8 km from a vessel, no coastal areas (and therefore no adult nesting turtles, or turtle hatchlings) are expected to be exposed.

The *Recovery Plan for Marine Turtles in Australia* (Ref. 83) defines the internesting HCTS of a species as a distance seaward from nesting HCTS of a species of 60 km for Flatback turtles. Recent studies (Ref. 329) have indicated that the internesting behaviour of Flatback Turtles on the NWS appears more spatially restricted than that suggested by the Recovery Plan (Ref. 83). Whittock et al. (Ref. 329) reported that Flatback Turtles preference habitats within proximity of the coast and at relatively shallow depths during the internesting periods. Unsuitable Flatback Turtle internesting habitat was defined as waters >25 m deep and >27 km from the coast (Ref. 329). This suggests that although the OA does overlap with some internesting HCTS of a species, due to the OA being located offshore in water depths of >115 m and ~55 km offshore of Barrow Island, the OA is not considered to be suitable habitat. Furthermore, Flatback Turtle nesting is more common on the east coast beaches of Barrow Island (i.e. opposite side of the island to the OA). Consequently, given observed behaviours and internesting habitat preferences, only a small number of marine turtles are expected to be present within the OA, and any disruption to their behaviour is expected to be spatially limited as light emissions are not expected to be biologically relevant or result in behavioural impacts at distances >1.8 km from a vessel. In addition, the duration of activities occurring within the part of the OA closest to Barrow Island is expected to be relatively low, with vessels typically moving along the umbilical route and away from the island, and not remaining stationary for extended durations.

Artificial light may result in varied ecological changes to fish, including changes to predatory behaviour and abundance (Ref. 223), altering hatching success (Ref. 167), acting as an attractant for plankton (Ref. 212), or altering circadian behavioural rhythms (Ref. 223).

The Whale Shark BIA is associated with foraging behaviours during northward migration from the Ningaloo Reef seasonal aggregation area, along the 200 m isobath during July to November (Ref. 314). The use of this foraging BIA (July to November) may coincide with vessel activity. Notably, light has not been identified as a key threat for the Whale Shark (Ref. 314).

Cetaceans predominantly use acoustic senses rather than visual sources to monitor their environment (Ref. 295), so consequently, light is not considered to be a significant factor in cetacean behaviour or survival.

The EPBC threatened Short-nosed Sea Snake are not expected to be present within the OA given known habitat preferences for shallow water and reef habitat; light has also not been identified as a threat for either species (Ref. 151; Ref. 152). While other EPBC marine listed sea snake species may occur in broader habitats within the NWMR, snakes are inactive at night (Ref. 155). As such, light is not considered to be a significant factor in sea snake behaviour or survival.

Because light emissions have the potential to cause localised and temporary impacts to a individuals over the course of the petroleum activity, CAPL has ranked the consequence associated this impact as Minor (5).

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. These activities include IMR activities, installation and start-up of the J–IC infrastructure, and potential drilling and well intervention activities at Gorgon and Jansz (Ref. 61, Ref. 70, Ref. 42, Ref. 59). The details of the relevant vessel operations, including fleet composition (including MODU), numbers and duration as well as locations, are provided in Table 7-2. In addition, there is the potential for a MODU flaring event to occur for up to one day per well during well interventions and abandonment activities, resulting in a worst-case potential impact area (i.e. measurable change in ambient light) of up to 42.4 km during the petroleum activity (Ref. 334). Therefore, there is potential for cumulative light impacts.

While concurrent vessel operations in the Gorgon or Jansz fields would increase the overall light exposure area, the spatial increase is likely not significant (i.e. if a single vessel has a ~3.6 km diameter light exposure area, then two vessels within ~1 km of each other, could create up to a ~4.6 km diameter light exposure area). Where vessels are not operating in proximity, multiple individual exposure areas may occur. Given the small (~1.8 km) spatial extent of biologically relevant exposure from each vessel and their distribution across the OA, cumulative impact of multiple exposure areas are not expected to significantly adversely affect the biological

behaviours of seabirds or migratory shorebirds. The worst-case spatial extent of the MODU flaring exposure is ~80 km from Barrow Island which is the closest coastline from the OA—where seabirds may fledge, or turtles may hatch (Ref. 42). The cumulative light exposure from the flaring activity and the petroleum activity are not expected to result in substantial adverse impacts to marine fauna, due to the short-term (up to one day per well) and intermittent nature of the potential concurrent activity.

The OA overlaps three light-sensitive marine fauna BIAs—Flatback Turtle (internesting buffer), Wedge-tailed Shearwater (breeding) and Whale Shark (foraging). However, the BIAs are not restricted to the OA, nor are migratory pathways, foraging areas or internesting habitats. There is one known HCTS of a species (flatback turtle) within the OA; however due to the water depth and distance from nesting beaches, the OA is considered unsuitable for internesting.

For migratory seabirds such as the Wedge-tailed Shearwater, Marquenie (Ref. 226) estimated migratory behavioural changes are limited to <5 km from a light source.

Overall, light emissions from multiple vessels, MODU, and flaring are not expected to significantly increase additive or cumulative effects, given the intermittent, low-intensity, and short-duration nature of these concurrent activities, and the scale and nature of the petroleum activity.

Therefore, no change to the overall consequence level is expected.

ALARP decision context justification

Offshore commercial vessel operations and subsequent light emissions arising from these activities are commonplace in offshore environments nationally and internationally.

During relevant persons consultation, no objections or claims were raised regarding light emissions arising from the activity.

The impacts and risks associated with light emissions are well understood, and considered lower-order impacts and risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Marine Standard	The *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) ensures that various legislative requirements are met, including Marine Order 30. This includes ensuring that lighting sufficient for navigational, safety and emergency requirements are met, as appropriate to vessel class.
Light management	The activity has the potential to overlap predicted turtle nesting and seabird breeding seasons. As a conservative management measure, vessels working at night will be required to reduce external lighting to the minimum required for safe operations (and where practicable have this lighting directed downwards). The OA is located ~55 km from the nearest coast (Barrow Island) and as such, no measurable change in light from the vessels will occur at coastal locations. Table 5, Table 8, and Table 11 within the *National Light Pollution Guidelines for Wildlife* (Ref. 106) provides a toolbox of light management options for marine turtles, seabirds, and migratory shorebirds respectively, that may be relevant for consideration depending on the activity. This control measure is consistent with the following light management options as identified within the *National Light Pollution Guidelines for Wildlife* (Ref. 106) for marine turtles, seabirds, and migratory shorebirds: • implement light management actions during nesting and hatchling (marine turtles), breeding (seabirds), or peak migration (migratory shorebirds) periods • aim lights downwards and direct them away from nesting areas (marine turtles, seabirds), • reduce unnecessary lighting at sea by restricting external lighting to the minimum required for safe operations and navigation, and using window blinds to shield internal lights.

Seabird management procedure	The activity has the potential to overlap predicted seabird breeding and migration seasons and/or peak fledging periods (Table 4-15). A Seabird Management Procedure has been developed, and will be implemented for vessel-based petroleum activities occurring at night. The procedure is based on the *International Association of Antarctica Tour Operators (IAATO) Guidelines to Minimize Seabirds Landing on Ships* Information Paper 24 (Ref. 193) and includes: • an overview of key species • management procedures for any seabird landings on vessels. Implementation of a seabird management procedure is aligned with a proposed management option (Table 8) from the *National Light Pollution Guidelines for Wildlife* (Ref. 106).

Additional control measures and cost benefit analysis

Control measure	Benefit	Cost
External vessel lighting to use: • flashing or intermittent lights instead of fixed beam • motion sensors to turn on lights only when needed • luminaires with spectral content appropriate for the species present • avoid high intensity light of any colour.	Replacing external lighting on vessels with lighting that is flashing, intermittent, or motion triggered, or of a particular spectral signature and/or intensity, may have the potential to further reduce the impact of artificial light on marine fauna. Light emissions from vessels are not expected to be biologically relevant or result in behavioural impacts at distances >1.8 km from the vessel; and at its closest, the OA is located ~55 km from any coast and potential nesting area. The implementation of these additional light management controls are considered to be of limited environmental benefit, and would not result in a reduction of residual risk.	The cost of retrofitting external lighting of the vessels is considered grossly disproportionate to the limited environmental benefit (and no change in residual risk) they may provide for marine fauna. Therefore, the control measure has not been adopted for use.
Use curfews to manage lighting	The *National Light Pollution Guidelines for Wildlife* (Ref. 106) suggests the use of curfews may assist in managing artificial lighting around nesting beaches (marine turtles), rookeries during fledgling period (seabirds), or near nocturnal foraging and roosting areas in coastal habitats (migratory seabirds). One of the mechanisms for implementing this is the use of motion sensors—this has been considered in the above control measure, and is not repeated here. Other mitigation options refer to the user of timers to extinguish lighting around turtle nesting beaches after 8 pm, or near seabird or migratory shorebird rookeries after 7 pm. The intent of the curfews is to manage artificial light in coastal areas to minimise any disruption to biological important behaviours. Given that the light emissions from	The cost of implementing lighting curfews, either by retrofitting external lighting with motion sensors (as considered above), or by implementing restricted night operations (e.g. no operations after 7 pm or 8 pm) is considered grossly disproportionate to the limited environmental benefit (and no change in residual risk) they may provide for marine fauna. Therefore, the control measure has not been adopted for use.

	vessels are not expected to be biologically relevant or result in behavioural impacts at distances >1.8 km from the vessel, and at its closest, the OA is located ~55 km from any coast, the implementation of curfews are considered to be of limited environmental benefit, and would not result in a reduction of residual risk.	
Petroleum activity schedule—Adjust to avoid seabird breeding periods	There is one seabird species—Wedge-tailed Shearwater—with a known BIA that intersects the OA (Section 4.3.3.4.1). The closest known breeding site to the OA is Double Island, located east of Barrow Island (>70 km from the OA). Given the distance from the closest breeding colony and that it is shielded by Barrow Island, vessel lighting is unlikely to be visible from the island or contribute to existing skyglow from operating facilities on Barrow Island. Scheduling the petroleum activity to avoid the predicted breeding season (mid-August to April) is considered to be of limited environmental benefit with no change in residual risk.	The cost of implementing temporal schedule restrictions is considered grossly disproportionate to the limited environmental benefit (and no change in residual risk) they may provide for Wedge-tailed Shearwaters. Therefore, the control measure has not been adopted for use.
Petroleum activity schedule—Adjust to avoid predicted fledging period for Wedge-tailed Shearwaters	Wedge-tailed Shearwaters typically depart their WA colonies in early-April to early-May (Section 4.3.3.4.1). The closest known breeding site to the OA is Double Island, located east of Barrow Island (>70 km from the OA). Given the distance from the closest breeding colony and that it is shielded by Barrow Island, vessel lighting is unlikely to be visible from the island or contribute to existing skyglow from operating facilities on Barrow Island. Scheduling the petroleum activity to avoid the predicted fledging period is considered to be of limited environmental benefit with no change in residual risk.	The cost of implementing temporal schedule restrictions is considered grossly disproportionate to the limited environmental benefit (and no change in residual risk) they may provide for Wedge-tailed Shearwaters. Therefore, the control measure has not been adopted for use.
Petroleum Activity—Activity-specific Hazard Identification and Risk Assessment for marine turtles where activity is required to be undertaken at night	The implementation of Activity-specific Hazard Identification and Risk Assessments during the proposed activity are not deemed to be required. The proposed activity is planned and the risk assessment conducted within this EP sets out the controls that will reduce the known risks to ALARP for marine turtles, including for activities required to be undertaken at nighttime. In addition there is minimal overlap with the flatback turtle internesting BIA (and only at	N/A

<table>
<tr><td></td><td>the Gorgon CDU location) and as described in the consequence evaluation above, habitat suitable for internesting is not expected to occur within the OA.</td><td></td></tr>
<tr><td colspan="3">Likelihood and risk level summary</td></tr>
<tr><td>Likelihood</td><td colspan="2">Due to the nature and scale of this petroleum activity and its offshore location, vessel activities are likely to be focused within offshore waters away from the coast. As such the likelihood of exposing sensitive receptors resulting in the identified consequence was considered Unlikely (4).</td></tr>
<tr><td>Risk level</td><td colspan="2">Low (8)</td></tr>
<tr><td colspan="3">Determination of acceptability</td></tr>
<tr><td>Principles of ESD</td><td colspan="2">The risk associated with this aspect is the potential disruption to light-sensitive species behaviour. However, given the temporary nature of activities and distance from the coastline, the impact is not considered as having the potential to affect biological diversity and ecological integrity.
The risk associated with this aspect is Minor (5).
Therefore, no further evaluation against the Principles of ESD is required.</td></tr>
<tr><td>Relevant environmental legislation and other requirements</td><td colspan="2">Legislation and other requirements considered for this aspect include:
Navigation Act 2012 (Cth)
National Light Pollution Guidelines for Wildlife (Ref. 106)
Recovery Plan for Marine Turtles in Australia (Ref. 83)
Wildlife Conservation Plan for Migratory Shorebirds (Ref. 140)
Wildlife Conservation Plan for Seabirds (Ref. 84)
Conservation Advice Rhincodon typus Whale Shark (Ref. 314)
Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) (Ref. 151)
Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake) (Ref. 152)
Conservation Advice for Pristis pristis (Largetooth sawfish) (Ref. 344)
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.
<table>
<tr><th>Requirement</th><th>Demonstration</th></tr>
<tr><td>Navigation Act 2012 (Cth)
Appropriate lighting, navigation and communication to inform other users</td><td>Legislative requirements have been incorporated into the Marine Standard control measure.</td></tr>
<tr><td>National Light Pollution Guidelines
Undertake an environmental impact assessment</td><td>This section provides an impact assessment for artificial light exposure from the petroleum activity (including where concurrent activities may result in cumulative effects) and consideration of control measures as identified within the mitigation toolboxes for marine turtles, seabirds, and migratory shorebirds.</td></tr>
<tr><td>Recovery Plan for Marine Turtles in Australia
Management action A8.1: Artificial light within or adjacent to HCTS of marine turtles will be managed such that marine turtles are not displaced from these habitats</td><td>Exposure areas from light emissions from vessel activities (including any potential cumulative effects from concurrent activities), and any associated impacts or risks, have been described in the above consequence evaluation.</td></tr>
</table>
</td></tr>
</table>

	Management action A8.3: Identify the cumulative impact on turtles from multiple sources of onshore and offshore light pollution	The control measures identified above are considered appropriate to manage the risk to marine turtles to ALARP. Given the unsuitability of the majority of the OA as internesting habitat, the extent of changes to ambient light exposures does not overlap with any nesting areas, and the control measures in place, the activity is not considered to be inconsistent with the Recovery Plan for Marine Turtles in Australia.
	Wildlife Conservation Plan for Migratory Shorebirds No specific action identified.	N/A
	Wildlife Conservation Plan for Seabirds No specific action identified.	N/A
	Conservation Advice Rhincodon typus Whale Shark Conservation action: Assess the impacts of offshore installations and associated environmental changes (light spill, chronic noise, changed water temperature, localised nutrient levels) on whale sharks and mitigation options for these impacts	This section provides an impact assessment and consideration of control measures for vessel light spill. Therefore, this activity is not considered to be inconsistent with the *Conservation Advice Rhincodon typus Whale Shark*.
	Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake) No specific conservation action identified.	N/A
	Conservation Advice for Pristis pristis (Largetooth sawfish) No specific conservation action identified.	N/A
Internal context	These CAPL management processes or procedures were deemed relevant for this aspect: • *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
External context	No objections or claims were raised regarding light emissions arising from the activity.	
Defined acceptable level	These impacts and risks are inherently acceptable as they are considered lower-order impacts and risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.	

<table>
<tr><td></td><td colspan="2">However, in alignment with Section 5.7.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:

<table><tr><th>Plan</th><th>Objective</th></tr><tr><td>Recovery Plan for Marine Turtles in Australia</td><td>Recovery objective: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.

Interim objective 3: Anthropogenic threats are demonstrably minimised.</td></tr><tr><td>Wildlife Conservation Plan for Migratory Shorebirds</td><td>Objective 1: Protection of important habitats for migratory shorebirds has occurred throughout the East Asian-Australasian Flyway

Objective 3: Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.</td></tr><tr><td>Wildlife Conservation Plan for Seabirds</td><td>Objective 2: Seabirds and their habitats are identified, protected and managed in Australia.</td></tr></table>
Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:
• impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species
• no displacement of marine turtles from HCTS of a species
• no disruption of biologically important behaviours of marine turtles within BIAs
• no disruption of biologically important behaviours of migratory shorebirds or seabirds within important habitats

CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</td></tr>
<tr><th>Environmental performance outcome</th><th>Environmental performance standard</th><th>Measurement criteria</th></tr>
<tr><td rowspan="2">(EPO 7) No displacement of marine fauna, or disruption of biologically important behaviours of marine fauna, from BIAs, important habitats, or HCTS of a species from vessel activities occurring within the OA</td><td>(EPS 7.1) Marine Standard
Vessels will meet the lighting requirements of the Marine Standard</td><td>(MC 7.1.1) Records indicate that vessels meet lighting requirements of the Marine Standard</td></tr>
<tr><td>(EPS 7.2) Light management
Vessels working at night will be required to:
• reduce external lighting to the minimum required for safe operations and navigation
• direct operational lighting downwards to the working deck area.
• use window coverings to shield internal lights from view (unless windows are required to be uncovered for safe operations).</td><td>(MC 7.2.1) Inspection records during night operations confirm only minimum lighting for safe operations and navigation is in use, operational lighting is directed downwards to the working deck area and internal window coverings are used (unless required for safe operations)</td></tr>
</table>

	(EPS 7.3) Seabird management procedure Where the petroleum activity is required to be undertaken at night, the seabird management procedure will be implemented for the duration of activities	(MC 7.3.1) Inspection records during night operations confirm seabird management procedure was implemented as required

7.6 Underwater sound—field support (vessels and helicopters)

Non-impulsive underwater sound will result from vessels undertaking activities and helicopters transiting within the OA. The impact and risk assessment for non-impulsive continuous underwater sound is detailed in Section 7.6.5, including a cumulative impact assessment.

7.6.1 Acoustic modelling

CAPL commissioned JASCO Applied Sciences to conduct acoustic modelling to inform the risk assessment associated with underwater sound exposure from vessel operations associated with this petroleum activity (Ref. 220). Vessels produce broadband sound emissions—these are predominantly produced from propeller and thruster cavitation, with a smaller proportion of sound transmitted through the hull (e.g. from engines, gearing, and other mechanical systems) (Ref. 220).

The modelling was undertaken to assist in understanding the potential acoustic impact on receptors including marine mammals, sea turtles and fish.

The modelling methodology considered scenario specific source levels and range-dependent environmental properties. Estimated underwater acoustic levels are presented as sound pressure levels (SPL), and as accumulated sound exposure levels (SEL) for different noise effect criteria (Ref. 220).

The study included four scenarios associated with installation (construction) and support (IMR) vessels that are relevant to the activities within scope of this EP (Figure 7-1 and Table 7-4). The precise source levels for the installation and support (IMR) vessels were not available at the time, as such surrogate vessels with known source level measurements were used (Ref. 220, Table 7-3).

Table 7-3: Vessel source levels used in the acoustic modelling

Vessel	Sound Level (dB re 1 µPa m)
Construction vessel – cable lay	180.2
Construction vessel – static on DP	179.5
IMR vessel	181.2

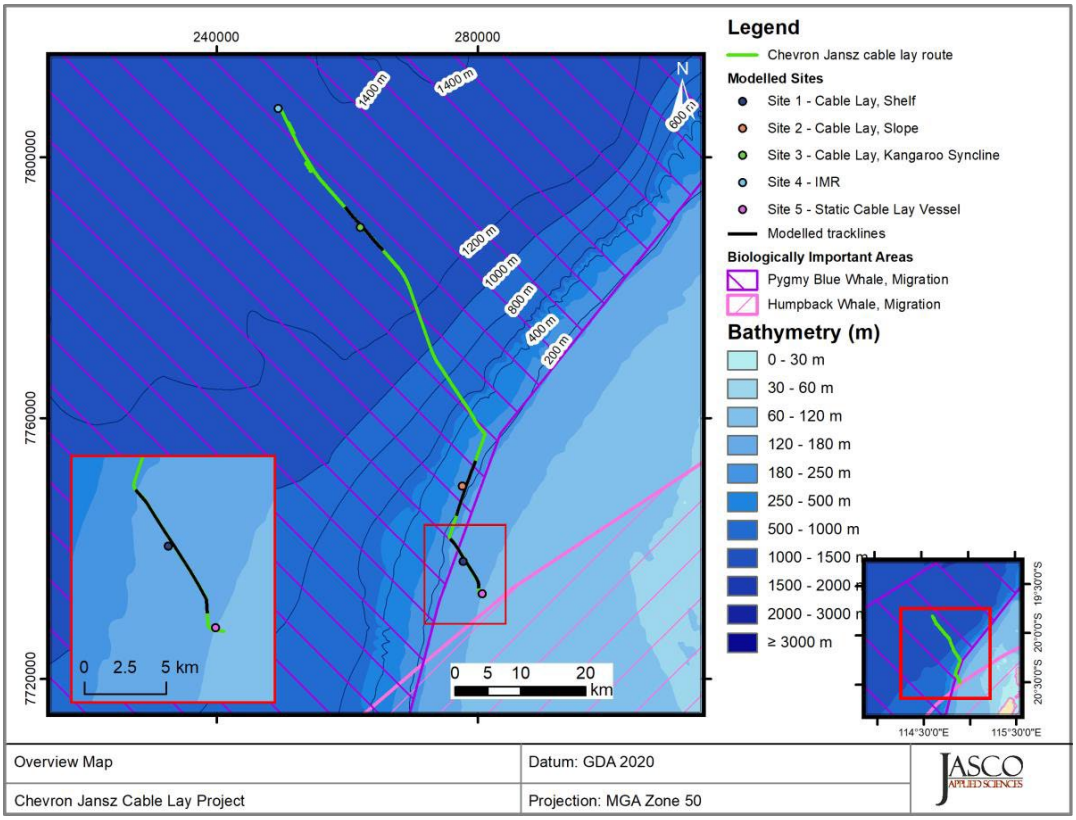


Figure 7-1: Locations for acoustic modelling

Table 7-4: Acoustic modelling sites and scenarios

Scenario	Scenario description	Approximate water depth (~m)
1	Cable lay vessel (DP 24 h) at continental shelf	161
2	Cable lay vessel (DP 24 h) at continental slope	217
3	Cable lay vessel (DP 24 h) at outer continental shelf (Kangaroo Syncline)	1,328
4	Stationary IMR vessel (DP 24 h) at northern termination point (site 4) + stationary cable lay vessel (DP 24 h) at southern termination point on the outer continental shelf (site 5)	1,330 and 120

Scenarios 1 to 3 represent installation (cable lay) across the depth ranges of OA: on the continental shelf, at the continental slope, and at the outer continental shelf (Kangaroo Syncline region) respectively (Section 3.2.4). The cable lay was modelled using the Seven Arctic as a representative construction vessel, with a lay speed of 0.2 knots for all three locations.

Scenario 4 provides for a stationary IMR vessel and a stationary cable lay vessel at two separate locations, site 4 and site 5, to represent potential concurrent IMR activities (Figure 7-1 and Table 7-4).

In the absence of modelling, estimates of SPL from helicopter operations (149–162 dB re 1 µPa) (Ref. 228; Ref. 325) have been used for the purposes of behavioural thresholds for this consequence evaluation. Given the nature of helicopter operations (i.e. crew transfers) covered under this EP, exposure to sound from this source for an extended period (e.g. 12 or 24 hours) is not

credible, and as such, comparison against the cumulative sound exposure level criteria is not relevant.

7.6.2 Exposure criteria

Different species groups perceive and respond to sound differently, and so a variety of exposure criteria for the different types of impacts and species groups are considered. The following noise effect thresholds, based on current best available science, have been used in the impact and risk assessment:

- frequency-weighted accumulated sound exposure levels (SEL_{24h}) from the National Marine Fisheries Service (NMFS) (US) Technical Guidance (NMFS 2024, Ref. 241) for the onset of auditory injury[32], including but not limited to permanent threshold shift (PTS)[33], and temporary threshold shift (TTS)[34] in marine mammals, and Accomando et al. 2025 for sirenians (Accomando et al. 2025, Ref. 345) (Table 7-5)
- un-weighted SPL for behavioural threshold for marine mammals based on NOAA (NOAA 2024, Ref. 243) (Table 7-5)
- frequency-weighted accumulated sound exposure levels (SEL_{24h}) from Accomando et al. (Accomando et al. 2025, Ref. 345) for the onset of PTS and TTS in marine turtles (Table 7-5)
- sound exposure guidelines for fish, fish eggs and larvae (including plankton) from Popper et al. (Popper et al. 2014, Ref. 278) (Table 7-5).

Recent Commonwealth guidance has defined “injury to Blue Whales” as both PTS and TTS hearing impairment, as well as any other form of physical harm arising from anthropogenic sources of underwater noise (Ref. 94).

[33] PTS is a physical injury to an animals hearing organs.

[34] TTS is a temporary reduction in animals hearing sensitivity due to receptor hair cells in the cochlea becoming fatigued.

Table 7-5: Noise effect criteria for continuous sound for different types of impacts and species groups

Receptor	Mortality and potential mortal injury	Recoverable injury	Auditory injury PTS onset threshold	TTS onset threshold	Masking	Behavioural
Low-frequency cetaceans	N/A	N/A	SEL_{24h}: 197 dB re 1 μPa^2s	SEL_{24h}: 177 dB re 1 μPa^2s	N/A	SPL: 120 dB re 1 µPa
High-frequency cetaceans	N/A	N/A	SEL_{24h}: 201 dB re 1 μPa^2s	SEL_{24h}: 181 dB re 1 μPa^2s	N/A	SPL: 120 dB re 1 µPa
Very high-frequency cetaceans	N/A	N/A	SEL_{24h}: 181 dB re 1 μPa^2s	SEL_{24h}: 161 dB re 1 μPa^2s	N/A	SPL: 120 dB re 1 µPa
Sirenians	N/A	N/A	SEL_{24h}: 200 dB re 1 μPa^2s	SEL_{24h}: 180 dB re 1 μPa^2s	N/A	SPL: 120 dB re 1 µPa
Marine turtles	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	SEL_{24h}: 198 dB re 1 μPa^2s	SEL_{24h}: 178 dB re 1 μPa^2s	N/A	N/A
Fish (no swim bladder, particle motion) (relevant to sharks)	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Moderate (I) Low (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Moderate (F) Low
Fish (swim bladder not involved in hearing, particle motion detection)	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Moderate (I) Low (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Moderate (F) Low
Fish (swim bladder involved in hearing, primarily pressure detection)	(N) Low (I) Low (F) Low	170 dB SPL for 48 hours	N/A	158 dB SPL for 12 hours	(N) High (I) High (F) High	(N) High (I) Moderate (F) Low
Fish eggs and fish larvae (relevant to plankton)	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Low (I) Low (F) Low	(N) High (I) Moderate (F) Low	(N) High (I) Moderate (F) Low

Relative risk (high, moderate, low) is given for fauna at 3 distances from the source (near [N], intermediate [I] and far [F]).

7.6.3 Modelling outputs

Horizontal maximum distances (R_{max}) from the sound source to the relevant noise effect criteria for marine mammals, turtles, and fish are shown in Table 7-6 to Table 7-9 (Ref. 220). Note that for Scenario 4 (Table 7-9), the maximum horizontal distance is reported for modelled outcomes for site 5. The modelled outcomes for site 4 showed the criteria were only met for PTS onset for low-frequency cetaceans at 0.05 km and marine turtles at 0.04 km, it was not met for any other receptors. The maximum horizontal distances to reach the TTS threshold were shorter, as compared to site 5, for all receptors.

The SEL_{24h} is a cumulative metric that reflects the dosimetric impact of noise levels within 24 hours based on the assumption that a receptor is consistently exposed to predicted noise levels at a fixed position. Realistically, marine fauna is not expected to remain stationary for a 24 hour period. Therefore, a modelled exposure area for the SEL_{24h} criteria does not mean that marine fauna travelling within this area will be impaired, but rather that they could be exposed to the sound level associated with impairment (either PTS or TTS) if they remained within the ensonified location for 24 hours.

Table 7-6: Scenario 1: Modelled maximum horizontal distances (R_{max}) to reach noise effect criteria for non-impulsive sound

Receptor	Auditory injury PTS onset (km)	TTS onset (km)	Behavioural (km)
Low-frequency cetaceans	SEL_{24h}: 0.02	SEL_{24h}: 0.16	SPL: 3.77
High-frequency cetaceans	–	SEL_{24h}: 0.02	SPL: 3.77
Very high-frequency cetaceans	SEL_{24h}: 0.02	SEL_{24h}: 0.04	SPL: 3.77
Sirenians	–	SEL_{24h}: 0.03	SPL: 3.77
Marine turtles	SEL_{24h}: 0.03	SEL_{24h}: 0.09	N/A
Fish (swim bladder involved in hearing)	SPL_{48h}: –	SPL_{12h}: –	N/A

A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).

Table 7-7: Scenario 2: Modelled maximum horizontal distances (R_{max}) to reach noise effect criteria for non-impulsive sound

Receptor	Auditory injury PTS onset (km)	TTS onset (km)	Behavioural (km)
Low-frequency cetaceans	SEL_{24h}: 0.03	SEL_{24h}: 0.10	SPL: 1.83
High-frequency cetaceans	–	SEL_{24h}: 0.03	SPL: 1.83
Very high-frequency cetaceans	SEL_{24h}: 0.03	SEL_{24h}: 0.04	SPL: 1.83
Sirenians	–	SEL_{24h}: 0.02	SPL: 1.83
Marine turtles	SEL_{24h}: 0.01	SEL_{24h}: 0.08	N/A
Fish (swim bladder involved in hearing)	SPL_{48h}: 0.02	SPL_{12h}: 0.02	N/A

A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).

Table 7-8: Scenario 3: Modelled maximum horizontal distances (R_{max}) to reach noise effect criteria for non-impulsive sound

Receptor	Auditory injury PTS onset (km)	TTS onset (km)	Behavioural (km)
Low-frequency cetaceans	–	SEL_{24h}: 0.10	SPL: 1.44
High-frequency cetaceans	–	SEL_{24h}: 0.03	SPL: 1.44
Very high-frequency cetaceans	–	SEL_{24h}: 0.04	SPL: 1.44
Sirenians	–	SEL_{24h}: 0.02	SPL: 1.44
Marine turtles	SEL_{24h}: 0.02	SEL_{24h}: 0.08	N/A
Fish (swim bladder involved in hearing)	–	SPL_{12h}: 0.02	N/A

A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).

Table 7-9: Scenario 4: Modelled maximum horizontal distances (R_{max}) to reach noise effect criteria for non-impulsive sound (at Site 5 – static construction vessel)

Receptor	Auditory injury PTS onset (km)	TTS onset (km)	Behavioural (km)
Low-frequency cetaceans	SEL_{24h}: 0.05	SEL_{24h}: 0.97	SPL: 3.67
High-frequency cetaceans	SEL_{24h}: 0.02	SEL_{24h}: 0.06	SPL: 3.67
Very high-frequency cetaceans	SEL_{24h}: 0.03	SEL_{24h}: 0.29	SPL: 3.67
Sirenians	–	SEL_{24h}: 0.04	SPL: 3.67
Marine turtles	SEL_{24h}: 0.04	SEL_{24h}: 0.73	N/A
Fish (swim bladder involved in hearing)	SPL_{48h}: 0.02	SPL_{12h}: 0.02	N/A

A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).

7.6.4 Pygmy Blue Whale exposure modelling

In addition to the acoustic modelling study, JASCO undertook an acoustic exposure analysis for migrating Pygmy Blue Whales (Ref. 220), which describes the modelled predictions of sound levels that individual Pygmy Blue Whales may receive during the petroleum activities.

Sound exposure distribution estimates are determined by moving large numbers of simulated animals ('animats') through a modelled time-evolving sound field, computed using specialised sound source and sound propagation models (Ref. 220). This approach provides the most realistic prediction of the maximum expected SPL, and the temporal accumulation of sound exposure level (SEL_{24h}) for comparison against the relevant thresholds (Ref. 220).

The JASCO Animal Simulation Model Including Noise Exposure (JASMINE) was used to model the movement of Pygmy Blue Whales through the predicted sound field. Biologically meaningful movement rules were applied to each animat in the model to represent whale behaviours. This included swim speeds, direction, diving and ascent rates, dive depths (for both migratory dives near the surface and deeper exploratory or feeding dives), and time spent at or near the surface before diving again. The animats, were set to simulate the real-world movements of migrating Pygmy Blue Whales within their migration BIA (northbound migration). Feeding Pygmy Blue Whales were also considered, however this modelling was unrestricted as there is no feeding BIA within the Sound EMBA.

The same noise effect criteria as defined for low-frequency cetaceans in Section 7.6.2 were used in this exposure modelling.

The modelled 95th percentile exposure ranges ($ER_{95\%}$) from the sound source to the relevant noise effect criteria for Pygmy Blue Whales are shown in Table 7-10 (Ref. 220). For comparison, the horizontal maximum distances (R_{max}) for low-frequency cetaceans from the acoustic modelling in Section 7.6.3 are repeated in Table 7-10.

The $ER_{95\%}$ to both the auditory injury (PTS onset) and TTS SEL_{24h} noise effect criteria thresholds are lower than distances predicted by acoustic modelling (Table 7-10; Ref. 220). Acoustic modelling is inherently more conservative as it does not incorporate the complex interactions of both a moving sound field and moving receivers (Ref. 220).

Table 7-10: Modelled 95th percentile exposure ranges ($ER_{95\%}$) and probability of exposure (P_{exp}), compared to modelled maximum horizontal distances (R_{max}) from vessel activities (Scenarios 1 and 4) to reach noise effect criteria for Pygmy Blue Whales from non-impulsive sound

Modelling	Scenario	Parameter	Auditory Injury (PTS onset)	TTS onset	Behavioural
Acoustic modelling	1	R_{max}	SEL_{24h}: 0.02 km	SEL_{24h}: 0.16 km	SPL: 3.77 km
	2		SEL_{24h}: 0.03 km	SEL_{24h}: 0.10 km	SPL: 1.83 km
	3		SEL_{24h}: –	SEL_{24h}: 0.10 km	SPL: 1.44 km
	4		SEL_{24h}: 0.05 km	SEL_{24h}: 0.97 km	SPL: 3.67 km
Exposure modelling – Pygmy Blue Whales [35]	1	$ER_{95\%}$	SEL_{24h}: –	SEL_{24h}: 0.02 km	SPL: 3.32 km
		P_{exp}	SEL_{24h}: –	SEL_{24h}: 79%	SPL: >99%
	4	$ER_{95\%}$	SEL_{24h}: –	SEL_{24h}: 0.02 km	SPL: 3.21 km
		P_{exp}	SEL_{24h}: –	SEL_{24h}: 85%	SPL: 59%

A dash (–) indicates no animat was exposed above the threshold.

P_{exp} is the probability of animats travelling within the ER95% being exposed above the threshold.

7.6.5 Risk Assessment

Source			
Activities identified as having the potential to result in underwater sound are: • field support—vessel or helicopter operations during the petroleum activity within the OA. These activities result in the emission of non-impulsive sound.			
Potential impacts and risks			
Impacts	**C**	**Risks**	**C**
Underwater sound emissions may result in: • localised and temporary change in ambient underwater sound.	5	A change in ambient underwater sound may result in: • behavioural disturbance • auditory impairment, temporary threshold shift (TTS), permanent threshold shift (PTS), recoverable or	5 –

[35] The worst case outcomes are presented from the modelling report (Ref. 220).

		non-recoverable injury to marine fauna	

Consequence evaluation

Localised and temporary change in ambient underwater sound

Anthropogenic underwater sound emitted during the petroleum activities will result in a change in ambient noise levels.

Underwater broadband ambient sound spectrum levels range from 45–60 dB re 1 µPa in quiet regions (light shipping and calm seas) to 80–100 dB re 1 µPa for more typical conditions, and >120 dB re 1 µPa during periods of high winds, rain or 'biological choruses' (many individuals of the same species vocalising near simultaneously in reasonably close proximity to each other) (Ref. 197). Low-frequency ambient sound levels (20–500 Hz) are frequently dominated by distant shipping plus some whale species. Light weather-related sounds will be in the 300–400 Hz range, with wave conditions and rainfall dominating the 500–50,000 Hz range (Ref. 197).

Studies of underwater sound generated from offshore vessels when holding position (on DP) demonstrate measured SPL up to 137 dB re 1 µPa and 120 dB re 1 µPa at 405 m and ~3-4 km from the sound source respectively (Ref. 228). When underway at ~12 knots vessel sound of 120 dB re 1 µPa was recorded at 0.5–1 km (Ref. 228). Generally, during installation operations, the vessels will be moving at low speeds (<5 knots), producing lower underwater sound emissions than those recorded in the study.

Sound emitted from helicopter operations is typically below 500 Hz (Ref. 283). The peak-received level diminishes with increasing helicopter altitude, but the duration of audibility often increases with increasing altitude. Estimates of SPL for helicopters range 149–162 dB re 1 µPa (Ref. 325). Richardson et al. (Ref. 284) report that helicopter sound was audible in air for four minutes before it passed over underwater hydrophones, but detectable under water for only 38 seconds at 3 m depth, and 11 seconds at 18 m depth.

Given the details above, the consequence of vessel or helicopter operations causing a change in ambient underwater sound has been assessed as Minor (5) as it will result in a localised environmental impacts limited to the duration of vessel operations, and returning to ambient levels on completion.

Given the limited extent of the change arising from concurrent vessel operations, the impacts associated with a direct change in ambient sound levels was determined to be Minor (5).

Marine Mammals

Behavioural disturbance

Acoustic modelling for vessels indicates that the maximum radial distance in any direction from the source to the behavioural noise effect criteria of 120 dB re 1 µPa (for all hearing groups) was 3.77 km. The estimated maximum distances for the cable lay scenarios (1 to 3), with a single construction vessel operating at 0.2 knots, varied from 1.44 km at the Kangaroo Syncline to 3.77 km at the continental shelf. This indicates that sound propagation was more effective on the continental shelf compared to the deeper water sites (Table 7-9, Ref. 220). The umbilical route traverses water depths from ~130 m at the Gorgon CDU on the continental shelf to depths of ~1,350 m at the Jansz CDU. The areas of the route that coincide with important areas for migration for Pygmy Blue Whales are situated in the deeper waters where the modelled underwater noise emissions were predicted to attenuate more rapidly with a potential for behavioural disturbance to a maximum distance of 1.44 to 1.83 km from the vessel activity.

As identified in Table 3-1 and discussed in Section 3.4.1.1, there is the potential for up to two vessels to operate simultaneously within the OA. However, where this may occur, the vessels are not likely to be in close proximity to each other (i.e. the ensonified areas from sound emissions from the vessels would not overlap), or where they are in proximity, the activity overlap would occur for a limited duration (e.g. days). For example, if the construction and IMR vessel were both operating at the same time, this would only occur for a limited duration, given that both the installation and IMR vessels would be transiting along the umbilical route. Given the distances between operating vessels when and if they are operating in the OA concurrently, no spatial overlap in ensonified areas are predicted. As such, the risk of behavioural disturbances to marine fauna from proximal vessel operations activities is not considered credible and has not been evaluated further.

A support vessel may be utilised to deliver and transfer goods and materials. If non-routine re-supply operations are required, it is expected that the support vessel will remain on-site for approximately 6–12 hours (refer to Section 3.4.1) during which a temporary increase in sound levels may occur.

As identified in Section 4.3.3, several marine mammal species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Sound EMBA. The threatened and/or migratory cetaceans that may be present within the Sound EMBA are low-frequency and high-frequency cetaceans (Section 4.3.3). A migration BIA for the Pygmy Blue Whale overlaps with the OA and Sound EMBA; with peak migration periods occurring May to June, and November to late-December (Section 4.3.3.1.2). The Humpback Whale migration BIA also overlaps part of the Sound EMBA (at the Gorgon CDU). Very high-frequency cetaceans (e.g. *Kogia spp.*) or habitat for these species were identified as potentially occurring within the Sound EMBA (appendix b), however none of these species are listed as threatened and/or migratory under the EPBC Act. The PMST database also indicated that the Australian Humpback Dolphin and Australian Snubfin Dolphin may be present within the Sound EMBA. Except for Pygmy Blue Whales and Humpback Whales, there are no known BIAs for other marine mammal species within or adjacent to the Sound EMBA; and it is expected that either of these species present within the Sound EMBA would be transitory in nature. Note that although underwater sound modelling considered Sirenians, the PMST does not indicate potential presence of Dugongs in the OA or Sound EMBA (Table 4-5). As such the following consequence evaluation focusses on low-frequency cetaceans.

As the Sound EMBA partially overlaps a migration BIA for Humpback Whales, there is the potential for whales to be present within this area during the predicted migration periods (June to October). The part of the Sound EMBA that intersects with the Humpback Whale BIA is associated with the installation activities at the Gorgon CDU. Given the indicative schedule for the petroleum activity, there is potential for overlap with Humpback Whale migration. Studies (Ref. 207) suggest that northbound Humpback Whales tend to travel around the 200 m water depth contour, while southbound Humpback Whales tend to travel closer to Barrow Island and generally occur between 50 m and 200 m water depths.

The Sound EMBA also intersects with areas that have been identified as ‘most important’ and ‘suitable’ areas for Pygmy Blue Whale migration along the west coast (Section 4.3.3.1.2 and Figure 4-6). This overlap includes approximately 40% of the umbilical route from the Jansz CDU towards the coast. However, it is expected, based on satellite tracking and acoustic detection studies, that Pygmy Blue Whales are likely to travel further offshore than the defined BIA, particularly on their southern migration (November to December), but also during the northern migration (May to June) (Section 4.3.3.1.2). In addition, the BIA in the vicinity of the installation activities is not considered to be a confined migratory pathway.

The ‘Possible Foraging Areas’ as defined within the Conservation Management Plan for the Blue Whale (Ref. 94), and characterised as foraging BIAs, occur ~180 km south-west and ~920 km north-east of the Sound EMBA. Data from a study (Ref. 308) identified ‘most important areas’ for foraging for the Pygmy Blue Whale based on proxy indicators. A recent study identified suitable foraging habitat from the southern extent to the northeastern edge of WA (Ref. 165). This area occurred almost exclusively on the continental slope (91%), with a small amount of suitable habitat in the deep ocean floor (7%) and on the shelf (2%). While the use of this area is not expected to be continual throughout the year, but associated with Pygmy Blue Whale migration timing, foraging areas are also known to be dynamic given their dependence on presence of prey (Ref. 342, Ref. 308; Ref. 269, Ref. 165, Ref. 282, Ref. 311) and oceanographic conditions (Ref. 311, Ref. 165). Notably, there is no overlap between these ‘most important areas’ and ‘suitable areas’ for foraging and the Sound EMBA (see Figure 4-7).

The duration of underwater sound emissions from vessels within the OA will vary with activity, ranging from ~1 day (post-lay testing) to ~28 days for offshore hook-up and commissioning adjacent to the Gorgon and Jansz CDU (Table 3-1). Estimates of SPL for helicopters range 149–162 dB re 1 µPa (Ref. 325), which is above the noise exposure criterion for behavioural disturbance. However, the spatial and temporal extent of the potential exposure to underwater sound from helicopters is limited (e.g. 38 seconds at 3 m depth, and 11 seconds at 18 m depth; Ref. 284). The helicopter operations covered under this EP (i.e. crew transfers) are also expected to be infrequent. Therefore, given the limited nature of the exposure, potential impacts from helicopters on cetacean behaviour are not evaluated further.

Given the temporary nature of the installation activities (3 to 6 months), and the mobile nature of cetacean species, only localised short-term behavioural impacts to transient individuals have the potential to arise from these activities and have therefore been evaluated as Minor (5).

TTS and PTS

Acoustic modelling indicated that the R_{max} from the source to PTS and TTS onset criteria for low-frequency cetaceans was 0.02 km and 0.05 km respectively; for high-frequency cetaceans was 0.06 km and 0.02 km respectively; and for very high-frequency cetaceans was 0.29 km and 0.03 km respectively (Ref. 343; Table 7-6).

Animat exposure modelling indicated that the maximum distance to the TTS noise effect criteria for Pygmy Blue Whales was 0.02 km from the acoustic source, and the PTS noise effect criteria was not predicted to be exceeded (Ref. 343; Table 7-10).

The relevant values and sensitivities within the Sound EMBA with the potential to be exposed to underwater sound include:

- low frequency cetaceans (e.g. baleen whales) and high frequency (e.g. toothed whales, dolphins) that are listed as threatened and/or migratory under the EPBC Act
- migration BIA for Pygmy Blue Whales

Note that the SEL_{24h} is a cumulative metric that assumes a receptor is consistently exposed to the relevant noise effect criteria for a 24-hour period. Specifically, a Pygmy Blue Whale would need to remain within close proximity (20 m) to the sound source for an extended period (24 hours) for TTS onset to occur and this is not credible. Given that behavioural responses are predicted at distances much larger (in scales of kilometres) than those predicted for TTS or PTS onset (refer to Table 7-10) it is unlikely that marine mammals will remain within the immediate proximity of vessels for extended durations so that auditory impairment would occur. As such, the risk of auditory impairment is not considered credible, and has not been evaluated further.

The helicopter operations covered under this EP (i.e. crew transfers) are expected to be infrequent. Therefore, exposure to continuous sound from this source for an extended period (e.g. 24 hours) is not credible, and comparison against an accumulated sound exposure levels is not relevant, and no further evaluation is required.

Marine reptiles

Sea snakes

The threatened Short-nosed Sea Snake or Leaf-scaled Sea Snake are not expected to be present within the Sound EMBA given known habitat preferences for shallow water and reef habitat; underwater sound has also not been identified as a threat for either species (Ref. 151; Ref. 152). Other EPBC marine listed sea snake species may occur in broader habitats within the NWMR, however noise pollution has not been identified as a pressure for sea snake species (Ref. 155). As such, underwater sound is not considered to be a significant factor in sea snake behaviour or survival.

Marine Turtles—Behavioural response

There is a paucity in knowledge on the behavioural effects to marine turtles from underwater sound emissions, including non-impulsive noise. As such, thresholds for effects on marine turtles from underwater noise have been derived from studies on fish. Popper et. al. (Ref. 278) considers the risk of behavioural effects to marine turtles is high ‘near’ the source (within tens of metres), moderate at an ‘intermediate’ distance (within hundreds of meters), and low at a ‘far’ distance from the source (thousands of meters) (Table 7-5). Behavioural effects were defined as:

“substantial change in behaviour for the animals exposed to a sound. This may include long-term changes in behaviour and distribution, such as moving from preferred sites for feeding and reproduction, or alternation of migration patterns. This behavioural criterion does not include effects on single animals, or where animals become habituated to the stimulus, or small changes in behaviours such as startle response or small movements” (Ref. 278).

Non-impulsive sound of any level that is detectable by turtles can mask signal detection, and thus may have a pervasive effect on behaviour; however, the consequences of this masking and any attendant behavioural changes for the survival turtles are unknown (Ref. 278).

As identified in Section 4.3.3.2, marine turtle species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Sound EMBA. An internesting buffer BIA and internesting HCTS of Flatback Turtles also overlaps with the Sound EMBA.

The Recovery Plan for Marine Turtles in Australia (Ref. 83) identifies noise interference as a key threat. Marine turtles do not have external ears, but potentially use sound for navigation, locating prey and avoiding predators (Ref. 56). Exposure to chronic (continuous) loud noise in the marine environment may lead to avoidance of important habitat (Ref. 83).

The Recovery Plan for Marine Turtles in Australia (Ref. 83) defines the nesting HCTS of each species at a stock level. The closest nesting HCTS of a species to the Sound EMBA includes Barrow, Montebello, and Lowendal islands, which have been identified as nesting habitat for Flatbacks, Greens, and/or Hawksbill turtles (Ref. 83). At its closest, the Sound EMBA is located more than 50 km from the coast of Barrow Island (i.e. the 3 nm coastal waters limit). The part of the Sound EMBA that occurs closest to Barrow Island is associated with the installation activities at the Gorgon CDU. As potential behaviour effects are predicted to be restricted to distances within hundreds of metres of a sound source, no coastal areas (and therefore no adult nesting turtles, or turtle hatchlings) are expected to be exposed.

The Recovery Plan for Marine Turtles in Australia (Ref. 83) defines internesting HCTS of a species as a distance seaward from nesting HCTS of a species of 60 km for Flatback turtles. Recent studies (Ref. 329) have indicated that the internesting behaviour of Flatback Turtles on the NWS appears more spatially restricted than that suggested by the Recovery Plan (Ref. 87). Whittock et al (Ref. 329) reported that Flatback Turtles prefer habitats within proximity of the coast and at relatively shallow depths during their internesting periods. Unsuitable Flatback Turtle internesting habitat was defined as waters >25 m deep and >27 km from the coast (Ref. 329). This suggests that although the Sound EMBA does overlap with some internesting HCTS of the species, due to the OA being located offshore in water depths ranging between ~115–1,350 m, and that Flatback Turtle nesting is more common on the east coast beaches of Barrow Island (i.e. opposite side of the island to the OA), the Sound EMBA is categorised as unsuitable internesting habitat for this species. Consequently, given that the Sound EMBA has been identified as unsuitable habitat (Section 4.3.3.2.1) and marine turtles (if present) are expected to be individuals transiting through the area, the risk of behavioural impact (or effect) as defined by Popper et. al. (Ref. 277) to marine turtles from non-impulsive sound as a result of the installation activities is not considered credible and has not been evaluated further.

Marine Turtles—TTS and PTS

Acoustic modelling for support vessels indicate that the maximum radial distance in any direction from the source to the TTS and PTS noise effect criteria was 0.73 km and 0.04 km respectively from the sound source (Ref. 343).

Note that the SEL_{24h} is a cumulative metric that assumes a receptor is continuously exposed to the relevant noise effect criteria for a 24-hour period. Specifically for marine turtles, this requires them to remain within 80-730 m from the sound source for at least a 24-hour period before TTS auditory impairment may occur, and within 10-40 m from the sound source for at least a 24-hour period before PTS auditory impairment may occur (Table 7-6 to Table 7-9). Given the construction vessel will be moving, and as the water depth in the OA (>130m) and Sound EMBA (>115 m) and distance to the closest nesting beaches (>50 km) indicates the area is unsuitable habitat for internesting (Section 4.3.3.2.1), and marine turtles (if present) are expected to be individuals transiting through the area, the risk of potential onset of TTS or PTS, as a result of the installation activities, is not considered credible and has not been evaluated further.

The helicopter operations covered under this EP (i.e. crew transfers) are expected to be infrequent. Therefore, exposure to continuous sound from this source for an extended period (e.g. 24 hours) is not credible, and comparison against an accumulated sound exposure levels is not relevant, and no further evaluation is required.

Fish including sharks and rays

Behavioural disturbance

Non-impulsive sound sources have been identified as a moderate or high risk of causing behavioural changes, and a high risk of causing masking changes, within the near and intermediate vicinity of a sound source for all fish groups, including eggs and larvae (Table 7-5); these risks decrease with increasing distance from the source. Non-impulsive sound of any level that is detectable by fish can mask signal detection, and thus may have a pervasive effect on fish behaviour. However, the consequences of this masking and any attendant behavioural changes for the survival of fishes are unknown (Ref. 278). It is expected that most fish (including sharks and rays) will exhibit avoidance behaviour from a sound source if it reaches levels that may cause behavioural or physiological effects.

As identified in Section 4.3.3, several fish species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Sound EMBA. A foraging BIA for the Whale Shark partially overlaps with the Sound EMBA from the Gorgon CDU to the M1 drill centre (Figure 4-9).

Whale Shark migration along the WA coast occurs mainly between July and November (Section 4.3.3.3.1). There is the potential for temporal petroleum activity overlap with the Whale Shark migration period. It is expected that the potential effects to Whale Sharks associated with underwater sound will be the same as for other pelagic fish species.

Pelagic fish species are likely to be transient through the Sound EMBA. If the fish are within the immediate vicinity of the sound source, behavioural responses are expected to be limited to an initial startle reaction before either returning to normal, or moving away from the area (Ref. 323). Demersal fish species may reside around existing subsea infrastructure (i.e. if it is providing suitable artificial habitat) within the Sound EMBA. However, given the water depths within the Sound EMBA, the predicted sound levels at the seabed are expected to be below impact thresholds.

Consequently, only localised short-term behavioural impacts to transient individuals have the potential to arise from these activities and have therefore been evaluated as Minor (5).

TTS and Recoverable injury

Non-impulsive sound sources have been identified as low risk of causing recoverable injury or mortal or potential mortality to fish with no swim bladders, those with bladders not involved in hearing, or to fish eggs and larvae (Table 7-5).

For fish species with a swim bladder involved in hearing, acoustic modelling for vessels indicates that the TTS noise effect criteria and the recoverable injury criteria may be met within 20 m of the source (Ref. 220).

Note that the SEL_{24h} is a cumulative metric that assumes a receptor is consistently exposed to the relevant noise effect criteria for a 24-hour period. Specifically for pelagic fish species, this requires them to remain within close proximity of the sound source for an extended period before TTS auditory impairments may occur.

On this basis, neither TTS nor recoverable injury to fish from non-impulsive sound sources from vessels are considered credible and have therefore not been considered further.

The helicopter operations covered under this EP (i.e. crew transfers) are expected to be infrequent. Therefore, exposure to non-impulsive sound from this source for an extended period (e.g. 24 hours) is not credible, and comparison against an accumulated sound exposure levels is not relevant, and no further evaluation is required.

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL and non-CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. These activities include IMR activities, installation and start-up of the J–IC infrastructure, and potential drilling and well intervention activities at Gorgon and Jansz (Ref. 61, Ref. 70, Ref. 42, Ref. 59, Ref. 334). Details of the relevant vessel operations, including fleet composition (including MODU), numbers and duration—are provided in Table 7-2. Therefore, there is potential for cumulative impacts from non-impulsive underwater sound emissions.

CAPL's assessment concluded that auditory injury or TTS to marine fauna from MODU and vessel operations is not credible, with only localised, short-term behavioural impacts expected to transient individuals (Ref. 61, Ref. 70, Ref. 42, Ref. 59, Ref. 334).

Given the OA is in deep open water with no physical barriers (e.g. shallow waters or embayments), marine fauna is unlikely to remain near the MODU or vessel long enough to exceed TTS and PTS thresholds. Individuals may temporarily alter their travel path, but without biologically significant impacts.

Therefore, concurrent activities are not expected to significantly increase additive or cumulative effects from non-impulsive underwater sound emissions, and no change to the overall consequence level is expected.

ALARP decision context justification

Offshore commercial vessel operations and installation activities are commonplace and well-practiced nationally and internationally. The application of control measures to manage impacts and risks arising from this aspect are well defined, understood by the industry, and are considered standard industry practice.

During relevant persons consultation, no objections or claims were raised regarding underwater sound emissions arising from the activity.

Although some species that are known to be sensitive to underwater sound and have the potential to be exposed to underwater noise above exposure criteria during these activities, the impacts and risks arising from underwater sound emissions are considered lower-order impacts and risks in accordance with Table 5-3.

As such, CAPL applied ALARP Decision Context A for this aspect. However, as this aspect is listed as a key threat to protected matters under documents made or implemented under the EPBC Act, and can result in a credible impact or risk, additional control measures were also considered.

Good practice control measures

Control measure	Description
Marine fauna caution, approach and separation distances	The requirements to manage interactions between vessels and cetaceans are detailed in the EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans (and applied for Whale Sharks, marine turtles, dugongs). This regulation describes strategies to ensure cetaceans are not harmed during offshore interactions with people.

	By implementing this control measure, potential noise impacts are reduced by maintaining a minimum separation distance between cetaceans (and applied for Whale Sharks, marine turtles, dugongs) and vessels. It also reduces helicopter noise levels received at the sea surface during flight by maintaining a minimum separation distance between the cetaceans (and applied for Whale Sharks, marine turtles, dugongs) and helicopter.	
Additional control measures and cost-benefit analysis		
Control measure	**Benefit**	**Cost**
Petroleum activity schedule—Adjust to reduce likelihood of presence of EPBC listed threatened and/or migratory species	By altering the timing of the petroleum activity to reduce overlap with the predicted seasonal presence of protected marine fauna within the OA may consequently reduce the likelihood (and residual risk) of auditory impairment or injuries occurring. However, as shown in Table 4-15, sound sensitive marine fauna is present throughout the year, and therefore avoidance is not possible.	N/A
Petroleum activity schedule—Adjust to avoid predicted peak migration periods for Pygmy Blue Whales and Humpback Whales	Adopting this control would remove the risk of effects from non-impulsive underwater sound to Pygmy Blue Whales and Humpback Whales. Notably, the predicted peak migration periods in the Montebello Island region for Pygmy Blue Whales are May–June (northern) and November–December (southern), and for Humpback Whales is late-July (northern) and early-September (southern) (Table 4-15). Scheduling the petroleum activity to avoid the predicted peak whale seasons would result in the petroleum activity coinciding with predicted peak periods for other marine fauna (e.g. migration for turtles, fledging of seabirds) (Table 4-15). Given the low number of vessels within the OA and the location of the ensonified areas from vessel operations being located outside areas identified as being biologically important, any change to approximate activity schedule (Table 3-1) is not expected to result in a reduction of residual risk level.	The cost of implementing temporal schedule restrictions is considered grossly disproportionate to the negligible environmental benefit (and no change in residual risk) they may provide for Pygmy Blue Whales and Humpback Whales. Therefore, the control measure has not been adopted for use.
Adaptive management—shutdown zones for marine fauna for slow moving or stationary vessels under DP	Underwater sound that radiates from vessels is produced mainly by propeller and thruster cavitation, with a smaller fraction produced by sound transmitted through the hull, such as by engines, gearing, and other mechanical systems (Ref. 220). Sound levels tend to be the highest when thrusters are used to position the vessel and when the	Given the safety risks, the cost of implementing shutdown zones for vessels operating under DP is considered grossly disproportionate to the environmental benefit gained. Therefore, the control measure has not been adopted for use.

	vessel is transiting at high speeds (Ref. 220). Removing the use of vessel DP would therefore significantly reduce the sound emissions from the vessel. However, when a vessel is slow moving or stationary (e.g. during installation), the DP system is a critical safety device to avoid potential impact to existing subsea infrastructure, and therefore removing this would introduce a significant safety risk to the operation. If anchoring (or other mooring systems) were used in place of DP, this would introduce both new environmental risks (e.g. seabed disturbance) and safety risks (e.g. anchoring within proximity of live infrastructure). Given the safety risks the use of DP is considered critical for vessel operations, and as such the implementation of shutdown zones to reduce sound emission risk to marine fauna is not considered a practicable mitigation measure. Note: transiting vessels are covered by the other controls.	
Bridge-watch marine fauna observations—Slow moving and stationary vessels under DP	As described above, shutting down the DP system on a vessel is not considered a practicable mitigation measure. Where a vessel is stationary and operating under DP, the vessel will: • where practicable (given primary crew duties), the bridge-watch from the vessel/s will record observations for marine fauna within their field-of-view • if marine fauna are observed within the bridge-watch field-of-view, the vessel will continue to monitor the presence and movement of the marine fauna • if the marine fauna comes within the nominated separation distance, the vessel will where practicable, implement a mitigation manoeuvre (e.g. divert or slow) if considered operationally safe and viable to do so. Marine fauna observations have been extended to the field-of-view of the bridge-watch in recognition that the predicted ensonified area for behavioural disturbance to some marine fauna (e.g. marine	No additional personnel costs. However, the detection of marine fauna may lead to increased activity duration and overall costs due to transit deviations. However, the benefit of reducing impacts to marine fauna is considered to outweigh the financial costs from not implementing this control. Therefore, the control measure has been adopted for use.

	mammals) may extend beyond the prescribed caution, approach, or separation distances for protected marine fauna.	
Bridge-watch marine fauna observations—vessel in transit to the OA within the Pygmy Blue Whale migration BIA	Implementation of bridge-watch marine fauna observations during transit to the OA within the pygmy blue whale migration BIA will allow for the collection of data that can be considered in conducting the activity upon arrival in the OA (e.g. information on the potential presence or absence of protected fauna in the vicinity of the OA). Where practicable (given primary crew duties), the bridge-watch from the vessel/s will record observations for marine fauna within their field-of-view.	The benefit of the data collected outweighs the costs associated with implementing this control. Therefore, the control measure has been adopted for use.
Adaptive management—extended separation distances for vessels under transit within the OA (Pygmy Blue Whales and Humpback Whales)	The predicted ensonified distance for a behavioural response in marine mammals from the construction vessel using DP is up to 3.77 km (Table 7-10). While vessels are in transit the predicted maximum distance to the behavioural response threshold is expected to be smaller when compared to using DP. CAPL commissioned underwater sound modelling for a similar offshore construction vessel in transit within the same area for activities associated with Jansz-Io compression and the predicted ensonified distance for a behavioural response in pygmy blue whales using animat simulations was between ~0.14 – 0.72 km (Ref. 343). Increasing the separation distances for cetaceans (i.e. beyond the 300 m caution/approach zone required for whales under EPBC Regulations 2000) would reduce the likelihood of exposure of cetaceans to underwater sound at levels that may cause a behavioural effect. Based on the underwater sound modelling for a construction vessel in transit, an extended separation distance of 1 km (or to the field-of-view of the bridge-watch if this is <1 km) will reduce the risk of disturbance and will be implemented. Although Pygmy Blue and Humpback Whales are less likely to occur within the OA outside of peak migration periods, use of extended separation distances at all times for vessels in transit will afford additional protection.	The detection of Pygmy Blue and Humpback Whales within the vicinity of vessel operations may lead to increased duration and overall costs. However, the benefit of reducing impacts to Pygmy Blue and Humpback Whales both during and outside of the peak migration periods is considered to outweigh the financial costs from not implementing this control. Therefore, the control measure has been adopted for use.

Adaptive management—extended separation distances for vessels under transit within the OA (Whale Sharks)	The predicted ensonified distance for behavioural disturbance to fish from a non-impulsive sound source is up to hundreds of metres (Table 7-5). Increasing the separation distances for Whale Sharks (i.e. beyond the standard 30 m separation distance) would reduce the likelihood of exposure of Whale Sharks to underwater sound at levels that may cause a behavioural effect. Based on underwater sound modelling conducted, an extended separation distance of 500 m (or to the field-of-view of the bridge-watch where this is <500 m) will reduce the risk of disturbance and will be implemented. Although Whale Sharks are less likely to occur within the OA outside of peak migration periods, use of extended separation distances at all times for vessels in transit will afford additional protection.	The detection of Whale Sharks within the vicinity of vessel operations may lead to increased duration and overall costs. However, the benefit of reducing impacts to Whale Sharks both during and outside of the peak migration periods is considered to outweigh the financial costs from not implementing this control. Therefore, the control measure has been adopted for use.
Pre-start-up visual observation period for whales when activities commence in daylight hours	The following adaptative measures will be implemented during installation activities when activities commence in daylight hours: • pre-start-up visual observation period: – visual observations for the presence of any whale will be undertaken over a period of 30 minutes prior to commencement of activities – activity can only commence within the OA if no whale has been observed within the field-of-view of the bridge-watch crew for a period of 30 minutes.	No additional personnel costs. However, implementation of pre-start-up visual observations introduces costs associated with having the vessel on stand-by during this time and the detection of whales may also lead to increased activity duration and overall costs due to delayed start-ups of the activity. However, the benefit of reducing impacts to whales is considered to outweigh the financial costs from not implementing this control. Therefore, the control measure has been adopted for use.
Pre-start-up visual observation period for whales during low visibility periods or at nighttime	Implementation of a pre-start-up visual observation period for whales during low visibility periods or at nighttime may afford additional protection from potential impacts from underwater noise emitted by the activity providing whales can be detected during these times.	Implementation of pre-start-up visual observations introduces costs associated with having the vessel on stand-by during this time. The detection of marine fauna during periods of low visibility and at nighttime is likely to be difficult and implementing pre-start visual observations during these times will extend the overall duration of the activity (including the additional emissions and discharges associated with extending

		the activity) for limited benefit. Implementation of this control measure is therefore unlikely to be effective and any limited benefit is considered grossly disproportionate to the cost associated with implementing this control. Therefore, the control measure has not been adopted for use.
Pre-start-up visual observations prior to commencing any dynamic positioning	Implementation of a pre-start-up visual observation period for marine fauna prior to commencing any dynamic positioning may reduce potential impacts and risks to marine fauna within proximity to the vessel.	This control measure is not considered feasible. Vessels may need to use dynamic positioning during the activities to maintain safe operations and it is not practicable to conduct visual observations each time dynamic positioning is required. In addition, CAPL has committed to implement pre-start-up visual observations for each stage of activities (Table 3-1) when activities commence in daylight hours. Therefore, the control measure has not been adopted for use.
Delay commencement of activities until daylight hours	Avoiding commencement of activities at nighttime would allow for pre-start-up visual observations to be conducted during daylight hours and may reduce potential impacts and risks to marine fauna within proximity to the vessel. Management action A.2.3 in the *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 139) states 'anthropogenic noise in biologically important areas will be managed such that any blue whale continues to utilise the area without injury, and is not displaced from a foraging area'. Acoustic modelling indicates that onset of PTS or TTS for low frequency cetaceans from noise emitted by the activity is not credible. The predicted ensonified areas do not intersect with any Foraging Areas (annual high use, known, or possible) as defined within the *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 139). Based on proxy indicators, a recent study suggests that the 'most important areas' for foraging along the WA coast include discontinuous use of the shelf edge from Ningaloo	Timing of the commencement of activities is subject to a number of factors (including vessel availability, suitable weather windows, completion of prior works etc.) and it may be preferable to commence works during the night. A worst-case delay in commencement of activities of ~12 hours would result in standby costs in the order of 100s of 1,000s of AUD. 24-hour operations are common-place in the oil and gas industry and delaying commencement of works until daylight hours would extend the overall duration of the activity (and result in additional emissions and discharges associated with extending the activity). The Sound EMBA for the activity does not intersect any foraging areas as defined in the *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 139) or the 'most important areas' for foraging.

	Reef to Rowley Shoals (Ref. 308). The predicted ensonified area for behavioural disturbance to Pygmy Blue Whales during the petroleum activity may extend up to 3.77 km. The Sound EMBA for the petroleum activity does not intersect any of the 'most important areas' for foraging (Figure 4-7) – the closest being ~9 km from the OA.	Taking this into consideration, the cost of delaying commencement of activities until daylight hours is considered grossly disproportionate to the potential environmental benefits. Therefore, this control measure has not been adopted for use.
Marine fauna sighting communications protocol	Sharing data on marine fauna sightings may help in informing management of concurrent activities in the OA. Where there is more than one vessel operating in the OA, a communications protocol will be implemented to share marine fauna observations.	No additional personnel cost. The collection of data and subsequent sharing of data will better inform concurrent activities within the field. Therefore, the control measure has been adopted for use.
Review of revised or contemporary scientific studies and guidance	Information in this EP has been based off the most recently published scientific studies and contemporary guidance at the time of writing the EP. New studies and guidance may be published prior to the commencement of the activity. Three months prior to commencement of the activity, CAPL will review revised or contemporary, relevant scientific studies and guidance published. If required, any changes will be implemented by use of the MOC process as detailed in Section 8.3.2.2.	The benefit of applying contemporary scientific studies and guidance is considered to outweigh the cost associated with the implementation of this control measure. Therefore, it has been adopted for use.
Likelihood and risk level summary		
Likelihood	Due to the nature and scale of the vessel activities within scope of this EP, the prediction of localised and temporary behaviour disturbance, and the overlap with known BIAs for some fauna, the likelihood of exposing receptors resulting in the identified consequence was considered Seldom (3).	
Risk level	Low (7)	
Determination of acceptability		
Principles of ESD	The risk associated with this aspect is a localised and temporary behaviour disturbance to individuals, which is not expected to result in effects at a population level that would prevent their long-term recovery or survival. As such, this aspect is not considered as having the potential to affect biological diversity and ecological integrity. The consequence associated with this aspect is Minor (5). Therefore, no further evaluation against the Principles of ESD is required.	
Relevant environmental legislation and other requirements	Legislation and other requirements considered applicable for this aspect include: • EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans • *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 139) • *Recovery Plan for Marine Turtles in Australia* (Ref. 83)	

- *Conservation Advice Rhincodon typus whale shark* (Ref. 314)
- *Conservation Advice for Sousa Sahulensis (Australian Humpback Dolphin) (Ref. 121*)
- *Conservation Advice for Orcaella Heinsohni (Australian Snubfin Dolphin) (*Ref. 113)
- *Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)* (Ref. 151)
- *Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)* (Ref. 152)
- *Conservation Advice for Pristis pristis (Largetooth sawfish)* (Ref. 344)

CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.

Requirement	Demonstration
EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans Caution and no approach zones for interacting with cetaceans from vessels. Vertical and horizontal distances for helicopter operations.	Requirements of regulation 8.05 and 8.06 for vessels, and 8.07 for aircraft, interacting with cetaceans has been incorporated into the **Marine fauna caution, approach and separation distances** control measure.
Conservation Management Plan for the Blue Whale 2015–2025 Management action A.2.3: Anthropogenic noise in biologically important areas will be managed such that any blue whale continues to utilise the area without injury, and is not displaced from a foraging area	The activity is not considered to be inconsistent with the Conservation Management Plan for the Blue Whale. The Sound EMBA does not intersect the designated Foraging Areas for Pygmy Blue Whales. The nearest foraging BIA occurs ~180 km southwest of the Sound EMBA, offshore from North West Cape; and as such is not exposed to sound emissions resulting from the installation activities. A recent study has indicated areas of probable foraging along the NWS based on proxy indicators (Figure 4-7, Ref. 308). Similarly, based on satellite tracking data, from another study suggests habitat suitable for foraging extends out from the 200 m bathymetry contour of the WA coast (Ref. 166); notably there is no overlap with the Sound EMBA and this area.
Recovery Plan for Marine Turtles in Australia Management action A1.5: Manage anthropogenic activities to ensure marine turtles are not displaced from identified habitat critical to the survival Management action A1.6: Manage anthropogenic activities in Biologically Important Areas to	TTS and PTS to marine turtles from accumulated SEL_{24h} exposures to non-impulsive sounds from vessels or helicopters is not predicted to occur. Therefore, this activity is not considered to be inconsistent with the *Recovery Plan for Marine Turtles in Australia*.

<table>
<tr><td></td><td>ensure that biologically important behaviour can continue</td><td></td></tr>
<tr><td></td><td>Conservation Advice for the Whale Shark 2015–2020
No specific conservation action identified.</td><td>N/A</td></tr>
<tr><td></td><td>Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)
No specific conservation action identified.</td><td>N/A</td></tr>
<tr><td></td><td>Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)
No specific conservation action identified.</td><td>N/A</td></tr>
<tr><td></td><td>Conservation Advice for Pristis pristis (Largetooth sawfish)
No specific conservation action identified.</td><td>N/A</td></tr>
<tr><td>Internal context</td><td colspan="2">No CAPL management processes or procedures were deemed relevant for this aspect.</td></tr>
<tr><td>External context</td><td colspan="2">No objections or claims were raised regarding underwater sound emissions arising from the activity.</td></tr>
<tr><td>Defined acceptable level</td><td colspan="2">These impacts and risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks associated with the activity are not inconsistent with any recovery plan, conservation advice, or relevant bioregional plan.
However, in alignment with Section 5.7.2, where the aspect is listed as threat to a protected matter or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents.
Objectives of the relevant documents are shown below:</td></tr>
<tr><td></td><td>Plan</td><td>Objective</td></tr>
<tr><td></td><td>Conservation Management Plan for the Blue Whale 2015–2025</td><td>Recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.
Interim objective 4 Anthropogenic threats are demonstrably minimised.</td></tr>
<tr><td></td><td>Recovery Plan for Marine Turtles in Australia</td><td>Recovery objective: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.
Interim objective 3: Anthropogenic threats are demonstrably minimised.</td></tr>
<tr><td></td><td colspan="2">Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:
• impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species</td></tr>
</table>

	• no auditory injury (TTS or PTS) to Pygmy Blue Whales within a BIA resulting from underwater sound from the petroleum activity • no displacement of Pygmy Blue Whales from foraging areas resulting from underwater sound from the petroleum activity • no displacement of marine turtles from HCTS or a species resulting from underwater sound from the petroleum activity • no disruption of biologically important behaviours of marine turtles within known BIAs resulting from underwater sound from the petroleum activity. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level. In particular that by managing the risk to marine fauna, that the risk to values of the AMP are also subsequently managed to this acceptable level.	
Environmental performance outcome	**Environmental performance standard**	**Measurement Criteria**
(EPO 8) No injury to marine fauna from underwater sound emissions from vessel or helicopter activities within the OA associated with the petroleum activity (EPO 9) No displacement of marine fauna, or disruption of biologically important behaviours of marine fauna, from BIAs or HCTS of a species from vessel or helicopter activities associated with the petroleum activity	**(EPS 3.1) Marine fauna caution, approach and separation distances** For vessels under transit within the OA, the following caution, approach, or separation distances (and associated vessel speeds) will be maintained by the vessels: • caution and no approach zones for cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth) • separation distance of 100 m for dugongs (as described in the Biodiversity Conservation Regulations 2018 [WA]) • separation distance of 30 m for marine turtles • vessels must operate at ≤6 knots within caution zones or when moving away to maintain a no-approach zone or separation distance • for pygmy blue whales and humpback whales an extended separation distance of 1 km (or to the	(MC 3.1.1) Induction materials include relevant marine fauna caution and no approach zone requirements (MC 3.1.2) Training records confirm personnel involved in offshore vessel activities have completed the induction (MC 3.1.3) Vessel records show if marine fauna interaction occurred within caution or approach zones, and what mitigation (e.g. divert or slow vessel) measure was implemented

	field-of-view of the bridge-watch if this is <1 km) will be implemented • for whale sharks, an extended separation distance of 500 m (or to the field-of-view of the bridge-watch where this is <500 m) will be implemented. For helicopters under transit within the OA, the following marine fauna interaction requirements will be maintained by the helicopters: • height and distance from cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth) • separation distance of 500 m for whale sharks, dugongs, and marine turtles.	(MC 3.1.4) Helicopter records show if marine fauna interaction occurred, and what mitigation (e.g. divert) measure was implemented
	(EPS 3.3) Bridge-watch marine fauna observations—Slow moving and stationary vessels under DP Where a vessel is stationary and operating under DP, the vessel will: • where practicable (given primary crew duties), the bridge-watch from the vessel/s will record observations for marine fauna within their field-of-view • if marine fauna are observed within the bridge-watch field-of-view, the vessel will continue to monitor the presence and movement of the marine fauna • if the marine fauna comes within the nominated separation distance, the vessel will where practicable, implement a mitigation manoeuvre (e.g. divert or slow) if considered operationally safe and viable to do so.	(MC 3.3.1) Induction records show vessel bridge-watch crew were provided with marine fauna observations and reporting guidelines (MC 3.3.2) Records show that marine fauna observations were undertaken by bridge-watch crew when vessels were stationary or slow moving within the OA (MC 3.3.3) Vessel marine fauna sighting records show if marine fauna were observed what mitigation (e.g. divert or slow vessel) measure was implemented
	(EPS 3.4) Pre-start-up visual observation period for whales when activities commence in daylight hours Prior to commencing an installation activity (Table 3-1), a pre start-up visual observation	(MC 3.4.1) Records demonstrate that pre-startup visual observations were undertaken prior to commencement of each installation activity (Table 3-1)

	period will be implemented when activities commence in daylight hours: – visual observations over a period of 30 minutes for the presence of any whale will be undertaken prior to commencement of an installation activity – activity can only commence within the OA if no whale has been observed within the field-of-view of the bridge-watch crew for a period of 30 minutes.	when activities commence in daylight hours
	(EPS 3.5) Bridge-watch marine fauna observations—vessel in transit to the OA within the pygmy blue whale migration BIA Where a vessel is in transit to the OA within the pygmy blue whale migration BIA: • Where practicable (given primary crew duties), the bridge-watch from the vessel/s will record observations for marine fauna within their field-of-view.	(MC 3.5.1) Records show that marine fauna observations were undertaken by bridge-watch crew when vessels were in transit to the OA within the pygmy blue whale migration BIA.
	(EPS 3.6) Marine fauna sightings communications protocol Where there is more than one vessel operating in the OA, a communications protocol will be implemented to share marine fauna observations.	(MC 3.6.1) Records show that marine fauna communications protocol is in place. (MC 3.6.2) Records show that where there is more than one vessel operating in the OA, marine fauna observations were shared as required in accordance with the protocol.
	(EPS 3.7) Review of revised or contemporary scientific studies and guidance Three months prior to commencement of the petroleum activity, CAPL will review revised or contemporary, relevant scientific studies and guidance published. If required, any changes will be implemented by use of the MOC process as detailed in Section 8.3.2.2.	(MC 3.7.1) Records show that a review was undertaken three months prior to commencement of the activity, and if required the MOC process was applied.

7.7 Underwater sound—Surveys (acoustic positioning)

Source
Activities identified as having the potential to result in continuous non-impulsive underwater sound are:

- Installation activities—acoustic positioning (LBL and USBL) associated with surveys (pre–lay, as-laid and IMR).

USBL and LBL equipment emit SPL of ~185–200 dB re 1 µPa RMS @ 1 m, operating frequency ~20–34 kHz (Ref. 183).

Potential Impacts and Risks

Impacts	C	Risks	C
Underwater sound emissions may result in: • localised and temporary change in ambient underwater sound.	6	A change in ambient underwater sound may result in: • behavioural disturbance • auditory impairment, temporary threshold shift (TTS), permanent threshold shift (PTS), recoverable or non-recoverable injury to marine fauna	6 —

Consequence Evaluation

Localised and temporary change in ambient underwater sound

Anthropogenic underwater sound emitted during acoustic positioning will result in a temporary and localised change in ambient sound levels.

Underwater broadband ambient sound spectrum levels range from 45–60 dB re 1 µPa in quiet regions (light shipping and calm seas) to 80–100 dB re 1 µPa for more typical conditions, and >120 dB re 1 µPa during periods of high winds, rain or 'biological choruses' (many individuals of the same species vocalising near simultaneously in reasonably close proximity to each other) (Ref. 197). Low-frequency ambient sound levels (20–500 Hz) are frequently dominated by distant shipping plus some great whale species. Light weather-related sounds will be in the 300–400 Hz range, with wave conditions and rainfall dominating the 500–50,000 Hz range (Ref. 197).

USBL transponders are expected to emit medium to high frequency sound generally within the range of ~20 to 34 kHz with a maximum estimated SPL of ~200 dB re 1 µPa RMS at 1 m (Ref. 183).

Underwater sound emissions associated with the pre–lay and as–laid surveys are expected to occur over ~7 days and ~5 days, respectively (Table 3-1).

Given the details above, the consequence of acoustic positioning causing a change in ambient underwater sound has been assessed as Incidental (6) as it will result in a limited changes that are localised and short-term in nature.

Marine Mammals

Behavioural disturbance

The US NMFS (2023) has suggested classifying some acoustic positioning equipment as non-impulsive sources based on their repetition rate. The acoustic positioning equipment may be considered continuous non-impulsive due to their repetition rates (≥10 Hz). On this basis, the noise effect criteria for marine mammals for behavioural disturbance from the acoustic positioning (continuous non-impulsive sound) is 120 dB re 1 µPa (SPL; L_p) (Ref. 243).

The sound emissions from USBL and LBL transponders are expected to fall within the upper limit of low frequency cetacean hearing range and within the hearing range of high frequency and very high frequency cetaceans. While the sound emissions may be audible to cetaceans, due to the high frequency ranges, the sound is expected to attenuate rapidly. Using a simple spreading loss formulae (Ref. 156), the estimated maximum distance from source to the marine mammal behavioural threshold (120 dB re 1 µPa (SPL; L_p) (Ref. 243) could be up to 2 km.

Several marine mammal species, including listed threatened and/or migratory low, high– and very high–frequency cetaceans, have the potential to occur within the predicted ensonified area (i.e. within the OA). The predicted ensonified area for behavioural disturbance also overlaps with a migration BIA for Pygmy Blue Whales. The PMST search suggests that Australian Snubfin and Humpback dolphins may be present within the Sound EMBA. However, there are no known aggregation areas or biologically important behaviours for other cetacean species, including high– and very high–frequency cetaceans, within the predicted ensonified area. Therefore, it is expected that any marine mammal species present would be transitory.

Taking this into consideration the focus of this evaluation is on Pygmy Blue Whales as they provide a representative case to enable an indicative consequence evaluation to be undertaken.

There is the potential for the visual surveys to overlap with the migration period for Pygmy Blue Whales. However, as discussed in Section 4.3.3.1.2, although the defined BIA for Pygmy Blue Whales passes through the OA and Sound EMBA, it is expected based on recent satellite tracking and acoustic detection studies that the Pygmy Blue Whales are more likely to travel predominantly north-west of the Sound EMBA in deeper waters further offshore.

The OA and Sound EMBA also intersect with areas that have been identified as 'most important' and 'suitable' areas for Pygmy Blue Whale migration along the west coast (Section 4.3.3.1.2 and Figure 4-6). This overlap includes approximately 40% of the umbilical route from the Jansz CDU towards the coast. However, as discussed in Section 4.3.3.1.2, data from satellite tracking studies has suggested that northern migration by Pygmy Blue Whales occurs in deeper waters and further offshore than the defined BIA (e.g. distances 238±14 km offshore, and in water depths of 2,617±143.5 m north of North West Cape [Ref. 146, Ref. 175 and Section 4.3.3.1.2]; the predicted ensonified area does not occur within these distances or water depth ranges). In addition, the BIA in the vicinity of the installation activities is not considered to be a confined migratory pathway.

The 'Possible Foraging Areas' as defined within the Conservation Management Plan for the Blue Whale (Ref. 94), coincide with foraging BIAs, and occur ~180 km south-west and ~920 km north-east of the predicted ensonified area respectively. Based on proxy indicators from passive acoustic and satellite telemetry data (Ref. 308), 'most important areas' for foraging for Pygmy Blue Whales have also been identified (Figure 4-7). A recent study has characterised suitable foraging habitat as occurring primarily on the continental slope from the southern extent to the northeastern edge of WA (Ref. 165). However, the use of this area is not expected to be continual throughout the year but associated with Pygmy Blue Whale migration timing; and foraging areas are known to be dynamic given their dependence on presence of prey (Ref. 342, Ref. 308; Ref. 269; Ref. 283, Ref. 312, Ref. 165) and oceanographic conditions (Ref. 312, Ref. 165). Notably, the OA and predicted ensonified area does not overlap with these 'most important areas' (Figure 4-7) and 'suitable habitat' for foraging areas.

The underwater sound emissions associated with the pre–lay and as–laid visual surveys are expected to occur over ~7 days and ~5 days, respectively (Table 3-1).

Given the short duration of the visual surveys, the limited hearing sensitivities at the positioning equipment frequencies environmental impacts are expected to be negligible and therefore have been evaluated as Incidental (6).

TTS and PTS

The threshold criteria for TTS and PTS in marine mammals from continuous non-impulsive sound are SEL_{24h} of 161–181 dB re 1 μPa^2s and 181–201 dB re 1 μPa^2s, respectively, depending on the hearing group (Ref. 241).

The sound emissions from USBL and LBL transponders are expected to fall within the upper limit of low frequency cetacean hearing range and within the hearing range of high frequency and very high frequency cetaceans. While the sound emissions may be audible to cetaceans, due to the high frequency ranges the sound is expected to attenuate rapidly.

The source level of the USBL and LBL equipment, ~185–200 dB re 1 µPa RMS @ 1 m, overlaps the established threshold criteria for PTS onset for marine mammals. However, given the rapid attenuation of high-frequency sound in the marine environment, and the need for marine mammals to be exposed to these sound levels for extended durations (>24 hours) before auditory impairments or injuries occur, TTS and PTS to marine mammals from positioning equipment during visual inspections are not considered credible and are not evaluated further.

Marine reptiles

Sea snakes

The threatened Short-nosed Sea Snake or Leaf-scaled Sea Snake are not expected to be present within the Sound EMBA given known habitat preferences for shallow water and reef habitat; underwater sound has also not been identified as a threat for either species (Ref. 151; Ref. 152). Other EPBC marine listed sea snake species may occur in broader habitats within the NWMR, however noise pollution has not been identified as a pressure for sea snake species (Ref. 155). As such, underwater sound is not considered to be a significant factor in sea snake behaviour or survival.

Marine Turtles—Behavioural disturbance

Marine turtle hearing is restricted to below 2 kHz (Ref. 241), and as such the frequencies of sound produced by the acoustic positioning equipment (~20–34 kHz) will not be audible to turtles. Therefore, no effects are predicted for marine turtles from the acoustic positioning equipment and it is not evaluated further.

Fish including sharks and rays

Behavioural disturbance

Fish hearing is restricted to below 4 kHz and mostly also below 1 kHz (Ref. 277), as such the frequencies of sound produced by the acoustic positioning equipment (~20–34 kHz) will not be audible to fish. Therefore, no effects are predicted for fish from the considered acoustic positioning equipment, and it is not evaluated further.

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL and non-CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. These activities include IMR and survey activities, subsea compression station, floating field control station, well evaluations (vertical seismic profiling [VSP]), and transponder operations (LBL and/or USBL) (Ref. 61, Ref. 70, Ref. 42, Ref. 59, Ref. 334). Therefore, there is potential for cumulative impacts from underwater sound emissions.

These activities are predominantly of short duration (<7 days). Per well site, the well evaluations, use of transponders and acoustic positioning are expected to be undertaken for a duration of <1 day, <3 days and up to 7 days per well site. The noise generated by the floating field control station and subsea compression station will be ongoing.

Although some activities are predicted to have the potential to impact marine fauna, the implementation of control measures is expected to prevent any significant risk of auditory injury. Some activities may cause behavioural effects, or short term behavioural disturbance, leading to avoidance behaviours. However, these effects are confined to discrete areas surrounding the relevant activity. Given the spatial separation of these activities, the ensonified areas are not predicted to overlap.

CAPL's assessment concluded that only localised, short-term behavioural impacts would be expected to transient individuals (Ref. 61, Ref. 70, Ref. 42, Ref. 59, Ref. 334).

Given that the OA is in deep open water with no physical barriers (e.g. shallow waters or embayments), marine fauna is unlikely to remain near the MODU or vessels long enough to exceed TTS and PTS thresholds. Individuals may temporarily alter their travel path, but without biologically significant impacts.

Therefore, concurrent activities are not expected to significantly increase additive or cumulative effects from intermittent non-impulsive underwater sound emissions, and no change to the overall consequence level is expected.

ALARP Decision Context Justification

The use of offshore acoustic positioning is commonplace and well-practised nationally and internationally. The application of control measures to manage impacts and risks arising from this aspect are well defined, understood by the industry, and are considered standard industry practice.

During relevant persons consultation, no objections or claims were raised regarding underwater impulsive sound emissions arising from the activity.

Although some species that are known to be sensitive to underwater sound have the potential to be exposed to underwater noise above exposure criteria during these activities, the impacts and risks arising from underwater sound emissions are considered lower-order impacts and risks in accordance with Table 5-3.

As such, CAPL applied ALARP Decision Context A for this aspect. However, as this aspect is listed as a key threat to protected matters under documents made or implemented under the EPBC Act, and can result in a credible impact or risk, additional control measures were also considered.

Good Practice Control Measures

Control measure	Description
Marine fauna caution, approach and separation distances	The requirements to manage interactions between vessels and cetaceans are detailed in the EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (and applied for Whale Sharks, marine turtles, dugongs). This regulation describes strategies to ensure cetaceans are not harmed during offshore interactions with people. While this legislative requirement is for vessels (and not specifically acoustic positioning equipment), by implementing the caution and approach zones, the potential for interaction with marine fauna, and any subsequent environmental impact, is reduced.

<table>
<tr><th colspan="3">Additional control measures and cost benefit analysis</th></tr>
<tr><th>Control measure</th><th>Benefit</th><th>Cost</th></tr>
<tr><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><th colspan="3">Likelihood and Risk Level Summary</th></tr>
<tr><td>Likelihood</td><td colspan="2">Due to the nature and scale of the acoustic positioning activities within scope of this EP, the prediction for localised and temporary behaviour disturbance, and the overlap with known BIAs for some fauna, the likelihood of exposing receptors resulting in the identified consequence was considered Unlikely (4).</td></tr>
<tr><td>Risk Level</td><td colspan="2">Very low (9)</td></tr>
<tr><th colspan="3">Acceptability Summary</th></tr>
<tr><td>Principles of ESD</td><td colspan="2">The risk associated with this aspect is a localised and temporary behaviour disturbance to individuals, which is not expected to result in effects at a population level that would prevent their long-term recovery or survival. As such, this aspect is not considered as having the potential to affect biological diversity and ecological integrity.
The consequence associated with this aspect is Incidental (6).
Therefore, no further evaluation against the Principles of ESD is required.</td></tr>
<tr><td>Relevant Environmental Legislation and Other Requirements</td><td colspan="2">Legislation and other requirements considered applicable for this aspect include:
EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans
Conservation Management Plan for the Blue Whale 2015–2025 (Ref. 139)
Recovery Plan for Marine Turtles in Australia (Ref. 83)
Conservation Advice Rhincodon typus whale shark (Ref. 314)
Conservation Advice for Sousa Sahulensis (Australian Humpback Dolphin) (Ref. 121)
Conservation Advice for Orcaella Heinsohni (Australian Snubfin Dolphin) (Ref. 113)
Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) (Ref. 151)
Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake) (Ref. 152).
Conservation Advice for Pristis pristis (Largetooth sawfish) (Ref. 344)
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.</td></tr>
<tr><td></td><td>Requirement</td><td>Demonstration</td></tr>
<tr><td></td><td>EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans
Caution and no approach zones for interacting with cetaceans from vessels</td><td>Requirements of regulation 8.05 and 8.06 for vessels interacting with cetaceans has been incorporated into the EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans control measure.</td></tr>
<tr><td></td><td>Conservation Management Plan for the Blue Whale 2015–2025
Management action A.2.3: Anthropogenic noise in BIAs will be managed such that any blue whale continues to utilise the area without injury, and is not displaced from a foraging area</td><td>The predicted ensonified area from acoustic positioning equipment does not intersect with a BIA or foraging area for Pygmy Blue Whales. Therefore, this activity is not considered to be inconsistent with the Conservation Management Plan for the Blue Whale.</td></tr>
</table>

	Recovery Plan for Marine Turtles in Australia Management action A1.5: Manage anthropogenic activities to ensure marine turtles are not displaced from identified HCTS Management action A1.6: Manage anthropogenic activities in BIAs to ensure that biologically important behaviour can continue	Sound emissions that exceed 2 kHz would not be heard by marine turtles and as such would not present a risk or cause an impact. Therefore, this activity is not considered to be inconsistent with the Recovery Plan for Marine Turtles in Australia.
	Conservation Advice for the Whale Shark 2015–2020 No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake) No specific conservation action identified.	N/A
	Conservation Advice for Sousa Sahulensis (Australian Humpback Dolphin) No specific conservation action identified.	N/A
	Conservation Advice for Orcaella Heinsohni (Australian Snubfin Dolphin) No specific conservation action identified.	N/A
	Conservation Advice for Pristis pristis (Largetooth sawfish) No specific conservation action identified.	N/A
Internal Context	No CAPL management processes or procedures were deemed relevant for this aspect.	
External context	No objections or claims were raised regarding underwater impulsive sound emissions arising from the activity.	
Defined Acceptable Level	These impacts and risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks associated with the activity are not inconsistent with any recovery plan, conservation advice, or relevant bioregional plan. However, in alignment with Section 5.7.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:	
	Plan	**Objective**

	Conservation Management Plan for the Blue Whale 2015–2025	Recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list. Interim objective 4 Anthropogenic threats are demonstrably minimised.
	Recovery Plan for Marine Turtles in Australia	Recovery objective: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list. Interim objective 3: Anthropogenic threats are demonstrably minimised.
	Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents: • impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species • no auditory injury (TTS or PTS) to Pygmy Blue Whales within a BIA resulting from underwater sound from the petroleum activity • no displacement of Pygmy Blue Whales from foraging areas resulting from underwater sound from the petroleum activity. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level. In particular that by managing the risk to marine fauna, that the risk to values of the AMP are also subsequently managed to this acceptable level.	

Environmental Performance Outcomes	Environmental performance standard	Measurement Criteria
(EPO 10) No injury to marine fauna from underwater sound emissions from acoustic surveys within the OA associated with the petroleum activity (EPO 11) No displacement of marine fauna from BIAs or HCTS of a species from acoustic surveys associated with the petroleum activity	**(EPS 3.1) Marine fauna caution, approach and separation distances** For vessels under transit within the OA, the following caution, approach, or separation distances (and associated vessel speeds) will be maintained by the vessels: • caution and no approach zones for cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth) • separation distance of 100 m for dugongs (as described in the Biodiversity Conservation Regulations 2018 [WA]) • separation distance of 30 m for marine turtles • vessels must operate at ≤6 knots within caution zones or when moving away to maintain a no-approach zone or separation distance. • for pygmy blue whales and humpback whales an extended separation distance of 1 km (or to the field-of-view	(MC 3.1.1) Induction materials include relevant marine fauna caution and no approach zone requirements (MC 3.1.2) Training records confirm personnel involved in offshore vessel activities have completed the induction (MC 3.1.3) Vessel records show if marine fauna interaction occurred within caution or approach zones, and what mitigation (e.g. divert or slow vessel) measure was implemented

	of the bridge-watch if this is <1 km) will be implemented • for whale sharks, an extended separation distance of 500 m (or to the field-of-view of the bridge-watch where this is <500 m) will be implemented. •	
	(EPS 3.4) Pre start-up visual observation period for whales when activities commence in daylight hours Prior to commencing a survey activity, a pre start-up visual observation period will be implemented when activities commence in daylight hours: – visual observations over a period of 30 minutes for the presence of any whale will be undertaken prior to commencement of a survey activity – activity can only commence within the OA if no whale has been observed within the field-of-view of the bridge-watch crew for a period of 30 minutes.	(MC 3.3.3) Records demonstrate that pre start-up visual observations were undertaken prior to commencement of each survey activity when activities commence in daylight hours

7.8 Invasive marine pests

Source

Activities identified as having the potential to result in the introduction of an invasive marine pests (IMP) are:

- field support—planned discharged of ballast water or the presence of biofouling on vessels undertaking activities within the OA.

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	An introduction of an IMP may result in: • displacement of, or competition with, native species	2

Consequence evaluation

Displacement of, or competition with, native species

IMPs are likely to have little or no natural competition or predators, thus potentially outcompeting native species for food or space, preying on native species, or changing the nature of the environment. It is estimated that Australia has >250 introduced marine pests, and that approximately one in six introduced marine species becomes a pest (Ref. 92).

IMPs primarily occur in shallow waters with high levels of slow-moving or stationary shipping traffic (such as ports). The probability of successful IMP settlement and recruitment decreases in deep ocean waters away from coastal habitats or shallow benthic habitats. IMP colonisation also requires a suitable habitat in which to establish itself, such as rocky and hard substrates. The Australian Government Bureau of Resource Sciences (BRS) established that the relative risk of an IMP becoming established around Australia decreases with distance from the coast. Modelling

conducted by BRS (Ref. 25) estimates that the median risk of establishment[36] at 3 nm, 12 nm and 24 nm is ~40%, ~28%, and ~9% respectively.

The OA is also located ~55 km (~29.7 nm) from the closest island (Barrow Island), and >115 km (>62.1 nm) from the mainland coast and large ports. Water depths in the OA range from ~115 m to ~1,350 m, and low light levels are expected at the seabed, particularly in the further offshore areas of the OA.

The particular values and sensitivities within the OA with the potential to be impacted by the introduction of a marine pest include the following KEFs:

- Ancient coastline at 125 m depth contour
- Continental slope demersal fish communities

Although KEFs have been identified as having the potential to be exposed, as described in Section 4.3.6.1, the benthic habitats within the OA comprise unvegetated and soft sediments. Surveys indicate that habitat within the Ancient coastline at 125 m depth contour KEF in proximity to the OA consisted of smooth seabed with bioturbation and appeared devoid of biota (Ref. 4, Table 4-17). Similarly habitat within the Continental slope demersal fish communities KEF in proximity to the OA comprise irregular and smooth seabed with bare substrates, discrete depressions of bare substrate, and scarps with bare substrate (Ref. 4, Table 4-17).

The location of the OA, and the benthic habitat within the OA, is not likely to be suitable for IMP establishment. The OA is in water depths of ~115–1,350 m, is located offshore from the mainland coast and large ports, and the seabed is dominated by soft sediments. Thus, the more favourable requirements of expansive hard substrate and sufficient light for IMP survival are not common within the OA.

Once established, IMPs can be difficult to eradicate (Ref. 187) and therefore there is the potential for a long-term change in habitat structure. Highly disturbed shallow water and coastal marine environments (such as marinas) have been found to be more susceptible to colonisation than open-water environments (Ref. 267; Ref. 178; Ref. 88; Ref. 89). Although marine pests are identified as being of concern to marine reptile species under the *North-west Marine Bioregional Plan* (Ref. 153), the risk is associated with terrestrial based IMPs thus is not relevant to the activities covered under this EP.

If an IMP was introduced, and if it did colonise an area, there is the potential for that colony to spread outside the OA resulting in a widespread long-term impact, therefore resulting in a Severe (2) consequence.

ALARP decision context justification

Offshore commercial vessel operations, and subsequent planned discharges, are commonplace and well-practiced locally, nationally, and internationally.

The causes resulting in an introduction of an IMP from a planned release of ballast water or hull biofouling are well understood by the industry and CAPL. The control measures to manage the risk associated with the introduction of an IMP are well defined via legislative requirements that are considered standard industry practice. These control measures are well understood and consistently implemented by the petroleum industry and CAPL. Specifically, CAPL has worked in the region for over 10 years, thus has a demonstrated understanding of industry requirements and their operational implementation in these areas.

During relevant persons consultation, no objections or claims were raised regarding IMP arising from the activity.

The risk of introducing an IMP is considered a lower-order risk in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Quarantine procedure	CAPL's *Quarantine Procedure Marine Vessels* (Ref. 52) provides information about quarantine compliance to CAPL, contractors, and others associated with marine vessels. The procedure also ensures that the requirements of various legislative or relevant guidelines are met, including: • ballast water management in line with the Australian Ballast Water Management Requirements (Ref. 93)

[36] In this context, establishment refers to an organism being able to find suitable habitat and survive.

	• undertaking biofouling risk assessments in line with the with the National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (Ref. 225) and DPIRD Vessel Check system • requirements for biofouling management plans and/or biofouling record books, in accordance with the *Control and management of ships' biofouling to minimize the transfer of invasive aquatic species* (Biofouling Guidelines), resolution Marine Environment Protection Committee (MEPC).378(80) (Ref. 196) and Australian Biofouling Management Requirements (Ref. 87). As described in Section 8.3.3.2, all vessels operating in title areas must comply with applicable Australian biofouling and ballast water requirements to prevent the introduction and spread of marine pests. The quarantine procedure requires that all vessels complete and submit to CAPL a *Quarantine Questionnaire – Marine Vessels*, of which Section 3 addresses ballast water and Section 4 addresses biofouling, including that all relevant biofouling information (e.g. Biofouling Management Plan, Biofouling Record Book, evidence of last vessel clean to remove biofouling, antifouling certificates, etc.) is provided to enable suitable risk assessments to be completed prior to vessel mobilisation to a title area. Once CAPL are satisfied that the vessel meets marine quarantine requirements, CAPL will issue authorisation to mobilise via the Quarantine Certificate - Vessel Mobilisation.
Ballast water management	The *Australian Ballast Water Management Requirements* (Ref. 93) describes the management requirements for ballast water exchange, including: • non-discharge of 'high-risk' ballast water in Australian ports or waters • full ballast exchange outside Australian territorial seas • documentation of all ballast exchange activities.
Anti-fouling certificate	The *Protection of the Sea (Harmful Anti-fouling Systems) Act 2006* (Cth) enacts Marine Order 98 (Marine pollution – anti-fouling systems). This marine order describes the conditions for when an antifouling certificate is required.
Maritime Arrivals Reporting System (MARS)	Under the *Biosecurity Act 2015* (Cth), pre-arrival information must be reported through MARS before a vessel arrives in Australian waters. In accordance with the *Australian Biofouling Management Requirements* (Ref. 87), all operators of vessels intending to enter Australian territorial waters must also provide information relating to biofouling management as part of the pre-arrival reporting via MARS.

Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A

Likelihood and risk level summary	
Likelihood	As vessel and installation activities are occurring within areas that are unlikely to provide benthic habitat suitable for IMP establishment, and with the well-known and implemented IMP control measures in place, it is considered Rare (6) that an IMP would be introduced resulting in impacts to the ecological functions of benthic habitats within or in close proximity to the OA.
Risk level	Low (7)
Determination of acceptability	
Principles of ESD	The potential risks associated with this aspect is a widespread long-term impact to benthic communities. The introduction of an IMP to these communities has the potential to affect biological diversity and ecological integrity.

<table>
<tr><td></td><td>The consequence associated with this aspect is Severe (2).
Therefore, further evaluation against the remaining Principles of ESD is required.
There is little uncertainty associated with this aspect as the activities and cause pathways are well known and the activities are well regulated and managed. The habitat within the OA is known from baseline studies, thus the understanding of benthic habitat at these locations is well understood. As such, there is limited scientific uncertainty associated with this aspect; consequently, the precautionary principle has not been applied.</td></tr>
<tr><td>Relevant environmental legislation and other requirements</td><td>Legislation and other requirements considered relevant for this aspect include:
Biosecurity Act 2015 (Cth)
Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 (Cth) (enacted by Marine Order 98 [Marine pollution – anti-fouling systems])
Australian Ballast Water Management Requirements (Ref. 93)
Australian Biofouling Management Requirements (Ref. 87)
Control and management of ships' biofouling to minimize the transfer of invasive aquatic species (Biofouling Guidelines), MEPC resolution.378(80) (Ref. 196)
National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (Ref. 225).
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.
<table>
<tr><th>Requirement</th><th>Demonstration</th></tr>
<tr><td>Biosecurity Act 2015 (Cth)
Pre-arrival reporting through MARS</td><td>Requirement for pre-arrival reporting has been incorporated into the MARS control measure.</td></tr>
<tr><td>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 (Cth)
Gives effect to Marine Order 98</td><td>Anti-fouling certifications (as per Division 2) have been incorporated into the anti-fouling certificate control measure</td></tr>
<tr><td>Australian Ballast Water Management Requirements
Best practice guidance for ballast water management within Australian seas, including legislative obligations under Biosecurity Act 2015 (Cth)</td><td>Requirement for ballast water exchange has been incorporated into the ballast water management control measure
Proactive management of ballast water (e.g. use of ballast water management plan) has been incorporated into the quarantine procedure control measure</td></tr>
<tr><td>Australian Biofouling Management Requirements
Best practice guidance for biofouling management within Australian seas, including legislative obligations under Biosecurity Act 2015 (Cth)</td><td>Requirement for pre-arrival reporting has been incorporated into the MARS control measure
Proactive management of biofouling (e.g. use of biofouling management plan) has been incorporated into the quarantine procedure control measure</td></tr>
<tr><td>Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (Biofouling Guidelines)
A biofouling management plan and record book to be available and maintained</td><td>Proactive management of biofouling (e.g. use of biofouling management plan) has been incorporated into the quarantine procedure control measure</td></tr>
</table>
</td></tr>
</table>

	National Biofouling Management Guidance for the Petroleum Production and Exploration Industry Undertake a biofouling risk assessment	Biofouling risk assessments for vessels have been incorporated into the **quarantine procedure** control measure
Internal context	This CAPL environmental performance standard/procedure was deemed relevant for this aspect: • *Quarantine* Procedure *Marine Vessels* (Ref. 52) Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
External context	During stakeholder consultation, no objections or claims were raised regarding IMP arising from the activity.	
Defined acceptable level	These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 12) No introduction and establishment of invasive marine pests within the OA due to petroleum activities	**(EPS 12.1) Quarantine procedure** All marine vessels undertaking activities in the OA must meet the relevant requirements of the *Quarantine Procedure Marine Vessels*, including that where required: • *Quarantine Questionnaire – Marine Vessels* has been completed and submitted to CAPL • biofouling risk assessments are completed • biofouling management plans and/or biofouling record books are available.	(MC 12.1.1) The *Quarantine Certificate – Vessel Mobilisation* issued by CAPL confirm that relevant vessels meet requirements of the Quarantine Procedure Marine Vessels
	(EPS 12.2) Ballast water management International marine vessels will be required to comply with the key *Australian Ballast Water Management Requirements*, which are: • non-discharge of 'high-risk' ballast water in Australian ports or waters • full ballast exchange outside Australian territorial seas • documentation of all ballast exchange activities.	(MC 12.2.1) For international marine vessels, records show compliance with the *Australian Ballast Water Management Requirements*
	(EPS 12.3) Anti-fouling certificate Marine vessels >400 T with an anti-foul coating are to maintain up-to-date international antifouling coating certification in accordance with *Protection of the Sea (Harmful Anti-fouling Systems) Act 2006* (Cth) and/or the International Convention on the Control of Harmful Anti-fouling Systems on Ships	(MC 12.3.1) Inspection reports confirm that international antifouling coating certifications are up to date

	(EPS 12.4) Maritime arrivals reporting system Vessels entering into the Australian territorial sea from outside Australian territory will complete pre-arrival reporting (unless Excepted under Biosecurity Determination 2016), in accordance with the *Biosecurity Act 2015* (Cth)	(MC 12.4.1) Records confirm that international vessels completed pre-arrival reporting (or can demonstrate meeting conditions for an exception)

7.9 Planned discharges—vessel operations

Source

Activities identified as having the potential to result in vessel discharges:

- field support—vessel operations during the petroleum activity (short-term) within the OA.

The types of planned vessel discharges include deck wash-water, firefighting foam, sewage, greywater, food wastes, cooling water, and oily bilge water.

Potential impacts and risks

Impacts	C	Risks	C
Planned discharges from vessels may result in: • localised and temporary reduction in water quality.	6	A change in ambient water quality may result in: • changes to predator-prey dynamics	6

Consequence evaluation

Localised and temporary reduction to water quality

Open marine waters are typically influenced by regional wind and ocean currents resulting in the mixing of surface and near-surface waters—where vessel discharges would occur (Ref. 238). Vessel discharges would occur in these surface and near-surface waters. Therefore, nutrients from sewage, or other similar, discharges will not accumulate or lead to eutrophication due to the highly dispersive environment (Ref. 238). This outcome was verified by sewage discharge monitoring for another offshore project (Ref. 332), which determined that a 10 m^3 sewage discharge reduced to ~1% of its original concentration within 50 m of the discharge location. In addition, monitoring at distances 50 m, 100 m, and 200 m downstream, and at five different water depths, confirmed that discharges were rapidly diluted and no elevations in water quality monitoring parameters (e.g. total nitrogen, total phosphorous, and selected metals) were recorded above background levels at any station. This modelling was based on volumes that far exceed volumes expected during vessel operations. Therefore, the extent of impacts are expected to be localised to the discharge location.

Monitoring the desalination brine of continuous wastewater discharges (including cooling water) undertaken by Woodside for its Torosa South-1 drilling program in the Scott Reef complex found that discharge water temperature decreases quickly as it mixes with the receiving waters, with the discharge water temperature being <1 °C above ambient within 100 m (horizontally) of the discharge point, and 10 m vertically (Ref. 332).

A vessel's bilge system is designed to safely collect, contain and dispose of oily water so that discharge of hydrocarbons to the marine environment is minimized or avoided. Bilge water is processed via an oil-water separator before being discharged to sea. Discharge is intermittent and occurs at or near surface waters. As such, oily bilge discharges are expected to readily dilute and disperse under the action of waves and currents in surface waters. In addition, once exposed to air, any volatile components of the oil will readily evaporate.

Toxicological effects from firefighting foams is typically only associated with prolonged or frequent exposures, such as on land and in watercourses near firefighting training areas (Ref. 231; Ref. 235). These conditions are not consistent with the use under this EP where use of the systems may arise once or twice over the duration of this EP. In their diluted form (as applied in the event of a fire or test), firefighting foams are generally considered to have a relatively low toxicity to aquatic species (Ref. 290; Ref. 194) and further dilution of the foam mixtures in dispersive aquatic environments may then occur before there is any substantial demand for dissolved oxygen (Ref. 14).

Consequently, CAPL believes that the change in water quality from these standard discharges is limited to a localised area and returns to ambient following completion of the discharge; therefore, any impacts are Incidental (6).

Changes to predator/prey dynamics

The overboard discharge of sewage and macerated food waste creates a localised and temporary food source for scavenging marine fauna or seabirds, whose numbers may temporarily increase as a result, thus increasing the food source for predatory species.

However, the rapid consumption of this food waste by scavenging fauna, and physical and microbial breakdown, ensures that the impacts of food waste discharges are insignificant and temporary and that all receptors that may potentially be in the water column are not impacted.

As identified in Section 4.3.3, several marine species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the OA. Several BIAs or HCTS of a species also overlap the OA. The particular values and sensitivities within the OA with the potential to be affected by changes in predator–prey dynamics include:

- Whale Shark (foraging BIA)
- Fish communities (associated with KEFs).

Effects on environmental receptors along the food chain—fish, reptiles, birds, and cetaceans—are not expected beyond the immediate vicinity of the discharge in open waters (Ref. 238).

Studies into the effects of nutrient enrichment from offshore sewage discharges indicate that the influence of nutrients in open marine areas is much less significant than that experienced in enclosed areas (Ref. 233) and suggest that zooplankton composition and distribution in areas associated with sewage dumping grounds are not affected. However, if any changes in phytoplankton or zooplankton abundance and composition occur, they are expected to be localised, typically returning to background conditions within tens to a few hundred metres of the discharge location (Ref. 2; Ref. 17; Ref. 266).

As described above, plankton communities are not affected by sewage discharges, but if they are, such effects would be highly localised (expected to return to background conditions within tens to a few hundred metres of the discharge location). Consequently, subsequent indirect impacts to other marine fauna are not expected, and thus are not considered further.

Although fish are likely to be attracted to these discharges, any attraction and consequent change to predator–prey dynamics is expected to be limited to close to the release and thus is expected to result in localised impacts to species. Any increased predation is not expected to result in more than a limited environmental impact; therefore, the consequence is Incidental (6).

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity. The details of the relevant vessel operations (Ref. 61, Ref. 70, Ref. 42), including fleet composition, numbers and duration, are provided in Table 7-2. Multiple vessels, including the MODU, may undertake planned vessel discharges within the OA.

Temporary spatial overlap between vessels associated with this EP and those associated with other CAPL activities (including MODU operations) may occur intermittently. However, the potential for overlapping discharge plumes is considered unlikely due to the infrequent nature of these discharges, the high level of operational control, and the limited duration that vessels operate in close proximity. Where concurrent discharges do occur, the incremental increase in discharge volume is expected to be minor (on the order of hours), resulting in a highly localised and temporary reduction in water quality. Given the open-water setting and high natural dilution capacity of the marine environment, the additive and cumulative effects of vessel discharges are considered negligible.

Therefore, no change to the overall consequence level is expected.

ALARP decision context justification

Offshore commercial vessel operations, and subsequent planned discharges, are commonplace and well-practiced locally, nationally, and internationally.

The control measures to manage the risk associated with these planned discharges are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.

During relevant persons consultation, no objections or claims were raised regarding planned discharges from vessel operations arising from the activity.

The impacts associated with these discharges are lower-order impacts in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.		
Good practice control measures		
Control measure	**Description**	
Hazardous materials selection process	As part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment, as per CAPL's *Hazardous Materials Management Procedure* (Ref. 48).	
MARPOL 73/78	Before the petroleum activity commences, Chevron's OVIS assessment requirements within *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) are used to verify that all vessels will comply with relevant Marine Orders (as appropriate to vessel class) for discharges, including: • Marine Order 96—Marine Pollution Prevention—sewage, which gives effect to MARPOL 73/78 Annex IV and the conditions under which sewage can be discharged to the environment • Marine Order 95—Marine pollution prevention—garbage, which gives effect to MARPOL 73/78 Annex V and the conditions under which macerated and unmacerated food waste can be discharged to the environment • Marine Order 91—Marine pollution prevention—oil, which gives effect to MARPOL 73/78 Annex I and the conditions under which oily bilge is authorized to be discharged to the environment. MARPOL is the International Convention for the Prevention of Pollution from Ships and is aimed at preventing both accidental pollution and pollution from routine operations.	
Compliance with Industrial Chemicals Environmental Management Standard	Industrial chemicals selected for use will be compliant with the Australian Government's Industrial Chemicals Environmental Management Standard, ensuring their selection and use is in accordance with a National, risk-based and consistent framework. This includes firefighting foams. Formulations of aqueous firefighting foams can contain fluorinated surfactants. Finished fluorosurfactant foams are generally rather non-toxic; however, it is their polyfluorinated degradation products that are of environmental concern because of unfavourable persistence, bioaccumulation, biomagnification and toxicity (Ref.186). Use of firefighting foam (e.g. during testing, or in the event of emergency) would result in a discharge to the open ocean. Selection of a firefighting foam consistent with the Industrial Chemicals Environmental Management Standard (Ref. 115) reduces the potential impacts associated with their persistent presence in the environment.	
Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A
Likelihood and risk level summary		
Likelihood	Given the nature and scale of this activity with standard control measures in place, it is considered Remote (5) that these discharges would result in any impact to the ecological function of the particular values and sensitivities present within the OA.	
Risk level	Very low (9)	
Determination of acceptability		
Principles of ESD	The potential impacts and risks associated with this aspect is limited to a short-term direct reduction in water quality in a localised area, which is not considered as having the potential to affect broader biological diversity and ecological integrity.	

<table>
<tr><td></td><td colspan="2">Accordingly, the consequence associated with this aspect is Incidental (6).
Therefore, no further evaluation against the Principles of ESD is required.</td></tr>
<tr><td>Relevant environmental legislation and other requirements</td><td colspan="2">Legislation and other requirements considered relevant to this aspect include:
Marine Order 91
Marine Order 95
Marine Order 96
MARPOL 73/78 Annex I, IV and V
Navigation Act 2012 (Cth).
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.</td></tr>
<tr><td></td><td>Requirement</td><td>Demonstration</td></tr>
<tr><td></td><td>Marine Order 96
Gives effect to Annex I of MARPOL 73/78</td><td>Requirements for offshore discharge of oily bilge water from vessels have been incorporated into the MARPOL 73/78 oily bilge water discharge control measure</td></tr>
<tr><td></td><td>Marine Order 95
Gives effect to Annex V of MARPOL 73/78</td><td>Requirements for offshore discharge of food have been incorporated into the MARPOL 73/78 food waste discharge control measure</td></tr>
<tr><td></td><td>Marine Order 91
Gives effect to Annex IV of MARPOL 73/78</td><td>Requirements for offshore discharge of sewage have been incorporated into the MARPOL 73/78 sewage discharge control measure</td></tr>
<tr><td></td><td>Navigation Act 2012 (Cth)</td><td>Requirements for offshore discharge of firefighting foam have been incorporated into the Selection of Industrial Chemicals Environmental Management Standard compliant firefighting foam control measure</td></tr>
<tr><td>Internal context</td><td colspan="2">These CAPL environmental performance standard/procedures were deemed relevant for this aspect:
Hazardous Materials Management Procedure (Ref. 48)
Chevron Marine Standard Non Tankers: Corporate OE Standard (Ref. 63).
Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</td></tr>
<tr><td>External context</td><td colspan="2">No objections or claims were raised regarding planned discharges from vessel operations arising from the activity.</td></tr>
<tr><td>Defined acceptable level</td><td colspan="2">These impacts and risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.
CAPL has defined the following acceptable level of impact such that it is not inconsistent with MARPOL requirements:
vessel discharges comply with MARPOL requirements.
CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</td></tr>
</table>

Environmental performance outcome	Environmental performance standard	Measurement criteria
(EPO 13) Planned discharges from vessel operations within the OA during the petroleum activity will meet MARPOL requirements	**(EPS 13.1) MARPOL 73/78 sewage discharge** Offshore discharge of sewage from vessels will be in accordance with these MARPOL 73/78 Annex IV requirements: • an IMO approved comminution and disinfection system to discharge (greater than 3 nm from the nearest land); or • an IMO approved Sewage Treatment Plant at any location; or • untreated sewage discharged ≥12 nm from the nearest land while the vessel is proceeding at no less than 4 knots	(MC 13.1.1) Records show sewage is discharged in accordance with MARPOL 73/78 Annex IV, including current International Sewage Pollution Prevention Certificate (for marine vessels >400 T or certified to carry more than 15 persons)
	(EPS 13.2) MARPOL 73/78 food waste discharge Offshore discharge of food waste from vessels will be in accordance with these MARPOL 73/78 Annex V requirements: • macerated to no greater than 25 mm and when the marine vessel is at least 3 nm from the nearest land; or • unmacerated when the marine vessel is at least 12 nm from the nearest land	(MC 13.2.1) Records show food waste is discharged in accordance with MARPOL 73/78 Annex V
	(EPS 13.3) MARPOL 73/78 oily bilge water discharge Oily bilge water will be discharged to marine environment only when the concentration is <15 ppm in accordance with MARPOL 73/78, Annex I: • through an IMO approved on board oil-water separator; and • when the marine vessel is en route	(MC 13.3.1) Records show oily bilge water is discharged in accordance with MARPOL 73/78 Annex I, including current International Oil Pollution Prevention Certificate
(EPO 14) No impacts to marine habitats or marine fauna outside of the OA from vessel discharges during the petroleum activity	**(EPS 14.1) Hazardous materials selection process** Fluids planned for discharge are subject to the hazardous materials selection process as per the CAPL Hazardous Materials Management Procedure	(MC 14.1.1) Hazardous materials selection process assessment records (or similar)
	(EPS 14.2) Compliance with Industrial Chemicals Environmental Management Standard Industrial chemicals selected for use will be compliant with the	(MC 14.2.1) Records show that industrial chemicals selected for use are Industrial Chemicals Environmental Management Standard compliant

	Industrial Chemicals Environmental Management Standard	

7.10 Planned discharges—subsea

Source

Activities identified as having the potential to result in planned subsea discharges are:

- installation—subsea discharges during hookup and testing activities

Planned subsea operational discharges are limited to an acid–water mixture that may be used, if required (refer to Section 3.2.10).

Potential impacts and risks

Impacts	C	Risks	C
Planned subsea operational discharges may result in: • localised and temporary reduction in water quality.	6	A change in ambient water quality may result in: • alteration to benthic communities and habitats	6

Consequence evaluation

Localised and temporary reduction in water quality

The release of minor quantities of acid-water mix during hookup activities will result in a localised and temporary reduction in water quality around the discharge point. The discharges are planned to occur in the deep offshore waters at the Gorgon and Jansz CDUs and UTAs, which are located in water depths of ~130 m–1,350 m respectively. The discharges will be intermittent, non-continuous, and of short duration, and as such frequency of exposure is limited.

If used, discharge of small volumes (<100 of litres) of acid-water mix are predicted to disperse and dilute while mixing through the water column. The spatial extent is likely to be limited to the water column, and only in a range of meters from the discharge point.

As subsea discharges are highly influenced by natural dispersion and dilution processes, the extent of exposure is most influenced by the volume of the release. Consequently, the planned discharges are expected to result in a limited environmental impact, and the consequence level was determined as Incidental (6).

Alteration to benthic communities and habitats

As described in Section 4.3.1.1, the benthic habitats within the OA comprise unvegetated and soft sediments within deeper areas, and sands, clays, or gravels overlying subcropping cemented sediments in the shallower waters. The particular values and sensitivities identified as having the potential to be exposed to these discharges are:

- Ancient coastline at 125 m depth contour KEF

Although this KEF has been identified as having the potential to be exposed, any alteration would be in close proximity of existing Gorgon infrastructure. Recent surveys indicated that habitat within the KEF—proximal to the OA—consisted of smooth seabed with bioturbation and appeared devoid of biota (Ref. 4; Table 4-17), and as such any potential impact to hard substrates within the KEF is not expected to occur. The North-West Marine Bioregional Plan (Ref. 153) does not identify toxicity or chemical pollution/contaminants as a key threat to the KEF.

Subsea discharges are expected to result in temporary reductions in water quality within the immediate surroundings of the release location. The extent of this water quality reduction is limited to around the Gorgon and Jansz CDUs and UTAs. The minor quantities of subsea discharges are predicted to rapidly disperse; and are therefore not expected to result in adverse impacts to benthic habitats or fauna.

Given the rapid dilution and dispersion conditions and the infrequent and short duration of discharges, adverse impacts the existing benthic communities and habitats are not expected. Consequently, the planned discharges are expected to result in a limited environmental impact, and the consequence level was determined as Incidental (6).

Cumulative Impacts

Table 7-2 lists and describes the spatial and temporal overlap with other CAPL petroleum activities that may occur within the OA during the implementation of the petroleum activity.

Temporary spatial and temporal overlap between subsea discharges covered under this EP and those associated with other CAPL activities may occur. The relevant activities involving subsea discharges have been described and assessed in the associated EP (Ref. 61, Ref. 70, Ref. 42). However, given the nature and scale of the planned subsea discharges covered under this EP, the overlapping plumes will be very temporary (minutes) and highly localised (within meters) of the discharge location. Therefore, cumulative planned subsea discharges effects are considered negligible, and no change to the overall consequence level is expected.		
ALARP decision context justification		
Subsea discharges associated with hookup activities are commonplace and well-practiced within the industry. The control measures to manage the risk associated with these planned discharges are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL. During relevant persons consultation, no objections or claims were raised regarding planned discharges from subsea operations arising from the activity. The impacts and risks associated with these discharges are lower-order impacts in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.		
Good practice control measures		
Control measure	**Description**	
Hazardous materials selection process	As part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment, as per CAPL's *Hazardous Materials Management Procedure* (Ref. 48).	
Compliance with Industrial Chemicals Environmental Management Standard	Industrial chemicals selected for use will be compliant with the Australian Government's Industrial Chemicals Environmental Management Standard, ensuring their selection and use is in accordance with a National, risk-based and consistent framework.	
Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A
Likelihood and risk level summary		
Likelihood	Given the nature and scale of this activity, and with standard control measures in place, it is considered Rare (6) that this discharge would result in any impact to the ecological function of the particular values and sensitivities present within the OA.	
Risk level	Very low (10)	
Determination of acceptability		
Principles of ESD	The potential impacts and risks associated with this aspect is limited to a short-term direct reduction in water quality in a localised area, which is not considered as having the potential to affect biological diversity and ecological integrity. Accordingly, the consequence associated with this aspect is Incidental (6). Therefore, no further evaluation against the Principles of ESD is required.	
Relevant environmental legislation and other requirements	No legislation or other requirements were considered relevant to this aspect.	
Internal context	This CAPL environmental performance standard/procedure was deemed relevant for this aspect: • *Hazardous* Materials *Management Procedure* (Ref. 48).	

	Control measures related to the above management procedure have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
External context	No objections or claims were raised regarding planned discharges from subsea operations arising from the activity.	
Defined acceptable level	These impacts and risks are inherently acceptable as they are considered lower-order impacts and risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 4) Reduce the risk of impacts to sensitive environmental receptors within the OA from petroleum activities	**(EPS 14.1) Hazardous materials selection process** Fluids planned for discharge are subject to the hazardous materials selection process as per the CAPL Hazardous Materials Management Procedure	(MC 14.1.1) Hazardous materials selection process assessment records (or similar)
	(EPS 14.2) Compliance with Industrial Chemicals Environmental Management Standard Industrial chemicals selected for use will be compliant with the Industrial Chemicals Environmental Management Standard	(MC 14.2.1) Records show that industrial chemicals selected for use are Industrial Chemicals Environmental Management Standard compliant

7.11 Unplanned seabed disturbance

Source

Activities identified as having the potential to result in unplanned seabed disturbance are:

- installation—dropped object (e.g. infrastructure) or incorrect positioning of infrastructure
- field support—dropped object (e.g. tools or equipment) from vessels or ROVs.

Operator error, bad weather events or failure of equipment may lead to object loss, including tools and equipment overboard from the vessels or subsea from ROVs, at any point during the petroleum activities. The maximum footprint associated with this is expected to be ~10 m^2.

During installation activities, if infrastructure is positioned incorrectly there is a potential for seabed disturbance outside the planned disturbance footprint. The extent of seabed disturbance resulting from incorrect installation and positioning is dependent on the infrastructure. The maximum footprint associated with this is expected to be ~25 m^2 (based on the largest individual piece of equipment, a mudmat foundation).

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	Unplanned seabed disturbance may result in: • alteration of benthic communities and habitats • change to cultural heritage values.	 6 6

Consequence evaluation

Alteration of benthic communities and habitats

In the event of object loss or incorrect infrastructure installation, potential environmental impacts would be limited to physical disturbance to benthic communities and habitats in the OA.

As described in Section 4.3.1.1, the benthic habitats within the OA mostly comprise unvegetated and soft sediments within deeper areas, and sands, clays, or gravels overlying subcropping cemented sediments in the shallower waters.

The values and sensitivities within the OA with the potential to be impacted by unplanned seabed disturbance include the following KEFs:

- Ancient coastline at 125 m depth contour
- Continental slope demersal fish communities.

Recent surveys indicated that habitat within the Ancient coastline at 125 m depth contour KEF in proximity to the OA consisted of smooth seabed with bioturbation and appeared devoid of biota (Ref. 4; Table 4-17), and as such any potential impact to hard substrates within the KEF is not expected to occur. Similarly habitat within the Continental slope demersal fish communities KEF in proximity to the OA comprise irregular and smooth seabed with bare substrates, discrete depressions of bare substrate, and scarps with bare substrate, were the most dominant benthic features (Ref. 262; Table 4-17).

The potential impacts to benthic communities and habitats as a result of unplanned seabed disturbance would be limited to individual occurrences and localised impacts (i.e. area of impact limited to the size of dropped object or equipment). Thus, CAPL ranked this consequence as Incidental (6).

Changes to tangible cultural heritage values

There are no protected UCH sites or artefacts identified within the OA (Section 4.6.2). Therefore, no impacts to known protected seabed-based UCH (e.g. shipwrecks or archaeology), including First Nations UCH, are expected to occur.

Given known sea level history, the southern outermost extent of the of the OA (i.e. areas in water depths <125 m) would have been emergent land during the extended history of First Nations occupation of Australia. However, planned infrastructure installation activities are located in water depths ≥130 m. At the time of writing, CAPL understands through consultation with the relevant First Nations people and/or representative bodies that there are no known artefacts or specific sites of cultural value associated with the seabed within the OA. As such, unplanned seabed disturbance within the OA is not expected to result in significant adverse impacts to tangible heritage features.

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was the ocean (Table 4-16)—consequence evaluations to related receptors (i.e. benthic communities and habitats) are provided above.

As such, CAPL has ranked the consequence for cultural values as Incidental (6).

ALARP decision context justification

Offshore installation and vessel operation is commonplace; the activities causing this aspect are utilised nationally and internationally. The control measures to manage the impacts associated with seabed disturbance are well understood and implemented by the industry.

During relevant persons consultation, no objections or claims were raised regarding seabed disturbance arising from the activity.

The impacts associated with seabed disturbance are considered lower-order impacts in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Relevant persons engagement	In the event of a loss of equipment that results in a navigational hazard, other marine users within the vicinity will be notified via radio.
Marine incident report	Reporting marine incidents is an important part of ensuring the safety of people and vessels. In the event of a loss of equipment meeting the requirements of a marine incident, an incident alert report must be issued to AMSA within 4 hours of the incident.
Lost equipment	In the event of an unplanned loss of equipment, prior to the completion of the activity, the lost equipment will be recovered where considered safe and practicable to do so.

	Considerations for determining if equipment retrieval is safe and practicable include: • risk to personnel • whether the location of the equipment is in recoverable water depths • equipment's proximity to subsea infrastructure • ability to recover the equipment (e.g. nature of equipment, lifting equipment, suitable weather, etc.).	
Lifting procedure	Prior to commencement of petroleum activities, the *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) is used to verify that all vessels undertaking complicated, complex, or heavy lifts have a Lifting Procedure (or equivalent) in place that complies with the requirements of the *ABU Operations Process: Control of Work Manual* (Ref. 67). The Lifting Procedure will reference safe lifting distances (offsets) from existing subsea infrastructure.	
Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3). Ongoing consultation with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.	
Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A
Likelihood and risk level summary		
Likelihood	Loss of equipment has occurred previously in the industry but is not considered likely to occur during these activities, given the control measures in place. As such, the likelihood of incidental consequences to values and sensitivities from an unplanned loss of equipment is considered Unlikely (4).	
Risk level	Very low (9)	
Determination of acceptability		
Principles of ESD	The potential risk associated with this aspect is likely to be highly localised and limited to individual occurrences and is therefore not expected to affect biological diversity and ecological integrity. The consequence associated with this aspect is Incidental (6). Therefore, no further evaluation against the Principles of ESD is required.	
Relevant environmental legislation and other requirements	No legislation and other requirements relevant to this aspect were identified.	
Internal context	No CAPL management processes or procedures were deemed relevant for this aspect.	
External context	No objections or claims were raised regarding seabed disturbance arising from the activity.	
Defined acceptable level	These impacts and risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential	

	impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 15) Reduce the risk of impacts to the environment from the unplanned loss of equipment during the petroleum activities	**(EPS 15.1) Relevant persons engagement** In the event of a loss of equipment that results in a navigational hazard, other marine users within the vicinity will be notified via radio	(MC 15.1.1) Vessel records confirms notification to other marine users
	(EPS 15.2) Marine incident report In the event of a loss of equipment meeting the requirements of a marine incident, an incident alert report must be issued to AMSA within 4 hours of the incident	(MC 15.2.1) Records confirm incident alert issued to AMSA within 4 hours of a marine incident occurring
(EPO 16) No unplanned seabed disturbance from activities within the OA during petroleum activities	**(EPS 16.1) Lifting procedure** If a vessel is undertaking complicated, complex, or heavy lifts, a Lifting Procedure (or equivalent) will be in place prior to activities commencing that complies with the requirements of the *ABU Operations Process: Control of Work Manual* (Ref. 67)	(MC 16.1.1) Records confirm that a Lifting Procedure (or equivalent) is in place prior to complicated, complex, or heavy lifts being undertaken.
	(EPS 16.2) Lost equipment Lost equipment will be retrieved, where safe and practicable to do so	(MC 16.2.1) Records confirm lost equipment was retrieved where safe and practicable to do so
(EPO 17) No adverse change to tangible cultural heritage values from the petroleum activity	**(EPS 5.1) Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)** Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol	(MC 5.1.1) Relevant persons consultation records
	(EPS 5.2) Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies) If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities	(MC 5.2.1) As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA

	or impacts/risks within the scope of the EP, will undergo an MoC evaluation	

7.12 Unplanned release—waste

Source

This activity has the potential to result in an unplanned release of waste to the environment:

- field support—waste lost overboard from vessels during the activity.

Inappropriate management and storage of waste generated on board vessels has the potential to be released to the environment.

Potential impacts and risks

Impacts	C	Risks	C
N/A	-	Unplanned release of waste to environment may result in: • marine pollution resulting in entanglement or injury/mortality of marine fauna	6

Consequence evaluation

Marine pollution resulting in entanglement or injury/mortality of marine fauna

If hazardous or non-hazardous waste is lost overboard, the extent of exposure to the environment is limited.

Ingestion or entanglement has the potential to limit feeding or foraging behaviours and thus can result in marine fauna injury or death. In 2003, "[i]njury and fatality to vertebrate marine life caused by ingestion of, or entanglement in, harmful marine debris" was listed as a key threatening process under the EPBC Act (Ref. 142). However, the *Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans* (Ref. 142) identifies that harmful marine debris includes "land-sourced garbage, fishing gear from recreational and commercial fishing abandoned or lost to the sea, and vessel-sourced, solid, non-biodegradable floating materials disposed of or lost at sea".

As identified in Section 4.3.3, several marine species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the OA. Several known BIAs or HCTS of a species also overlap the OA, including:

- Pygmy Blue Whale (migration BIA)
- Flatback Turtle (internesting buffer BIA and internesting HCTS of a species)
- Whale Shark (foraging BIA)
- Wedge-tailed Shearwater (breeding BIA).

The southern extent of the OA is <500 m from the Humpback Whale (foraging BIA).

The *Recovery Plan for Marine Turtles in Australia* (Ref. 83), the *Conservation Advice for Whale Sharks* (Ref. 314), and the *Wildlife Conservation Plan for Seabirds* (Ref. 84) identifies marine debris as a threat. Several species, including cetaceans, marine reptiles, and birds are also identified in the *Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans* (Ref. 142) as species adversely impacted by marine debris.

Marine debris ingested by marine reptiles may result in ecotoxicological effects, physical blockages and internal injuries. The throat structure of marine turtles prevents the turtles regurgitating swallowed items and therefore swallowed items are trapped in the gut where they decompose and leak gases into the body cavity, resulting in injury or mortality (Ref. 130).

Many species of seabirds ingest considerable quantities of plastic and other marine debris, which has a wide range of lethal or sublethal effects (Ref. 84). This debris can cause physical damage to the body, or perforate, block or impair the digestive system, resulting in starvation (Ref. 84).

Given the restricted exposures and the small quantity of waste with the potential to cause marine pollution that is expected to be generated from this program, it is expected that any impacts from marine pollution would result in impacts to a few individual fauna. Thus, CAPL ranked this consequence as Incidental (6).

ALARP decision context justification

Offshore commercial vessel operations, and the subsequent management of waste, are commonplace and well-practiced activities within the industry.

The control measures to manage the risk associated with an accidental release of waste are well defined via legislative requirements that are considered standard industry practice. There is a

<table>
<tr><td colspan="3">good understanding of the release pathways, and the control measures required to manage these events are well understood and implemented by the petroleum industry and CAPL.
During relevant persons consultation, no objections or claims were raised regarding waste management arising from the activity.
An unplanned release of waste is a lower-order risk in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.</td></tr>
<tr><td colspan="3">Good practice control measures and source</td></tr>
<tr><td>Control measure</td><td colspan="2">Description</td></tr>
<tr><td>Marine Order 95 (Marine pollution prevention – garbage)</td><td colspan="2">MARPOL 73/78 is the International Convention for the Prevention of Pollution from Ships and is aimed at preventing both accidental pollution, and pollution from routine operations. Specifically, MARPOL 73/78 Annex V requires that a garbage management plan and garbage record book is in place and implemented, and describes various requirements that are to be applied when managing waste offshore.
Marine Order 95 (Marine pollution prevention – garbage) gives effect to MARPOL 73/78 Annex V.</td></tr>
<tr><td colspan="3">Additional control measures and cost benefit analysis</td></tr>
<tr><td>Control measure</td><td>Benefit</td><td>Cost</td></tr>
<tr><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="3">Likelihood and risk level summary</td></tr>
<tr><td>Likelihood</td><td colspan="2">Marine pollution arising from mismanaged waste offshore has occurred previously in the industry but is not expected to occur during these activities, given the control measures in place. As such, the likelihood of incidental consequences to values and sensitivities from an unplanned release of waste is considered Remote (5).</td></tr>
<tr><td>Risk level</td><td colspan="2">Very low (10)</td></tr>
<tr><td colspan="3">Determination of acceptability</td></tr>
<tr><td>Principles of ESD</td><td colspan="2">The potential risk associated with this aspect is limited to individuals and consequently is not expected to affect biological diversity and ecological integrity.
The consequence associated with this aspect is Incidental (6).
Therefore, no additional evaluation against the Principles of ESD is required.</td></tr>
<tr><td>Relevant environmental legislation and other requirements</td><td colspan="2">Legislation and other requirements considered relevant to this aspect include:
Marine Order 95
MARPOL 73/78
Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia’s coasts and oceans (2018) (Ref. 142)
Conservation Advice Rhincodon typus whale shark (Ref. 314)
Conservation Management Plan for the Blue Whale 2015–2025 (Ref. 139)
National Recovery Plan for albatrosses and petrels (2022) (Ref. 103)
Recovery Plan for Marine Turtles in Australia (Ref. 83)
Wildlife Conservation Plan for Migratory Shorebirds (Ref. 140)
Wildlife Conservation Plan for Seabirds (Ref. 84).
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.<table><tr><th>Requirement</th><th>Demonstration</th></tr><tr><td>Marine Order 95</td><td>Requirements for the prevention of pollution from garbage have been incorporated into the Marine</td></tr></table></td></tr>
</table>

	Gives effect to Annex V of MARPOL 73/78	**Order 95 (Marine pollution prevention – garbage)** control measure
	Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans Action 1.02 of the plan includes the requirement to "Limit the amount of single use plastic material lost to the environment in Australia"	Requirements for the prevention of pollution from garbage have been incorporated into the **Marine Order 95 (Marine pollution prevention – garbage)** control measure
	Recovery Plan for Marine Turtles in Australia No specific management action identified.	N/A
	Conservation Management Plan for the Blue Whale 2015–2025 No specific action identified.	N/A
	Conservation Advice for the Whale Shark 2015–2020 No specific action identified.	N/A
	National Recovery Plan for albatrosses and petrels (2022) No specific action identified.	N/A
	Wildlife Conservation Plan for Migratory Shorebirds No specific action identified.	N/A
	Wildlife Conservation Plan for Seabirds No specific action identified.	N/A
Internal context	No management processes or procedures were deemed relevant for this aspect.	
External context	No objections or claims were raised regarding waste management arising from the activity.	
Defined acceptable level	These impacts and risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. However, in alignment with Section 5.7.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:	
	Plan	**Objective**
	Conservation Management Plan for the Blue Whale 2015–2025	Recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list. Interim objective 4: Anthropogenic threats are demonstrably minimised.
	Recovery Plan for Marine Turtles in Australia	Recovery objective: The long-term recovery objective for marine turtles is to minimize

		anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list. Interim objective 3: Anthropogenic threats are demonstrably minimized.
	National Recovery Plan for albatrosses and petrels (2022)	Overall objective: To improve the conservation status of albatrosses and petrels so that these species are on a trajectory towards no longer being threatened in Australia's jurisdiction.
	Wildlife Conservation Plan for Migratory Shorebirds	Objective 3: Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.
	Wildlife Conservation Plan for Seabirds	Objective 2: Seabirds and their habitats are identified, protected and managed in Australia.
	Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents: • impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.	

Environmental performance outcome	Environmental performance standard	Measurement criteria
(EPO 18) No unplanned release of waste to the environment during the petroleum activity (EPO 19) No injury or mortality to marine fauna from an unplanned release of waste within the OA associated with the petroleum activity	**(EPS 18.1) Marine Order 95 (Marine pollution prevention – garbage)** Marine vessels >100 T (or certified to carry >15 persons) will have a Garbage Management Plan on board, in accordance with MARPOL 73/78 Annex V	(MC 18.1.1) OVIS report/ABU Marine OE Inspection Checklist verifies that a Garbage Management Plan is on board marine vessels >100 T or certified to carry >15 persons
	(EPS 18.2) Marine Order 95 (Marine pollution prevention – garbage) A Garbage Management Plan will be implemented, including: • segregating waste • storing solid wastes in designated areas before sending them to shore for recycling, disposal, or treatment • waste receptacles that contain light-weight, solid waste will be covered to prevent waste from blowing overboard • no discharge of waste or plastic products from general operational or maintenance	(MC 18.2.1) Records demonstrate compliance against the Garbage Management Plan requirements (for marine vessels >400 T or certified to carry >15 persons)
	(EPS 18.3) Marine Order 95 (Marine pollution prevention – garbage)	(MC 18.3.1) Current and completed Garbage Record Book (for marine vessels >400 T or certified to carry >15 persons)

	Marine vessels >400 T (or certified to carry >15 persons) will have a Garbage Record Book on board, in accordance with MARPOL 73/78 Annex V	
	(EPS 18.4) Marine Order 95 (Marine pollution prevention – garbage) For waste that is incinerated on board a marine vessel, the incinerator is to be IMO-approved and the waste incinerated is to be recorded in accordance with MARPOL 73/78 Annex V	(MC 18.4.1) Current IAPP Certificate (for marine vessels >400 T or certified to carry >15 persons) (MC 18.4.2) Current and completed Garbage Record Book (for marine vessels >400 T or certified to carry >15 persons)

7.13 Unplanned release—minor loss of containment

Source

The operation of vessels includes handling, using, and transferring hazardous materials, and has the potential to result in a loss of containment (LOC) event. Based on the activities described in this EP, the following potential LOC scenarios were identified:

- using, handling, and transferring hazardous materials and chemicals on board (<1 m^3) [37]
- hydraulic line failure from equipment (<2 m^3) [38]

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	Unplanned release of hazardous material to the environment may result in: • indirect impacts to fauna arising from chemical toxicity	6

Consequence evaluation

Indirect impacts to fauna arising from chemical toxicity

The LOC scenarios are limited to very small (<2 m^3) releases of hydraulic fluid or other chemicals.

As identified in Section 4.3.3, several marine species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the OA. Several BIAs or HCTS of a species also overlap the OA, including:

- Pygmy Blue Whale (migration BIA)
- Flatback Turtle (internesting buffer BIA and internesting HCTS of a species)
- Whale Shark (foraging BIA).

Based on the nature of these unplanned releases, which are very small (<2 m^3), instantaneous and intermittent, the extent and severity of any potential impact is expected to be spatially and temporally limited.

Given the nature of unplanned releases covered under this EP and the transient nature of identified values and sensitivities, fauna would need to pass directly through the plume almost immediately upon release to be impacted.

Any potential impact from such an event is expected to be short-term and limited to a small number of individuals, thus the consequence level was determined as Incidental (6).

[37] *A range of hydrocarbons and other hazardous chemicals/materials are likely to be present on board; however, the maximum credible volume associated with a single-point failure was estimated to be ~1 m^3 based on the loss of an entire intermediate bulk container due to rupture while handling.*

[38] *The volume of an unplanned release associated with a hydraulic line failure will vary with the equipment in use; however, the maximum credible volume associated with failure of a hydraulic power unit was estimated to be ~2 m^3 based on the loss of the full volume.*

ALARP decision context justification		
Offshore operations including subsea infrastructure installation are commonplace and well-practised offshore activities. The control measures to manage the risk associated with LOC scenarios from these activities are well defined via legislative requirements that are considered standard industry practice. There is a good understanding of potential spill sources, and the control measures required to manage these are well established and implemented by the petroleum industry and CAPL. During relevant persons consultation, no objections or claims were raised regarding LOC management arising from the activity. An unplanned LOC is a lower-order risk in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.		
Good practice control measures		
Control measure	**Description**	
Marine Standard	The *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) ensures that various legislative requirements and CAPL standards are met. Specifically, pre-mobilisation inspections may include: • visual checks of accessible equipment and hydraulic hoses for defects • confirmation that dry-break couplings or similar automated stop devices are available for use on marine vessels that are refuelled at sea (note: no bunkering within the OA) • secondary containment is available for hydrocarbons and chemicals stored on the deck of marine vessels.	
Ship Oil Pollution Emergency Plan (SOPEP)/ Shipboard Marine Pollution Emergency Plan	MARPOL 73/78 Annex I and Marine Order 91 (Marine pollution prevention – oil) requires that vessels (as appropriate to with vessel class) has an approved SOPEP in place. To prepare for a spill event, the SOPEP details: • response equipment available to control a spill event • review cycle to ensure that the SOPEP is kept up to date • testing requirements, including the frequency and nature of these tests. In the event of a spill, the SOPEP details: • reporting requirements and a list of authorities to be contacted • activities to be undertaken to control the discharge of oil • procedures for coordinating with local officials.	
Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A
Likelihood and risk level summary		
Likelihood	The likelihood that a LOC event results in an Incidental (6) consequence was determined to be Occasional (2). With the control measures in place, it was considered very unlikely that a large LOC event associated with this activity would occur, and even more unlikely that such an event would impact any of the identified values and sensitivities, which are known to be transient and unlikely to be present at the exact location of the LOC.	
Risk level	Low (7)	
Determination of acceptability		
Principles of ESD	The potential impact associated with this aspect would be short-term, apply to some individuals, and consequently is not expected to affect biological diversity and ecological integrity.	

<table>
<tr><td></td><td colspan="2">The consequence associated with this aspect is Incidental (6).
Therefore, no additional evaluation against the Principles of ESD is required.</td></tr>
<tr><td>Relevant environmental legislation and other requirements</td><td colspan="2">Legislation and other requirements considered relevant for this aspect include:
• Marine Order 91, Marine pollution prevention – oil
• MARPOL 73/78.
CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.</td></tr>
<tr><td></td><td>Requirement</td><td>Demonstration</td></tr>
<tr><td></td><td>Marine Order 91
Gives effect to Annex I of MARPOL 73/78</td><td>Requirements for a vessel to have a SOPEP have been incorporated into the SOPEP/Shipboard Marine Pollution Emergency Plan control measure</td></tr>
<tr><td>Internal context</td><td colspan="2">This management process or procedure was deemed relevant for this aspect:
• Chevron Marine Standard Non Tankers: Corporate OE Standard (Ref. 63).
Control measures related the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</td></tr>
<tr><td>External context</td><td colspan="2">No objections or claims were raised regarding LOC management arising from the activity.</td></tr>
<tr><td>Defined acceptable level</td><td colspan="2">These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. Although several plans identify pollution as a threat to marine fauna, inconsequential impacts are predicted for this activity.
CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</td></tr>
<tr><td>Environmental performance outcome</td><td>Environmental performance standard</td><td>Measurement criteria</td></tr>
<tr><td>(EPO 20) No unplanned release of hydrocarbons/hazardous materials to the environment during petroleum activities</td><td>(EPS 20.1) Marine Standard
Prior to commencement of installation activities, the following will be undertaken during a pre-mobilisation vessel inspection, as per the Marine Standard:
• visual checks of accessible equipment and hydraulic hoses for defects
• confirmation that dry-break couplings or similar automated stop devices are available for use on marine vessels that are refuelled at sea (note: no bunkering within the OA)
• confirmation that secondary containment is available for hydrocarbons and chemicals stored on the deck of marine vessels</td><td>(MC 20.1.1) OVIS report/ABU Marine OE Inspection Checklist confirms that equipment and hydraulic hoses are visually free of defects, dry-break couplings or similar are available for use, and, and secondary containment is available on the deck of the marine vessel</td></tr>
</table>

(EPO 21) Reduce the risk of impacts to the environment from the unplanned release of hydrocarbons or hazardous materials during petroleum activities	**(EPS 21.1) SOPEP** Marine vessels (as appropriate to with vessel class) will carry on board a Shipboard Oil Pollution Emergency Plan (SOPEP) in accordance with MARPOL 73/78 Annex I – Prevention of Oil Pollution	(MC 21.1.1) OVIS report/ABU Marine OE Inspection Checklist confirms an approved SOPEP is on board marine vessels >400 T
		(MC 21.1.2) Inspection records (or similar) show drills conducted in accordance with SOPEP
		(MC 21.1.3) Inspection records (or similar) show spill kits available in accordance with SOPEP
	(EPS 21.2) SOPEP In the event of a vessel-based spill event, emergency response activities will be implemented in accordance with the vessel SOPEP (or equivalent)	(MC 21.2.1) Records confirm that emergency response activities were implemented in accordance with the vessel SOPEP in the event of a vessel-based spill

7.14 Unplanned release—vessel collision

7.14.1 Credible scenario

A vessel collision event within the OA is considered an unlikely but credible unplanned event. A major marine spill because of vessel collision is only likely to occur due to a combination of exceptional circumstances (e.g. loss of DP, navigational error, inclement weather conditions). Given the location, water depths, and lack of shallow submerged features within the OA, grounding is not considered credible, and as such has not considered further.

Based upon the types of vessels, size of tanks, and fuel type likely to be utilised for the activities in this EP (Section 3), CAPL was able to identify the credible worst case scenarios (as per AMSA guidelines; Ref. 11) as being:

- surface release of ~607 m^3 of MDO resulting from a vessel collision event involving vessels associated with the installation of the umbilical at the Gorgon CDU location
- surface release of ~607 m^3 of MDO resulting from a vessel collision event involving vessels associated with the installation of the umbilical at the Jansz CDU location

To support the risk assessment for activities covered under this EP, modelling was completed for two scenarios described above.

7.14.2 Spill modelling

CAPL commissioned RPS to conduct spill modelling to inform the risk assessment associated with a vessel collision event at the Gorgon and Jansz CDU locations (Ref. 288).

A three-dimensional oil spill model (SIMAP) was used to simulate the drift, spread, weathering and fate of the spilled oil (Ref. 288). Modelling was conducted using a stochastic approach, where multiple simulations (using the same spill parameters) were conducted, but under varying meteorological and oceanographic conditions.

Table 7-11 summarises the model settings; Table 7-12 summarises the hydrocarbon properties for MDO; and the modelled environmental thresholds are described in Table 7-13.

Table 7-11: Vessel collision spill scenario model settings

Parameter	Details	
Release Location	Gorgon CDU	Jansz CDU
Latitude	20° 29'18.96" S	19° 48' 45.72" S
Longitude	114° 53' 49.2" E	114° 36' 27.72" E
Water Depth	~130 m	~1,345 m
Oil type	MDO	
Simulation spill type	Surface	
Simulation spill volume	607.3 m^3	607.3 m^3
Simulation spill duration	12 hours	12 hours
Total simulation duration	20 days	20 days
Number of randomly selected spill simulation start times	100 per season (300 total)	
Seasons modelled	Summer (September to the following March) Transitional (April and August) Winter (May to July)	

Table 7-12: Physical properties and boiling point ranges for MDO

Characteristic	Value			
Density	890.0 (at 15 °C)			
Dynamic viscosity	14.0 (at 25 °C) cP			
Pour point	-9 °C			
API gravity	27.5 API			
Classification	Group II, light persistent oil			
Boiling point	Volatile <180 °C	Semi-volatile 180–265 °C	Low volatility 265–380 °C	Residual >380 °C
	4%	32%	54%	10%

Table 7-13: Hydrocarbon environmental thresholds

Environmental threshold	Hydrocarbon Ecological EMBA^	Hydrocarbon Social EMBA^	PASM*	Justification
Surface ≥1 g/m^2 (low)		✓	✓	In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), CAPL has set the surface impact threshold for socio-economic effects at ≥1 g/m^2. This threshold is equivalent to ~1,000 L/km^2 or a layer thickness of ~1 µm.

Environmental threshold	Hydrocarbon Ecological EMBA^	Hydrocarbon Social EMBA^	PASM*	Justification
				At this concentration, oil on the water surface is expected to be visible. The Bonn Agreement Oil Appearance Code (Ref. 23) describes a 0.3–5.0 µm thick oil layer as having a rainbow-coloured appearance. Due to this visibility, there is the potential to impact nature-based activities (such as tourism) via a reduction in aesthetics. In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), this low threshold for surface oil establishes the PASM.
Surface ≥10 g/m^2 (moderate)	✓	✓		In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), CAPL has set the surface impact threshold for ecological effects at ≥10 g/m^2. This threshold is equivalent to ~10,000 L/km^2 or a layer thickness of ~10 µm. The Bonn Agreement Oil Appearance Code (Ref. 23) describes a 5–50 µm thick oil layer as having a metallic appearance. This threshold is considered by NOPSEMA to approximate the lower limit of harmful effects to birds and marine mammals (Ref. 247). This threshold is consistent with observations ranging from physical oiling to toxicity effects for marine fauna within literature, including French et al. (Ref. 169), French-McCay (Ref. 170), Engelhardt (Ref. 157), Clark (Ref. 78), Geraci and St. Aubin (Ref. 176) and Jenssen (Ref. 208).
In-water (dissolved) ≥10 ppb (low)			✓	In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), this low threshold for dissolved oil establishes the PASM based on potential for exceedances of water quality triggers.
In-water (dissolved) ≥50 ppb (moderate)	✓	✓		Laboratory studies have shown that dissolved oil exert most of the toxic effects of oil on aquatic biota (e.g. Carls et al. [Ref. 73], Nordtug et al. [Ref. 258], Redman [Ref. 281]). Being soluble, the dissolved oil can be taken up by organisms directly from the water column by absorption through external surfaces and gills, as well as through the digestive tract. In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), CAPL has set the in-water (dissolved) impact threshold for sublethal ecological effects at ≥50 ppb. This threshold is considered by NOPSEMA to approximate potential toxic effects, particularly sublethal effects to sensitive species (Ref. 247). This threshold is based on an instantaneous concentration, and therefore only requires the dissolved oil to be at this concentration for one-hour (based on minimum model time-step) to trigger this threshold.
In-water (entrained) ≥10 ppb (low)			✓	In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), this low threshold for entrained oil establishes the PASM based on potential for exceedances of water quality triggers.

Environmental threshold	Hydrocarbon Ecological EMBA^	Hydrocarbon Social EMBA^	PASM*	Justification
In-water (entrained) ≥100 ppb (high)	✓	✓		Entrained oil are insoluble droplets suspended in the water column, and as such exposure pathways are direct contact with external tissue or direct oil consumption. In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), CAPL has set the in-water (entrained) impact threshold for sublethal ecological effects at ≥100 ppb. This threshold is considered by NOPSEMA as appropriate for informing risk evaluation (Ref. 247). This threshold is based on an instantaneous concentration, and therefore only requires the entrained oil to be at this concentration for one-hour (based on minimum model time-step) to trigger this threshold. French-McCay (Ref. 171) identified that if total hydrocarbons in entrained oil droplets was to be evaluated as a risk, 100 ppb would be an extremely conservative sublethal threshold.
Shoreline ≥10 g/m^2 (low)		✓		In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), CAPL has set the shoreline impact threshold for socio-economic effects at ≥10 g/m^2. This threshold is equivalent to ~10 mL/m^2 or ~2 teaspoons/m^2. At this concentration, oil on the shoreline is expected to be visible. Due to this visibility, there is the potential to impact nature-based activities (such as tourism or recreational use) via a reduction in aesthetics.
Shoreline ≥100 g/m^2 (moderate)	✓	✓		In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 247), CAPL has set the shoreline impact threshold for ecological effects at ≥100 g/m2. This threshold is equivalent to ~100 mL/m^2 or 20 teaspoons/m^2. French et al. (Ref. 169) and French-McCay (Ref. 170) define shoreline oil accumulation at ≥100 g/m^2 as potentially harmful to wildlife (including invertebrates, birds, furbearing aquatic mammals and marine reptiles), based on studies for sub-lethal and lethal impacts. Impacts on vegetated habitats (such as saltmarsh and mangroves) have been observed at higher concentrations of shoreline oil. Observations by Lin and Mendelssohn (Ref. 219) demonstrated that loadings of >1,000 g/m^2 of oil during the growing season would be required to impact marsh plants significantly. Similar thresholds have been found in studies assessing oil impacts on mangroves (e.g. Grant et al. [Ref. 181], Suprayogi and Murray [Ref. 304]).

^ Environmental thresholds used to define the EMBA, and the presence of environmental values and sensitivities within this area have been identified in Section 4. These thresholds and the spatial extent of the EMBA is used as part of the environmental impact and risk assessment presented below.

** Environmental thresholds used to define the PASM, and the presence of environmental values and sensitivities within this area have been identified within Appendix D of the OSMP (Ref. 65).*

7.14.2.1 Weathering and fate

MDO is a light-persistent fuel oil used in the maritime industry. It has a density of 890.0 kg/m³ at 15ºC (API of 27.5) and a low pour point of -9.0°C (Table 7-12). The low viscosity (14 cP at 25ºC) indicates that this oil will spread quickly when released and will form a thin film on the sea surface, increasing the evaporation rate.

Generally, about 4% of the MDO mass should evaporate within the first 12 hours (Boiling point (BP) <180°C); a further 32.0% should evaporate within the first 24 hours (180°C < BP <265°C); and an additional 54% should evaporate over several days (265°C < BP <380°C). Approximately 10% (by mass) of MDO will not evaporate, though will decay slowly over time.

It's noteworthy that the heavier components for the MDO, specifically the low volatile and persistent portions, will have a strong tendency to become entrained into the water column in the presence of moderate winds (>10 knots) and in turn breaking waves, however, it can re-surface under calm conditions (<10 knots) (Ref. 288).

7.14.2.2 Modelling outputs

Stochastic modelling outputs from RPS (Ref. 288) are summarised in Table 7-14 and Table 7-15 having regard to the particular values and sensitivities identified in Section 4.

For the 607.3 m^3 MDO release at the Gorgon CDU location:

- The maximum distances from the release location to the low (1–10 g/m²) threshold across all seasons ranged between 51.8 km (transitional) and 65.9 km (winter). For the moderate (10–50 g/m²) threshold, maximum distances ranged between 21.7 km (summer) and 35.8 km (winter), whilst floating oil exposure at or above the high (≥50 g/m²) threshold remained within a maximum of 12.5 km from the release location (during summer).
- There was no contact to any shoreline at any threshold
- There was a 2% probability of dissolved oil at ≥50 ppb (impact thresholds) for a number receptors, predicted to occur during winter only.
- Entrained oil at ≥100 ppb impact thresholds was predicted to occur for a number of receptors, including BIAs and KEFs.

For the 607.3 m^3 MDO release at the Jansz CDU location:

- The maximum distances from the release location to the low (1–10 g/m²) threshold across all seasons ranged between 73.9 km (summer) and 149.4 km (transitional). For the moderate (10–50 g/m²) threshold, maximum distances ranged between 29.8 km (summer) and 78.2 km (transitional), whilst floating oil exposure at or above the high (≥50 g/m²) threshold remained within a maximum of 10.7 km from the release location (during transitional).
- There was no contact to any shoreline at any threshold
- No dissolved oil at ≥50 ppb impact thresholds was predicted to occur during any season.
- Entrained oil at ≥100 ppb impact thresholds was predicted to occur for a number of receptors, including BIAs and KEFs.

Table 7-14: Gorgon vessel collision spill modelling EMBA receptor exposure summary

Sensitivity	Name	Surface^		In-water (dissolved)^	In-water (entrained)^
		≥1 g/m²	≥10 g/m²	≥50 ppb	≥100 ppb
		(probability of exposure, minimum time to exposure)		(probability of exposure)	(probability of exposure)
AMP	Gascoyne	—		—	1%
KEF	Ancient coastline at 125 m depth contour*	100%, <1 day	100%, <1 day	2%	97-99%
	Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	—	—	—	1%
	Commonwealth waters adjacent to Ningaloo Reef	—	—	—	1%
	Continental slope demersal fish communities	9-27%, <1 day	4-6%, <1 day	—	71-77%
World Heritage Properties/National Heritage Places	The Ningaloo Coast	—	—	—	1%
	Barrow Island and the Montebello-Barrow Islands Marine Conservation Reserves	—	—	—	1%
Commonwealth Heritage Properties	Ningaloo Marine Area – Commonwealth Waters *(inferred from Ningaloo IMCRA)*	—	—	—	1%

^ *Ranges in values shown are due to the different results between seasons*

* *The release location resides within the receptor boundaries.*

Table 7-15: Jansz vessel collision spill modelling EMBA receptor exposure summary

Sensitivity	Name	Surface^		In-water (dissolved)^	In-water (entrained)^
		≥1 g/m²	≥10 g/m²	≥50 ppb	≥100 ppb
		(probability of exposure, minimum time to exposure)		(probability of exposure)	(probability of exposure)
AMP	Gascoyne	—	—	—	—
KEF	Ancient coastline at 125 m depth contour*	—	—	—	—
	Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	—	—	—	—
	Commonwealth waters adjacent to Ningaloo Reef	—	—	—	—
	Continental slope demersal fish communities	—	—	—	3-6%
	Exmouth Plateau				5-19%
World Heritage Properties/National Heritage Places	The Ningaloo Coast	—	—	—	—
	Barrow Island and the Montebello-Barrow Islands Marine Conservation Reserves	—	—	—	—
Commonwealth Heritage Properties	Ningaloo Marine Area – Commonwealth Waters *(inferred from Ningaloo IMCRA)*	—	—	—	—

^ *Ranges in values shown are due to the different results between seasons*

* *The release location resides within the receptor boundaries.*

7.14.3 Risk assessment

Source

Activities identified as having the potential to result in a vessel collision event are:

- field support—vessel operations during the petroleum activity (including installation or IMR, activities) within the OA.

A vessel collision event may occur as a result of a loss of DP, navigational error or floundering due to weather.

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	The potential environmental impacts associated with hydrocarbon exposures from a vessel collision event are:	
		• marine pollution resulting in sublethal or lethal effects to marine fauna	5
		• smothering of subtidal and intertidal habitats	6
		• indirect impacts to commercial fisheries	5
		• reduction in amenity resulting in impacts to tourism and recreation	5
		• changes to values and sensitivities of marine protected areas	5

Consequence evaluation

Marine pollution resulting in sublethal or lethal effects to marine fauna

Marine mammals

Marine mammals may be exposed to hydrocarbons from an oil spill at the water surface or within the water column. Marine mammals can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 293; Ref. 200).

An avoidance response (i.e. avoiding spilled hydrocarbons) has been identified for several species of cetacean, suggesting that cetaceans have the ability to detect and avoid surface slicks (Ref. 157). However, detection seems to depend on oil thickness and colour (Ref. 297), and observations during large oil spill events (Deepwater Horizon and the Mega Borg spills) have recorded whales and dolphins travelling through and feeding in oil slicks (Ref. 297; Ref. 127; Ref. 8).

Direct contact with hydrocarbons may result in skin and eye irritation, burns to mucous membranes of eyes and mouth, and increased susceptibility to infection (Ref. 176). The effect of oil on cetacean skin is likely minor and temporary (Ref. 176) due to the skins effectiveness as a barrier. However, it was observed that existing skin lesions, cuts, or abrasions could allow oil to be absorbed more readily into the bloodstream (Ref. 286). French-McCay (Ref. 170) identifies that a ≥10 g/m^2 oil thickness threshold has the potential to impart a lethal dose to the species; however, also estimates a probability of 0.1% mortality to cetaceans if they encounter these thresholds based on the proportion of the time spent at surface.

Dugongs have smooth skin surfaces and therefore are less likely to be affected by oil adhering to their skin. If surfacing in a slick, the Dugongs may foul their sensory hairs (around their mouths) or their eyes; these could lead to inflammation/infections that then affect their ability to feed or breed (Ref. 12). Dugongs may also ingest oil (directly, or indirectly via oil-affected seagrass), and depending on the amount and type of oil, the effects could be short-term to long-term/chronic (e.g. organ damage). However, it is noted that reports on oil pollution damage to Dugongs is rare (Ref. 205).

The physical impacts from ingested hydrocarbons with subsequent lethal or sublethal impacts are applicable to marine mammals given feeding behaviours (such as surface skimming or gulp feeding for cetacean species) which can lead to the ingestion of oil from within the water column

or from the surface. However, as highly mobile species, in general it is unlikely that these animals will be constantly exposed to concentrations of hydrocarbons in the water column for continuous durations (e.g. >48–96 hours) that would lead to chronic effects. Necropsies from cetacean mortalities have generally concluded that death resulted from causes other than oil (Ref. 205).

Marine mammals are vulnerable if they inhale volatiles when they surface within a hydrocarbon slick. For the short period that they persist, vapours from the spill are a significant risk to mammal health, with the potential to damage mucous membranes of the airways and the eyes, which will reduce the health and potential survivability of an animal. Inhaled volatile hydrocarbons are transferred rapidly to the bloodstream and may also accumulate in tissues (Ref. 176).

Stochastic modelling was used to identify BIAs for marine mammals that may be exposed to hydrocarbon concentrations greater than impact thresholds from the MDO spill scenarios. These were:

- Humpback Whale (migration)
- Pygmy Blue Whales (migration, distribution)

As these species are considered most sensitive to surface and entrained exposures, deterministic analysis were utilised to understand the potential extent and duration of exposure.

The following deterministic analysis for the largest sea surface swept area above the impact threshold (≥10 g/m^2) were utilised to understand the potential extent and duration of exposure:

- At the Gorgon CDU location: surface hydrocarbons concentrations ≥10 g/m^2 are present for ~10 days following the spill event, with a maximum area of coverage of ~14 km^2, which occurs on day 3. Using the Humpback Whale migration BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA
- At the Jansz CDU location: surface hydrocarbons concentrations ≥10 g/m^2 are present for ~15 days following the spill event, with a maximum area of coverage of ~12 km^2, which occurs on day 6. Using the Pygmy Blue Whale migration BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA

The deterministic models for the largest area of entrained hydrocarbons >100 ppb, which is considered most relevant for offshore waters and subsequent for assessing potential impacts to cetaceans, indicate the following:

- At the Gorgon CDU location: entrained hydrocarbons are present for ~12 days following the spill event, with a maximum area of coverage of ~50 km^2 occurring ~3 days after the spill commenced. Using the humpback whale migration (north and south) BIA, which is the most relevant BIA for this release location, the modelling indicates that the extent of entrained exposures was predicted to be limited to <0.01% of the entire BIA
- At the Jansz CDU location: entrained hydrocarbons are present for ~9 days following the spill event, with a maximum area of coverage of ~75 km^2 occurring ~2 days after the spill commenced. Using the pygmy blue whale migration BIA, which are the most relevant BIAs for this release location, the modelling indicates that the extent of entrained exposures was predicted to be limited to <0.05% of the entire BIA

Based on an assessment of the predicted magnitude and duration of surface oil, and both instantaneous and time-integrated entrained oil, it is expected that only a small proportion of any marine mammal population would be exposed above the defined impact exposure thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Reptiles

Marine reptiles may be exposed to hydrocarbons from an oil spill at the water surface or on the shoreline. Marine reptiles can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 132).

Marine turtles are vulnerable to the effects of oil at all life stages: eggs, hatchlings, juveniles, and adults. Several aspects of turtle biology and behaviour place them at risk, including a lack of avoidance behaviour, indiscriminate feeding in convergence zones, and large pre-dive inhalations (Ref. 12). Oil effects on turtles can include impacts to the skin, blood, digestive, and immune systems, and increased mortality due to oiling.

Shoreline hydrocarbons can impact turtles coming ashore at nesting beaches. Eggs may also be exposed during incubation, potentially resulting in increased egg mortality and detrimental effects on hatchlings. Hatchlings may be particularly vulnerable to toxicity and smothering as they emerge from the nests and make their way over the intertidal area to the water (Ref. 132).

BIAs for the Flatback Turtle, Loggerhead Turtle, Green Turtle, and Hawksbill Turtle may be exposed to hydrocarbon concentrations greater than the impact thresholds. The behaviours associated with these BIAs include aggregation, basking, foraging, mating, nesting and internesting.

Stochastic modelling for both MDO scenarios indicated that no shoreline contact was predicted at any threshold, and no further assessment has been undertaken.

The EPBC threatened Short-nosed Sea Snake and Leaf-scaled Sea Snake, and other EPBC marine listed sea snake species, may be present within the Hydrocarbon EMBA. Oil pollution has been identified as a pressure 'of potential concern' (Ref. 155) to sea snakes[39]. Sea snakes are susceptible to oil on the sea surface (Ref. 155; Ref. 10; Ref. 324). Being air breathers and obligate bottom feeders oil may be either inhaled or ingested (Ref. 155; Ref. 172). As described above, surface oil exposure above impact thresholds are predicted to be only be present for a short (<15 days) duration and over a relatively small (maximum ~14 km^2) area. Any exposure to benthic habitats is only predicted to occur within nearshore (<20 m water depth) areas. Given there was no shoreline contact predicted, and the spill scenarios are >55 km from the nearest shorelines, the duration and extent of exposure from a single spill event is predicted to be limited.

Based on an assessment of the predicted magnitude and duration of oil exposure, which occurs in deeper offshore locations and doesn't contact shorelines, it is expected that only a very small proportion of any marine reptile population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Fishes, including sharks and rays

Fish, including sharks and rays, may be exposed to hydrocarbons from an oil spill within the water column. Most fish do not break the sea surface, and therefore the risk from surface oil is not relevant; however, some shark species (including Whale Sharks) feed in surface waters, so there is also the potential for surface hydrocarbons to be ingested. Fish species are expected to have higher sensitivity to exposures of in-water (entrained) oil components.

Potential effects include damage to the liver and lining of the stomach and intestine, and toxic effects on embryos (Ref. 218). Fish are most vulnerable to oil during embryonic, larval and juvenile life stages. However, very few studies have demonstrated increased mortality of fish as a result of oil spills (Ref. 168; Ref. 190; Ref. 201).

Demersal fish are not expected to be impacted given the presence of entrained oil is predicted in the surface layers (<10 m water depth) only.

Pelagic free-swimming fish and sharks are unlikely to suffer long-term damage from oil spill exposure because dissolved/entrained hydrocarbons are typically insufficient to cause harm (Ref. 204). Pelagic species are also generally highly mobile and as such are not likely to suffer extended exposure (e.g. >48–96 hours) at concentrations that would lead to chronic effects due to their patterns of movement. Near the sea surface, fish can detect and avoid contact with surface slicks meaning fish mortalities rarely occur in the event of a hydrocarbon spill in open waters (Ref. 320). Fish that have been exposed to dissolved hydrocarbons can eliminate the toxicants once placed in clean water; hence, individuals exposed to a spill are likely to recover once they are outside of the exposure area (Ref. 213). Marine fauna with gill-based respiratory systems, including whale sharks, are expected to have higher sensitivity to exposures of entrained oil.

BIAs for fishes including sharks and rays that may be exposed to hydrocarbon concentrations greater than impact thresholds include:

- Whale Shark (foraging).

As fish species are most sensitive to surface and entrained oil exposures, deterministic analysis were utilised to understand the potential extent and duration of exposure.

The following deterministic analysis for the largest sea surface swept area above the impact threshold (≥10 g/m^2) were utilised to understand the potential extent and duration of exposure:

- At the Gorgon CDU location: surface hydrocarbons concentrations ≥10 g/m^2 are present for ~10 days following the spill event, with a maximum area of coverage of ~14 km^2, which occurs on day 3. Using the whale shark foraging BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA
- At the Jansz CDU location: surface hydrocarbons concentrations ≥10 g/m^2 are present for ~15 days following the spill event, with a maximum area of coverage of ~12 km^2, which

[39] The pressure analysis distinguished between oil pollution from shipping ('of less concern') and oil rigs ('of potential concern') (Ref. 155). Although the aspect source for this risk assessment is a spill from a vessel, the higher pressure concern has been adopted.

occurs on day 6. Using the whale shark foraging BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA

The deterministic models for the largest area of entrained hydrocarbons >100 ppb, which is considered most relevant for offshore waters and subsequent for assessing potential impacts to cetaceans, indicate the following:

- At the Gorgon CDU location: entrained hydrocarbons are present for ~12 days following the spill event, with a maximum area of coverage of ~50 km^2 occurring ~3 days after the spill commenced. Using the whale shark foraging (north and south) BIA, which is the most relevant BIA for this release location, the modelling indicates that the extent of entrained exposures was predicted to be limited to <0.01% of the entire BIA
- At the Jansz CDU location: entrained hydrocarbons are present for ~9 days following the spill event, with a maximum area of coverage of ~75 km^2 occurring ~2 days after the spill commenced. Using the whale shark foraging BIA, which are the most relevant BIAs for this release location, the modelling indicates that the extent of entrained exposures was predicted to be limited to <0.01% of the entire BIAs

Based on an assessment of the predicted magnitude and duration of surface oil, and both instantaneous and time-integrated entrained oil, it is expected that only a small proportion of any fish population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Seabirds and shorebirds

Birds may be exposed to hydrocarbons from an oil spill at the water surface (e.g. foraging, resting) or on the shoreline (e.g. roosting, nesting).

Birds that rest at the water's surface (e.g. shearwaters) or surface-plunging birds (e.g. terns, boobies) are particularly vulnerable to surface hydrocarbons (Ref. 78; Ref. 12). Damage to external tissues, including skin and eyes, can occur, along with internal tissue irritation in lungs and stomachs (Ref. 268). Acute and chronic toxic effects may result where the product is ingested as the bird attempts to preen its feathers (Ref. 268).

A breeding BIA for the Wedge-tailed Shearwater was the only BIA that may be exposed to hydrocarbon concentrations greater than impact thresholds.

The following deterministic analysis for the largest sea surface swept area above the impact threshold (≥10 g/m^2) were utilised to understand the potential extent and duration of exposure:

- At the Gorgon CDU location: surface hydrocarbons concentrations ≥10 g/m^2 are present for ~10 days following the spill event, with a maximum area of coverage of ~14 km^2, which occurs on day 3. Using the wedge-tailed shearwater breeding BIA surrounding Montebello and Barrow Island, which is the most relevant BIA for this release location, the modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA.
- At the Jansz CDU location: surface hydrocarbons concentrations ≥10 g/m^2 are present for ~15 days following the spill event, with a maximum area of coverage of ~12 km^2, which occurs on day 6. Using the wedge-tailed shearwater breeding BIA surrounding Montebello and Barrow Island, which is the most relevant BIA for this release location, the modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA.

Based on an assessment of the predicted magnitude and duration of surface and shoreline oil, it is expected that only a small proportion of any seabird population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Smothering of subtidal and intertidal habitats

Offshore benthic habitats (e.g. coral, sponges, seagrass, macroalgae)

Direct contact of hydrocarbons to subtidal habitats can cause smothering. The effects of physical contact on subtidal habitats are similar, and studies have shown that it can cause sublethal stress and reduced growth rates in seagrass (Ref. 339; Ref. 276), act as a barrier to diffusion of CO_2 across cell walls in macroalgae (Ref. 262), and a decline in metabolic rate, bleaching or partial mortality in corals (Ref. 294; Ref. 245) and impair respiration and photosynthesis by symbiotic zooxanthellae (Ref. 275; Ref. 214). The recovery of benthic habitats can be slow, with studies following the Deepwater Horizon incident showing long-term non-acute effects of the spill on coral colonies seven years after the event (Ref. 177).

Ningaloo Coast (World Heritage Property, National Heritage Place and Commonwealth Heritage Place) is known to support coral reef and macroalgae habitat (Section 4.6.1). Coral, seagrass,

and macroalgae habitats are also known to occur around the Barrow and Montebello islands, as well as other Pilbara inshore islands.

Stochastic models for entrained exposure ≥100 ppb indicate the following:

- At the Gorgon CDU location: the Ningaloo Marine Area – Commonwealth Waters (1%) and the Montebello Islands Marine Park (1%) were the only receptors where coral, seagrass, and macroalgae habitats were predicted to be impacted. Dissolved hydrocarbons at the impact threshold were not predicted at any receptors supporting offshore coral, seagrass, and macroalgae habitats.
- There was no contact predicted to offshore coral, seagrass, and macroalgae habitats for dissolved or entrained at response thresholds from the Jansz CDU location.

Nearshore benthic habitats (e.g. coral, sponges, seagrass, macroalgae)

Smothering of benthic habitat communities within shallow water environments may occur if a surface slick or in-water entrained oil above impact thresholds occurs in the intertidal area.

No surface exposure at the ≥10 g/m^2 impact threshold was predicted for the Ningaloo Coast heritage area, or any for any of the modelled scenarios (Table 7-14; Table 7-15). Further, there were no nearshore areas surrounding the EMBA that were predicted to be contacted at impact thresholds. Therefore, impacts from smothering within intertidal areas due to surface oil is not expected to occur.

Based on an assessment of the predicted magnitude and duration of entrained oil, it is expected that only a small proportion of any coral habitat would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause smothering was ranked as Incidental (6).

Coastal habitats (e.g. mangroves, mudflats)

Shoreline hydrocarbons can have smothering and toxic effects on mangroves and intertidal mudflats. Acute and chronic impacts to the health of mangrove communities can occur via pneumatophore smothering and exposure to the toxic volatile fraction of the hydrocarbons (Ref. 18). Intertidal mudflats, which are typically sheltered and have a large surface area for oil absorption, can trap oil, potentially causing toxicity impacts to infauna. Intertidal mudflats are very sensitive to oil pollution because the oil enters lower layers of the mudflats where a lack of oxygen prevents the oil from decomposing (Ref. 18).

No shoreline exposure at any threshold was predicted for any of the modelled scenarios (Table 7-14; Table 7-15); consequently, no further assessment has been undertaken.

Indirect impacts to commercial fisheries

As identified in Section 4.4.1, commercial fisheries have management areas and recent fishing effort recorded within the Hydrocarbon EMBA. Direct impacts to commercially targeted fish species are expected to occur from in-water exposures.

Stochastic modelling showed that where dissolved or entrained oil above impact thresholds was predicted to occur, it was predicted to remain in the surface layers, with no exposure at depths >10 m below the surface predicted to occur during any season. As described above, very few studies have demonstrated increased mortality of fish as a result of oil spills. However, fish stocks may be especially vulnerable to oil spills close to the spawning grounds or egg and larval drift areas (Ref. 190; Ref. 237). Fish eggs and larvae are typically vulnerable to toxic oil compounds due to their small size, poorly developed membranes and detoxification systems as well as their position in the water column (Ref. 237). Despite potential mortality of eggs and larvae following a spill, subsequent depletion of adult wild fish stocks is rarely recorded (Ref. 204).

As identified in Section 4.4.1, the spawning grounds for the Southern bluefin tuna intersects the Hydrocarbon Ecological EMBA. As such, the available deterministic analyses from the hydrocarbon spill modelling were utilised to understand the potential extent and duration of exposure to these spawning grounds.

The deterministic models for the largest area of entrained hydrocarbons >100 ppb (for a MDO release at the Jansz CDU location) indicate that hydrocarbons are present for ~9 days following the spill event, with a maximum area of coverage of ~72 km^2 on day 2. Based on the spatial extent of the southern bluefin tuna spawning ground (~1,850,534 km^2), modelling indicates that the extent of entrained exposures was predicted to be limited to <0.01% of the entire spawning ground.

Although exposures above impact thresholds have the potential to affect the recruitment of targeted commercial and recreational fish species, any acute impacts are expected to be limited, given this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time. On this basis, recruitment of targeted species is not expected to

be significantly impacted given the extent of exposure to concentrations above impact thresholds are expected to be limited due to rapid dilution and dispersion upon release.

Spill events also have the potential to impact commercial fisheries through indirect impacts associated with tainting. Tainting is a change in the characteristic smell or flavour, and renders the catch unfit for human consumption or sale. Tainting may not be a permanent condition but will persist if the organisms are continuously exposed; but when exposure is terminated, depuration will quickly occur (Ref. 232). Regardless of the small potential for tainting, if tainting occurs, or there is a customer perception that tainting has occurred, this may cause a larger impact than the direct impact itself. However, as this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time period, and the low persistence of the hydrocarbon in the environment, actual or perceived occurrences of tainting are not expected to be altered for a prolonged period.

Modelling predicts that inshore exposure would be limited, whilst offshore exposures are expected to dilute and disperse over a longer period of time. In both instances, it is expected that any impacts from this type of event would likely be short-term in duration. Therefore, CAPL assesses the consequence to commercial fisheries as localised and short-term and it is ranked as Minor (5).

Reduction in amenity resulting in impacts to tourism and recreation

Stochastic modelling predicts surface exposure ≥1 g/m^2 (visible impact threshold) does not intersect with any shorelines, Australian Marine Parks, state marine protected areas, or the Ningaloo Coast. Deterministic analysis for the largest swept area (from the Gorgon CDU location scenario) indicates that floating hydrocarbon concentrations ≥1 g/m^2 are present from day one following the spill event, with a maximum area of coverage of 47 km^2.

Floating oil can impact the visual amenity of coastal areas and limit access for users, impacting tourism and recreation activities. However, given the proximity to shore, and the short-term and localised disturbance to marine tourism and recreation activities, CAPL has ranked the consequence as Minor (5).

Changes to values and sensitivities of marine protected areas

Stochastic modelling for the Gorgon CDU release location scenario predicts entrained exposure ≥100 ppb from a vessel spill event as having a very low probability (1%) of occurrence within the Gascoyne AMP (Table 7-15). As identified in Section 4.5.1, the EMBA intersects two additional AMPs—the Montebello AMP and the Ningaloo AMP. These AMPs have been intersected due to the smoothing process as part of the EMBA creation, and are not predicted to be contacted by any hydrocarbons above any thresholds modelled.

As identified in Section 4.5.1, the natural values of the Gascoyne AMP include species listed as threatened, migratory, marine, or cetacean under the EPBC Act. Social and economic values of the Gascoyne AMP include commercial fishing.

The consequence evaluations to marine fauna and commercial fisheries are provided above.

Given the low likelihood of exposure, the expected behaviour and weathering of the oil, limited spatial and temporal exposure to marine fauna or commercial fish species above impact exposure thresholds, the potential impacts of a vessel spill event to the values and sensitivities of the Gascoyne AMP has been ranked as Minor (5).

ALARP decision context justification

Offshore vessel operations are commonplace and well-practised nationally and internationally.

The control measures to manage the risk associated with vessel collisions are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL. Specifically, CAPL has worked in the region for over 10 years, and has a demonstrated understanding of industry requirements and their operational implementation in these areas.

During relevant persons consultation, no objections or claims were raised regarding a vessel collision event arising from the activity.

Modelling was undertaken to support the environmental risk evaluation and remove some of the uncertainty associated with this aspect, The risks associated with a vessel collision are considered lower-order risks in accordance with Table 5-3. As such, CAPL would apply ALARP Decision Context A for this aspect.

Good practice control measures	
Control measure	**Description**
Marine Standard	The *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) ensures that various legislative requirements are met. These include: • crew meet the minimum standards for safely operating a vessel, including watchkeeping requirements • navigation, radar equipment, and lighting meets industry standards. These requirements will ensure that direct vessel radio contact is available to other marine users operating in this area to enable ease of communication in highlighting risks and nearby exclusion zones.
Maritime safety information	Maritime safety information, such as AUSCOAST navigational warnings, are issued by the JRCC Australia, part of AMSA. Under the *Navigation Act 2012* (Cth), the AHO is also responsible for maintaining and disseminating navigational charts and publications, including providing safety-critical information to mariners (including any change to prohibited/restricted areas, obstructions to surface navigation, etc.) via the Notice to Mariners system. Notice to Mariners can be permanent or temporary notifications. Maritime safety information (radio-navigation warnings and/or Notice to Mariners) will be issued; thus enabling other marine users to also safely plan their activities.
Watchkeeping	Marine Order 28—Operations standards and procedures sets out requirements and responsibilities for vessel crew, including watchkeeping standards.
SOPEP/Shipboard Marine Pollution Emergency Plan	MARPOL 73/78 Annex I and Marine Order 91 (Marine pollution prevention – oil) requires that vessels (as appropriate to with vessel class) has an approved SOPEP in place. To prepare for a spill event, the SOPEP details: • response equipment available to control a spill event • review cycle to ensure that the SOPEP is kept up to date • testing requirements, including the frequency and nature of these tests. In the event of a spill, the SOPEP details: • reporting requirements and a list of authorities to be contacted • activities to be undertaken to control the discharge of oil • procedures for coordinating with local officials.
EMT	An emergency management team (EMT) capable of managing a response to the credible spill discharge scenario described in this EP will be maintained.
OPEP	Under the OPGGS(E)R, NOPSEMA require that the petroleum activity have an accepted OPEP in place before commencing the activity. If a vessel collision occurs, the OPEP will be implemented. CAPL has developed a NOPSEMA-accepted OPEP (Ref. 68) to support all spill response activities across all its assets. Although formal activation of the ABU Consolidated OPEP occurs at Level 2 or above, the plan includes procedures relevant to Level 1 spills, such as alert procedures and initial response actions. These procedures will be followed as appropriate during Level 1 incidents in conjunction with the vessel SOPEP and/or Project Emergency Response Plans.
OSMP	The OSMP details the arrangements and capability in place for operational and scientific monitoring. Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the

	spill or the associated response activities and informs requirements for remediation (if required). CAPL has developed a NOPSEMA-accepted OSMP (Ref. 65) to support all spill monitoring activities across all its assets.	
Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
Vessel speed restrictions within the OA	Vessel speeds within the OA are restricted to ≤10 knots to reduce the likelihood and consequence of a vessel collision. Although vessel speeds in the OA are typically low, this restriction further mitigates potential risks.	While reduced vessel speeds may extend activity duration and increase costs, the environmental benefit is considered to outweigh the financial and scheduling impacts. As such, this control measure has been adopted.
Likelihood and risk level summary		
Likelihood	Based on industry data, vessel collisions are considered rare, with only 3% of all marine incidents that occurred in Australian waters between 2005 and 2012 associated with a vessel collision event. As most vessel collisions involve the LOC of a forward tank, which are generally double-lined and smaller than other tanks, the loss of the maximum credible volumes used in this scenario is unlikely. Considering the inherent low likelihood of a collision occurring, the safeguards in place, and enactment of the OPEP, the potential likelihood of causing the consequences described in this section is Remote (5).	
Risk level	Very low (9)	
Acceptability summary		
Principles of ESD	The potential impact associated with this aspect would be short-term, apply to some individuals, and consequently is not expected to affect biological diversity and ecological integrity. The consequence associated with this aspect is Minor (5), and subsequently the potential for serious or irreversible environmental damage is not expected. Therefore, no additional evaluation against the Principles of ESD is required.	
Relevant environmental legislation and other requirements	Legislation and other requirements relevant for this aspect include: • *Navigation Act 2012* (Cth) • Marine Order 91, Marine Pollution Prevention – oil • Marine Order 28, Operations standards and procedures • Marine Order 30, Prevention of collisions • *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 139) • *Conservation Advice Balaenoptera borealis Sei Whale* (Ref. 312) • *Conservation Advice Balaenoptera physalus Fin Whale* (Ref. 313) • *National Recovery Plan for the Southern Right Whale (Eubalaena australis)* (Ref. 110) • *Conservation Advice Rhincodon typus Whale Shark* (Ref. 314) • *Recovery Plan for Marine Turtles in Australia* (Ref. 83) • *Conservation Advice for Dermochelys coriacea (Leatherback Turtle)* (Ref. 131) • *Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)* (Ref. 151)	

- *Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)* (Ref. 152)
- *Conservation Advice for Sousa sahulensis (Australian Humpback dolphin)* (Ref. 122)
- *Conservation Advice for Orcaella heinsohni (Australian Snubfin dolphin)* (Ref. 113)
- *Conservation Advice for Sternula albifrons (Little Tern)* (Ref. 114)
- *Conservation Advice for Pristis pristis (Largetooth sawfish)* (Ref. 344)
- *North-west Marine Parks Network Management Plan* (Ref. 135).

CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.

Requirement	Demonstration
Navigation Act 2012 (Cth) Notice to Mariners	Requirement to issue a Notice to Mariners has been incorporated into the **maritime safety information** control measure.
Marine Order 91 Gives effect to Annex I of MARPOL 73/78	Requirements for a vessel to have a SOPEP have been incorporated into the **SOPEP/Shipboard Marine Pollution Emergency Plan** control measure
Marine Order 28	Requirements and responsibilities for vessel crew, including **watchkeeping standards**.
Marine Order 30 Gives effect to the Prevention of Collisions Convention	Requirements for navigation, lights, and signals have been incorporated into the **Marine Standard** control measure
Conservation Management Plan for the Blue Whale 2015–2025 No specific management action identified.	N/A
Conservation Advice Balaenoptera borealis Sei Whale No specific conservation action identified.	N/A
Conservation Advice Balaenoptera physalus Fin Whale No specific conservation action identified.	N/A
National Recovery Plan for the Southern Right Whale (Eubalaena australis) No specific management action identified.	N/A
Conservation Advice Rhincodon typus Whale Shark No specific conservation action identified.	N/A
Conservation Advice Sternula albifrons (Little Tern) No specific conservation action identified.	N/A

	Conservation Advice for Sousa sahulensis (Australian Humpback dolphin) Habitat loss and degradation: Comprehensively assess coastal development that is likely to have a significant impact on Australian humpback dolphins. For example, in areas identified as Habitat Critical to the Survival or inhabited by important populations of the species.	Activities described in this EP are located offshore and not within close proximity to coastal areas. Spill risk associated with the activity could impact coastal areas. Assessment of spill risk strategies, including completing a NEBA, is within scope of the OPEP (Ref. 68). Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 65). Therefore, this activity is not considered to be inconsistent with the Conservation Advice for *Sousa sahulensis*
	Conservation Advice for Orcaella heinsohni (Australian Snubfin dolphin) Habitat loss and degradation: Comprehensively assess coastal development that is likely to have a significant impact on Australian Humpback dolphins. For example, in areas identified as Habitat Critical to the Survival or inhabited by important populations of the species.	Activities described in this EP are located offshore and not within close proximity to coastal areas. Spill risk associated with the activity could impact coastal areas. Assessment of spill risk strategies, including completing a NEBA, is within scope of the OPEP (Ref. 68). Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 65). Therefore, this activity is not considered to be inconsistent with the Conservation Advice for *Orcaella heinsohni.*
	Recovery Plan for Marine Turtles in Australia Management action A4.2: Ensure spill risk strategies and response programs adequately include management for marine turtles and their habitats, particularly in reference to 'slow to recover habitats', e.g. nesting habitat, seagrass meadows or coral reefs	Assessment of spill risk strategies is within scope of the OPEP (Ref. 68). Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 65). Therefore, this activity is not considered to be inconsistent with the *Recovery Plan for Marine Turtles in Australia*.
	Approved Conservation Advice for Dermochelys coriacea (Leatherback Turtle) No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake) No specific conservation action identified.	N/A
	Conservation Advice for Pristis pristis (Largetooth sawfish)	N/A

<table>
<tr><td></td><td>No specific conservation action identified.</td><td></td></tr>
<tr><td></td><td>North-west Marine Parks Network Management Plan
The Plan requires that “[a]ctions required to respond to oil pollution incidents, including environmental monitoring and remediation, in connection with mining operations authorised under the OPGGS Act may be conducted in all zones. The Director should be notified in the event of an oil pollution incident that occurs within, or may impact upon, an Australian Marine Park and, so far as reasonably practicable, prior to a response action being taken within a marine park.”</td><td>The Gascoyne Marine Park is a multiple use zone (IUCN VI). The control measures identified for the management of an unplanned release provide for the response to, and environmental monitoring and remediation of, an oil pollution incident.
Requirements to report oil pollution incidents that occur within, or may impact upon, an AMP is included in Section 8.4.2.
Therefore, this activity is not considered to be inconsistent with the North-west Marine Parks Network Management Plan.</td></tr>
<tr><td>Internal context</td><td colspan="2">These CAPL management processes or procedures were deemed relevant for this aspect:
• Chevron Marine Standard Non Tankers: Corporate OE Standard (Ref. 63)
• OPEP (Ref. 68)
• OSMP (Ref. 65).
Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</td></tr>
<tr><td>External context</td><td colspan="2">No objections or claims were raised regarding a vessel collision event arising from the activity.</td></tr>
<tr><td>Defined acceptable level</td><td colspan="2">These risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.
However, in alignment with Section 5.7.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:
<table>
<tr><th>Plan</th><th>Objective</th></tr>
<tr><td>Conservation Management Plan for the Blue Whale 2015–2025</td><td><u>Recovery objective</u>: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.
<u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</td></tr>
<tr><td>National Recovery Plan for the Southern Right Whale (Eubalaena australis)</td><td><u>Long–term vision</u>: The long-term vision for the recovery of the Southern Right Whale is that the population has increased in size to a level that the conservation status has improved, and the species no longer qualifies for listing as threatened under any of the EPBC Act listing criteria.
<u>Interim objective 2:</u> Anthropogenic threats are managed consistent with ecologically sustainable</td></tr>
</table></td></tr>
</table>

		development principles to facilitate recovery of Southern Right Whales.
	Recovery Plan for Marine Turtles in Australia	Recovery objective: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list. Interim objective 3: Anthropogenic threats are demonstrably minimised.
	North-west Marine Parks Network Management Plan	As per Section 4.5.1.
	Therefore, CAPL has defined the following acceptable levels of impact such that it is not inconsistent with these documents: • impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species • no adverse change to the values of the Australian Marine Parks. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level. In particular that by managing the unplanned release, that the risk to marine fauna and/or values of the AMPs are also subsequently managed.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 22) No unplanned release of hydrocarbons or hazardous materials to the environment during the petroleum activities	**(EPS 1.3) Marine Standard** Vessels will meet the crew competency, navigation equipment, and radar requirements of the Marine Standard	(MC 1.3.1) Records indicate that vessels meet the crew competency, navigation equipment, and radar requirements of the Marine Standard
	(EPS 1.4) Watchkeeping Vessels will implement watchkeeping standards in accordance with Marine Order 28	(MC 1.4.1) Records indicate that watchkeeping was undertaken in accordance with the requirements of Marine Order 28 during the petroleum activity
	(EPS 1.5) Vessel lights and signals In accordance with regulatory requirements, vessels will implement light and signals appropriate to the nature of their operations	(MC 1.5.1) Records indicate that vessel lights and signals were consistent with the requirements of COLREGS and the *Navigation Act 2012* (Cth) during the petroleum activity
	(EPS 1.6) Automatic identification system Vessels will use shipborne AIS during the petroleum activity	(MC 1.6.1) Records indicate that shipborne AIS was used by the vessel/s during the petroleum activity
	(EPS 1.2) Maritime safety information Notify relevant agency of activities, vessel movements, and requested safety exclusion zone, to enable them to generate radio-navigation warnings and/or Notice to	(MC 1.2.1) Record of lodgement of notification to relevant agency

	Mariners prior to commencing offshore activities	
	(EPS 3.2) Vessel speed restrictions within the OA Vessel speeds within the OA will be limited to ≤10 knots to reduce the likelihood and consequence of collisions with marine fauna.	(MC 3.2.1) Training records confirm personnel involved in offshore vessel activities have completed the induction
		(MC 3.2.2) Induction materials include detail speed limit requirements
(EPO 21) Reduce the risk of impacts to the environment from the unplanned release of hydrocarbons or hazardous materials during petroleum activities	**(EPS 21.1) SOPEP** Marine vessels (as appropriate to vessel class) will carry on board a Shipboard Oil Pollution Emergency Plan (SOPEP) in accordance with MARPOL 73/78 Annex I – Prevention of Oil Pollution	(MC 21.1.1) OVIS report/ABU Marine OE Inspection Checklist confirms an approved SOPEP is on board marine vessels >400 T
		(MC 21.1.2) Inspection records (or similar) show drills conducted in accordance with SOPEP
		(MC 21.1.3) Inspection records (or similar) show spill kits available in accordance with SOPEP
	(EPS 21.2) SOPEP In the event of a vessel-based spill event, emergency response activities will be implemented in accordance with the vessel SOPEP (or equivalent).	(MC 21.2.1) Records confirm that emergency response activities were implemented in accordance with the vessel SOPEP in the event of a vessel-based spill.
	(EPS 21.3) OPEP In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, response activities are implemented in accordance with the *ABU Consolidated OPEP*	(MC 21.3.1) Records confirm the alert procedures and initial response actions described within the OPEP were implemented for Level 1 oil spill occurring to marine or coastal waters
		(MC 21.3.2) Records confirm the OPEP has been activated and response activities implemented for Level 2 (or above) oil spill occurring to marine or coastal waters
	(EPS 21.4) OPEP—Oil spill response organisation (OSRO) Capability Arrangements CAPL shall maintain service agreements with oil spill response organisations (as per Section 8.3.9.6) that have capabilities to support a response to an oil spill event	(MC 21.4.1) Records confirm that service agreements are in place
	OPEP Refer to the ABU Consolidated OPEP for environmental performance outcomes, standards and measurement criteria related to emergency management, emergency preparedness, and each response tactic	
	(EPS 21.6) OSMP In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, the OSMP will be activated, and:	(MC 21.6.1) Records confirm the OSMP has been activated
		(MC 21.6.2) Records confirm that once initial criteria have been met, operational and scientific monitoring programs were initiated

	• operational and scientific monitoring program are initiated once the specific initiation criteria are met • operational and scientific monitoring program are implemented within the timeframes outlined in the OSMP • operational and scientific monitoring components are continued until respective termination criteria are met	(MC 21.6.3) Records confirm that operational and scientific monitoring programs were implemented within the timeframes outlined in the OSMP
		(MC 21.6.4) If any OSMP programs requiring vessels are activated, records demonstrate that CAPL EMT identified vessel availability through existing contracts within 12 hours of OSMP component initiation activation
		(MC 21.6.5) If any OSMP programs requiring aircraft are activated, records demonstrate that CAPL EMT identified aircraft availability through existing contracts within 12 hours of OSMP component initiation activation
		(MC 21.6.6) Records show CAPL EMT mobilised a minimum of one identified, contracted vessel within 24 hours to Onslow, Dampier or Barrow Island (subject to Barrow Island quarantine requirements)
		(MC 21.6.7) Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased
	(EPS 21.7) OSMP Capability required to implement all operational and scientific monitoring programs are in place to meet the requirements outlined in the OSMP	Internal personnel capability is documented every six months in the ABU OSMP Capability Register
		(MC 21.7.2) External contractors self-assess their capability against the requirements and provide a Statement of Personnel Capability and Readiness every six months
		(MC 21.7.3) Hydrocarbon characterisation sample kits are maintained at Barrow Island and Karratha

7.15 Unplanned release—hydrocarbon system

7.15.1 Scenario evaluation

A dropped object risk assessment was completed (Ref. 71) to understand the potential outcomes of a dropped object within the vicinity of existing infrastructure along the umbilical route. Based on this assessment, CAPL considers that a major defect in a flowline or production pipeline is the most credible (but unlikely) unplanned event. Specifically, a full-bore rupture was selected as the worst-case major defect event.

For the purpose of this risk assessment, identification of two locations along the umbilical route within the OA for a major rupture event was based on:

- the location with the greatest potential environmental consequence (closest to sensitive receptors)
- proximity of export to installation areas along the umbilical route where equipment must be over-boarded.

Based on these considerations, two locations were identified and modelled to provide an indication of the EMBA from a major defect event. The locations were:

- Jansz–Io field (approximate location of Midline PTS)
- Gorgon M2 production crossing location, within the Gorgon field.

Modelling undertaken by Intecsea (Ref. 198) was used to understand potential volumes released during a major defect event. Model calculations were based upon:

- maximum allowable operating pressure of the pipeline
- water depth at the release location (and subsequent pressure differential)
- time to detect defect and enact emergency procedures
- time for pipeline to equalise with the ambient pressure at the release location

Table 7-16 summarises the inputs and subsequent estimated volumes.

Table 7-16: Major defect volume calculations

Parameter	Release Location	
	Jansz-Io field	Gorgon Field
Pipeline	Jansz	Gorgon
Maximum allowable operating pressure	260 bar	280 bar
Water depth	1,345 m	120 m
Time to detect defect and enact emergency procedures^	30 minutes	30 minutes
Time for pipeline to equalize with the ambient pressure at the release location	~7 hours	~8.85 hours
Estimated volume	276 m^3	490 m^3

^ *Duration is based on 15 minutes detection for alarms from the Flow Management Tool, and 15 minutes for the operator to enact emergency procedures.*

7.15.2 Spill modelling

CAPL commissioned RPS to conduct spill modelling to inform the risk assessment associated with a major defect event at the Gorgon (Ref. 287) and Jansz locations (Ref. 288).

A three-dimensional oil spill model (SIMAP) was used to simulate the drift, spread, weathering and fate of the spilled oil (Ref. 287; Ref. 288). Modelling was conducted using a stochastic approach, where multiple simulations (using the same spill parameters) were conducted, but under varying meteorological and oceanographic conditions.

Table 7-17 summarises the model settings; Table 7-18 and Table 7-19 summarise the hydrocarbon properties for Gorgon and Jansz condensates. Table 7-13 describes the modelled environmental thresholds.

Table 7-17: Major defect spill scenario model settings

Parameter	Details	
Release Location	Gorgon field	Jansz-Io field

Latitude	20° 29’ 34.240” S	19º48’34.09” S
Longitude	114° 54’ 36.987” E	114º36’26.52” E
Water Depth	~120 m	~1,346 m
Oil type	Gorgon condensate	Jansz condensate
Simulation spill type	Subsea	
Simulation spill volume	490 m^3	276 m^3
Simulation spill duration	1 hour	7.2 hours
Total simulation duration	30 days	28 days
Number of randomly selected spill simulation start times	100 per season (300 total)	
Seasons modelled	Summer (September to the following March) Transitional (April and August) Winter (May to July)	

Table 7-18: Physical properties and boiling point ranges for Gorgon condensate

Characteristic	Value			
Density	847.8 kg/m^3 (at 15 °C)			
Dynamic viscosity	2.4 cP (at 20 °C)			
Pour point	-9 °C			
API gravity	35.3 API			
Classification	Group II, light persistent oil			
Boiling point	Volatile <180 °C	Semi-volatile 180–265 °C	Low volatility 265–380 °C	Residual >380 °C
	33.3%	28.5%	32.3%	5.9%

Table 7-19: Physical properties and boiling point ranges for Jansz condensate

Characteristic	Value			
Density	772.8 kg/m^3 (at 25 °C)			
Dynamic viscosity	1.2 cP (at 25 °C)			
Pour point	-81 °C			
API gravity	51.4 API			
Classification	Group I, non persistent oil			
Boiling point	Volatile <180 °C	Semi-volatile 180–265 °C	Low volatility 265–380 °C	Residual >380 °C
	72.5%	13.0%	14.0%	0.5%

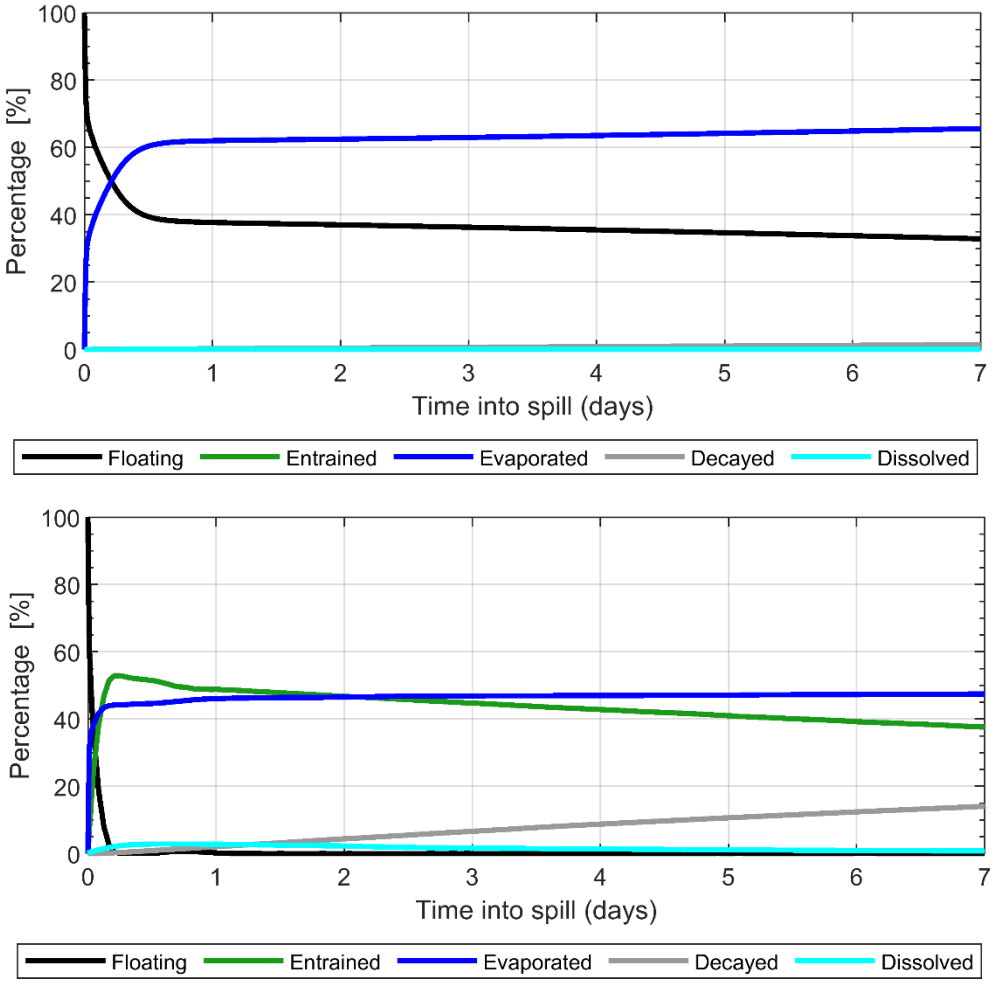
7.15.2.1 Weathering and fate

Gorgon condensate is light persistent oil, with a density of 847.8 kg/m^3, an API of 35.3, and a low pour point (−9 °C) (Table 7-18). The low viscosity (2.4 cP) indicates that this oil will spread quickly when released and will form a thin film on the sea surface, increasing the evaporation rate.

Generally, 33.3% of the Gorgon condensate mass should evaporate within the first 12 hours (boiling point <180 °C); a further 28.5% should evaporate within the first

24 hours (boiling point 180°C–265 °C); and an additional 32.3% should evaporate over several days (boiling point 265°C–380 °C). Approximately 5.9% (by mass) of Gorgon condensate will not evaporate at atmospheric temperatures. These compounds will persist in the environment.

Figure 7-2 shows predicted weathering for an instantaneous 50 m^3 surface release of Gorgon condensate (tracked for 7 days) under calm and variable wind conditions. Predictions show that under calm conditions, ~62% of the slick volume evaporated within the initial 24 hours; and under variable conditions ~46% has evaporated and ~49% has entrained within the initial 24 hours.



(Source: Ref. 287)

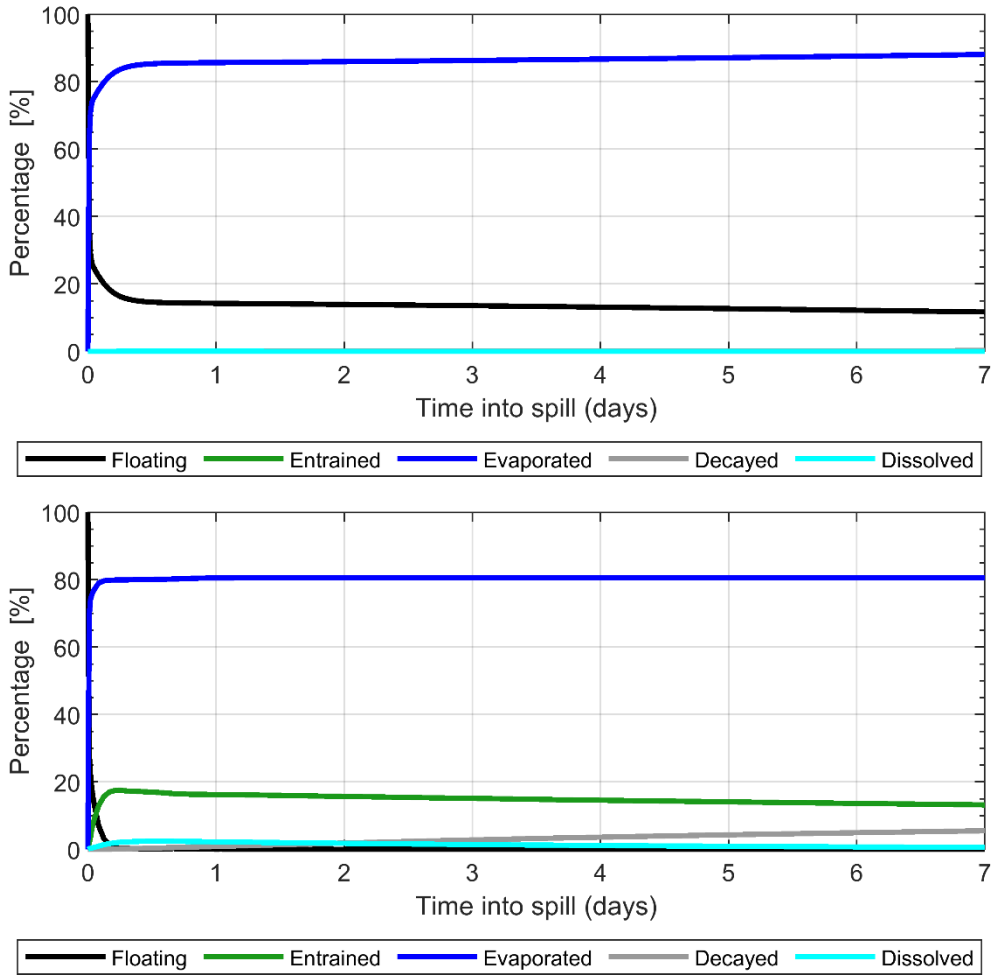
Figure 7-2: Predicted weathering of an instantaneous surface release of 50 m^3 of Gorgon condensate under calm (top image) and variable (bottom image) wind conditions

Jansz is a mixture of volatile and persistent hydrocarbons with high proportions of volatile and semi-volatile components, with a density of 772.8 kg/m^3, an API of 51.4, and a low pour point (−81 °C) (Table 7-19). The low viscosity (1.2 cP) indicates that this oil will spread quickly when released and will form a thin film on the sea surface, increasing the evaporation rate.

Generally, 72.5% of the Jansz condensate mass should evaporate within the first 12 hours (boiling point <180 °C); a further 13.0% should evaporate within the first 24 hours (boiling point 180°C–265 °C); and an additional 14% should evaporate

over several days (boiling point 265°C–380 °C). Approximately 0.5% (by mass) of Jansz condensate will not evaporate at atmospheric temperatures. These compounds will persist in the environment.

Figure 7-3 shows predicted weathering for an instantaneous 50 m^3 surface release of Jansz condensate (tracked for 7 days) under calm and variable wind conditions. Predictions show that under calm conditions, ~86% of the slick volume evaporated within the initial 24 hours; and under variable conditions ~80% has evaporated and ~16% has entrained within the initial 24 hours.



(Source: Ref. 288)

Figure 7-3: Predicted weather of an instantaneous surface release of 50 m^3 of Jansz condensate under calm (top image) and variable (bottom image) wind conditions

7.15.2.2 Modelling outputs

Stochastic modelling outputs from RPS (Ref. 287) for the Gorgon scenario are summarised in Table 7-20, having regard to the particular values and sensitivities identified in Section 4.

For the 490 m^3 Gorgon pipeline rupture within the Gorgon field:

- The maximum distances from the release location to the low (1–10 g/m²) threshold across all seasons ranged between 113.3 km (transitional) and 192.8 km (summer). For the moderate (10–50 g/m²) threshold, maximum distances ranged between 30.0 km (winter) and 44.0 km (summer), whilst

floating oil exposure at or above the high (≥50 g/m²) threshold remained within a maximum of 7.5 km from the release location (during summer and transitional)

- The probability of accumulation to any shoreline at, or above, the low level (10 g/m^2) threshold ranged between 2% during transitional conditions and 8% during winter conditions. There was no shoreline accumulation for summer, and no shoreline accumulation above the moderate (100 g/m^2) threshold for any seasons.
- There was a 60% probability of dissolved oil at ≥50 ppb (impact thresholds) for a number receptors, all of which reside within the release location.
- Excluding receptors within the release location, entrained oil at ≥100 ppb impact thresholds was predicted to occur for a number of receptors, including BIAs and KEFs.

Stochastic modelling outputs from RPS (Ref. 288) for the Jansz scenario are summarised below. There was no contact to any receptors at or above impact thresholds, and as such there is no further presentation of results other than the summary below.

For the 276 m^3 Jansz pipeline rupture within the Jansz-Io field:

- the maximum distance from the release location to the ≥1 g/m^2 threshold was ~28 km west-northwest (summer). No surface oil was predicted to occur at the ≥10 g/m^2 impact threshold
- no shoreline accumulation above the ≥10 g/m^2 thresholds was predicted to occur during any season
- no dissolved oil above ≥10 ppb thresholds was predicted to occur during any season
- no entrained oil above 100 ppb threshold was predicted to occur during any season. There was a 1% probability of exposure at the low threshold (10 ppb) to the Exmouth Plateau KEF.

Table 7-20: Gorgon major defect spill modelling EMBA receptor exposure summary

Sensitivity	Name	Surface^		In-water (dissolved)^	In-water (entrained)^	Shoreline	
		≥1 g/m²	≥10 g/m²	≥50 ppb	≥100 ppb	≥10 g/m²	≥100 g/m²
		(probability of exposure, minimum time to exposure)		(probability of exposure)	(probability of exposure)	(max probability of exposure, minimum time to exposure, max length of shoreline)	
KEF	Ancient coastline at 125 m depth contour*	100%, <1 day	99-100%, <1 day	51-60%	97-100%	—	—
	Continental slope demersal fish communities	5-9%, <1 day	1%, <1 day	—	35-41%	—	—
State marine protected areas	Muiron Island Marine Management Area	—	—	—	—	8% 7.5 days 10.9 km	—
	Barrow Island and the Montebello-Barrow Islands Marine Conservation Reserve	—	—	—	1%	—	—
	Montebello Islands Marine Park	—	—	—	1%	—	—

^ *Ranges in values shown are due to the different results between seasons*

* *The release location resides within the receptor boundaries.*

7.15.3 Risk assessment

Source

Installation activities taking place over and adjacent to subsea hydrocarbon production systems have been identified as having the potential to result in a loss of containment. The following scenarios were identified:

- Minor or major defect from a dropped object at the Gorgon flowline or production pipeline
- Minor or major defect from a dropped object at the Jansz flowline or production pipeline

As detailed in Section 7.15.1, modelling indicates that a subsea release of up to 490 m^3 at the Gorgon location, or 276 m^3 at the Jansz location, could occur.

Based on spill modelling results, a spill at the Jansz location does not impact any receptors at or above impact thresholds. As such, this risk assessment will only consider risks and impacts associated with a 490 m^3 subsea rupture of Gorgon condensate at the Gorgon location.

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	The potential environmental impacts associated with hydrocarbon exposures from an unplanned release from the hydrocarbon system event are:	
		• marine pollution resulting in sublethal or lethal effects to marine fauna	5
		• smothering of subtidal and intertidal habitats	5
		• indirect impacts to commercial fisheries	5
		• reduction in amenity resulting in impacts to tourism and recreation	5
		• changes to values and sensitivities of marine protected areas	–

Consequence evaluation

Marine pollution resulting in sublethal or lethal effects to marine fauna

Marine mammals

Marine mammals may be exposed to hydrocarbons from an oil spill at the water surface or within the water column. Marine mammals can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 293; Ref. 200).

An avoidance response (i.e. avoiding spilled hydrocarbons) has been identified for several species of cetacean, suggesting that cetaceans have the ability to detect and avoid surface slicks (Ref. 157). However, detection seems to depend on oil thickness and colour (Ref. 297), and observations during large oil spill events (Deepwater Horizon and the Mega Borg spills) have recorded whales and dolphins travelling through and feeding in oil slicks (Ref. 297; Ref. 127; Ref. 8).

Direct contact with hydrocarbons may result in skin and eye irritation, burns to mucous membranes of eyes and mouth, and increased susceptibility to infection (Ref. 176). The effect of oil on cetacean skin is likely minor and temporary (Ref. 176) due to the skins effectiveness as a barrier. However, it was observed that existing skin lesions, cuts, or abrasions could allow oil to be absorbed more readily into the bloodstream (Ref. 127). French-McCay (Ref. 170) identifies that a ≥10 g/m^2 oil thickness threshold has the potential to impart a lethal dose to the species; however, also estimates a probability of 0.1% mortality to cetaceans if they encounter these thresholds based on the proportion of the time spent at surface.

Dugongs have smooth skin surfaces and therefore are less likely to be affected by oil adhering to their skin. If surfacing in a slick, the Dugongs may foul their sensory hairs (around their mouths) or their eyes; these could lead to inflammation/infections that then affect their ability to feed or breed (Ref. 12). Dugongs may also ingest oil (directly, or indirectly via oil-affected seagrass), and depending on the amount and type of oil, the effects could be short-term to long-term/chronic (e.g. organ damage). However, it is noted that reports on oil pollution damage to Dugongs is rare (Ref. 205).

The physical impacts from ingested hydrocarbons with subsequent lethal or sublethal impacts are applicable to marine mammals given feeding behaviours (such as surface skimming or gulp feeding for cetacean species) which can lead to the ingestion of oil from within the water column or from the surface. However, as highly mobile species, in general it is unlikely that these animals will be constantly exposed to concentrations of hydrocarbons in the water column for continuous durations (e.g. >48–96 hours) that would lead to chronic effects. Necropsies from cetacean mortalities have generally concluded that death resulted from causes other than oil (Ref. 205).

Marine mammals are vulnerable if they inhale volatiles when they surface within a hydrocarbon slick. For the short period that they persist, vapours from the spill are a significant risk to mammal health, with the potential to damage mucous membranes of the airways and the eyes, which will reduce the health and potential survivability of an animal. Inhaled volatile hydrocarbons are transferred rapidly to the bloodstream and may also accumulate in tissues (Ref. 176).

Stochastic modelling was used to identify BIAs for marine mammals that may be exposed to hydrocarbon concentrations greater than impact thresholds from the Gorgon major defect event. These were:

- Humpback Whale (migration)
- Pygmy Blue Whale (migration, distribution)

As these species are considered most sensitive to surface and entrained exposures, deterministic analysis were utilised to understand the potential extent and duration of exposure.

The following deterministic analysis for the largest sea surface swept area above the impact threshold (≥10 g/m^2) was utilised to understand the potential extent and duration of exposure:

- Surface hydrocarbons concentrations ≥10 g/m^2 are present for ~1 day following the spill event, with a maximum area of coverage of ~5 km^2, which occurs on day 0. Using the Humpback Whale migration BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA.

The deterministic model for the largest area of entrained hydrocarbons >100 ppb, which is considered most relevant for offshore waters and subsequent for assessing potential impacts to cetaceans, indicate the following:

- Entrained hydrocarbons are present for ~2 days following the spill event, with a maximum area of coverage of ~23 km^2 occurring ~1 day after the spill commenced. Using the humpback whale migration (north and south) BIA, which is the most relevant BIA for this release location, the modelling indicates that the extent of entrained exposures was predicted to be limited to <0.01% of the entire BIA.

Based on an assessment of the predicted magnitude and duration of surface oil, and both instantaneous and time-integrated entrained oil, it is expected that only a small proportion of any marine mammal population would be exposed above the defined impact exposure thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Reptiles

Marine reptiles may be exposed to hydrocarbons from an oil spill at the water surface or on the shoreline. Marine reptiles can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 132).

Marine turtles are vulnerable to the effects of oil at all life stages: eggs, hatchlings, juveniles, and adults. Several aspects of turtle biology and behaviour place them at risk, including a lack of avoidance behaviour, indiscriminate feeding in convergence zones, and large pre-dive inhalations (Ref. 12). Oil effects on turtles can include impacts to the skin, blood, digestive, and immune systems, and increased mortality due to oiling.

Shoreline hydrocarbons can impact turtles coming ashore at nesting beaches. Eggs may also be exposed during incubation, potentially resulting in increased egg mortality and detrimental effects on hatchlings. Hatchlings may be particularly vulnerable to toxicity and smothering as they emerge from the nests and make their way over the intertidal area to the water (Ref. 132).

HCTS and BIAs for the Flatback Turtle, Loggerhead Turtle, Green Turtle, and Hawksbill Turtle may be exposed to hydrocarbon concentrations greater than the impact thresholds. The behaviours associated with these BIAs include aggregation, basking, foraging, mating, nesting and internesting.

Stochastic modelling for the Gorgon major defect scenario indicated that no shoreline contact above the impact threshold was predicted, and no further assessment has been undertaken.

The EPBC threatened Short-nosed Sea Snake and Leaf-scaled Sea Snake, and other EPBC marine listed sea snake species, may be present within the Hydrocarbon EMBA. Oil pollution has

been identified as a pressure 'of potential concern' (Ref. 155) to sea snakes[40]. Sea snakes are susceptible to oil on the sea surface (Ref. 155; Ref. 10; Ref. 324). Being air breathers and obligate bottom feeders oil may be either inhaled or ingested (Ref. 155; Ref. 172). As described above, surface oil exposure above impact thresholds are predicted to only be present for a short (<2 days) duration and over a relatively small (maximum ~5 km^2) area. Any exposure to benthic habitats is only predicted to occur within nearshore (<20 m water depth) areas. Given there was no shoreline contact above impact thresholds predicted, and the spill scenarios are >55 km from the nearest shorelines, the duration and extent of exposure from a single spill event is predicted to be limited.

Based on an assessment of the predicted magnitude and duration of oil exposure, which occurs in deeper offshore locations and doesn't contact shorelines, it is expected that only a very small proportion of any marine reptile population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Fishes, including sharks and rays

Fish, including sharks and rays, may be exposed to hydrocarbons from an oil spill within the water column. Most fish do not break the sea surface, and therefore the risk from surface oil is not relevant; however, some shark species (including Whale Sharks) feed in surface waters, so there is also the potential for surface hydrocarbons to be ingested. Fish species are expected to have higher sensitivity to exposures of in-water (entrained) oil components.

Potential effects include damage to the liver and lining of the stomach and intestine, and toxic effects on embryos (Ref. 218). Fish are most vulnerable to oil during embryonic, larval and juvenile life stages. However, very few studies have demonstrated increased mortality of fish as a result of oil spills (Ref. 168; Ref. 190; Ref. 201).

Demersal fish are not expected to be impacted given the presence of entrained oil is predicted in the surface layers (<10 m water depth) only.

Pelagic free-swimming fish and sharks are unlikely to suffer long-term damage from oil spill exposure because dissolved/entrained hydrocarbons are typically insufficient to cause harm (Ref. 204). Pelagic species are also generally highly mobile and as such are not likely to suffer extended exposure (e.g. >48–96 hours) at concentrations that would lead to chronic effects due to their patterns of movement. Near the sea surface, fish can detect and avoid contact with surface slicks meaning fish mortalities rarely occur in the event of a hydrocarbon spill in open waters (Ref. 320). Fish that have been exposed to dissolved hydrocarbons can eliminate the toxicants once placed in clean water; hence, individuals exposed to a spill are likely to recover once they are outside of the exposure area (Ref. 213). Marine fauna with gill-based respiratory systems, including whale sharks, are expected to have higher sensitivity to exposures of entrained oil.

BIAs for fishes including sharks and rays that may be exposed to hydrocarbon concentrations greater than impact thresholds include:

- Whale Shark (foraging).

As fish species are most sensitive to surface and entrained oil exposures, deterministic analysis were utilised to understand the potential extent and duration of exposure.

The following deterministic analysis for the largest sea surface swept area above the impact threshold (≥10 g/m^2) was utilised to understand the potential extent and duration of exposure:

- Surface hydrocarbons concentrations ≥10 g/m^2 are present for ~1 day following the spill event, with a maximum area of coverage of ~5 km^2, which occurs on day 0. Using the whale shark foraging BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.01% of the entire BIA.

The deterministic models for the largest area of entrained hydrocarbons >100 ppb, which is considered most relevant for offshore waters and subsequent for assessing potential impacts to cetaceans, indicate the following:

- Entrained hydrocarbons are present for ~2 days following the spill event, with a maximum area of coverage of ~23 km^2 occurring ~1 day after the spill commenced. Using the whale shark foraging (north and south) BIA, which is the most relevant BIA for this release location, the modelling indicates that the extent of entrained exposures was predicted to be limited to <0.01% of the entire BIA.

Based on an assessment of the predicted magnitude and duration of surface oil, and both instantaneous and time-integrated entrained oil, it is expected that only a small proportion of any fish population would be exposed above the defined impact thresholds. Therefore, the potential

[40] The pressure analysis distinguished between oil pollution from shipping ('of less concern') and oil rigs ('of potential concern') (Ref. 155). Although the aspect source for this risk assessment is a spill from a vessel, the higher pressure concern has been adopted.

impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Seabirds and shorebirds

Birds may be exposed to hydrocarbons from an oil spill at the water surface (e.g. foraging, resting) or on the shoreline (e.g. roosting, nesting).

Birds that rest at the water's surface (e.g. shearwaters) or surface-plunging birds (e.g. terns, boobies) are particularly vulnerable to surface hydrocarbons (Ref. 78; Ref. 12). Damage to external tissues, including skin and eyes, can occur, along with internal tissue irritation in lungs and stomachs (Ref. 268). Acute and chronic toxic effects may result where the product is ingested as the bird attempts to preen its feathers (Ref. 268).

A breeding BIA for the Wedge-tailed Shearwater was the only BIA that may be exposed to hydrocarbon concentrations greater than impact thresholds.

The following deterministic analysis for the largest sea surface swept area above the impact threshold (≥10 g/m^2) was utilised to understand the potential extent and duration of exposure:

- Surface hydrocarbons concentrations ≥10 g/m^2 are present for ~1 day following the spill event, with a maximum area of coverage of ~5 km^2, which occurs on day 0. Using the wedge-tailed shearwater breeding BIA surrounding Montebello and Barrow Island, which is the most relevant BIA for this release location, the modelling indicates that the extent of surface exposures was predicted to be limited to <0.02% of the entire BIA.

Based on an assessment of the predicted magnitude and duration of surface and shoreline oil, it is expected that only a small proportion of any seabird population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Smothering of subtidal and intertidal habitats

Offshore benthic habitats (e.g. coral, sponges, seagrass, macroalgae)

Direct contact of hydrocarbons to subtidal habitats can cause smothering. The effects of physical contact on subtidal habitats are similar, and studies have shown that it can cause sublethal stress and reduced growth rates in seagrass (Ref. 339; Ref. 276), act as a barrier to diffusion of CO_2 across cell walls in macroalgae (Ref. 262), and a decline in metabolic rate, bleaching or partial mortality in corals (Ref. 294; Ref. 245) and impair respiration and photosynthesis by symbiotic zooxanthellae (Ref. 275; Ref. 214). The recovery of benthic habitats can be slow, with studies following the Deepwater Horizon incident showing long-term non-acute effects of the spill on coral colonies seven years after the event (Ref. 177).

Ningaloo Coast (World Heritage Property, National Heritage Place and Commonwealth Heritage Place) is known to support coral reef and macroalgae habitat (Section 4.6.1). Coral, seagrass, and macroalgae habitats are also known to occur around the Barrow and Montebello islands, as well as other Pilbara inshore islands.

-No surface exposure at the ≥10 g/m^2 impact threshold was predicted for the Ningaloo Coast area (Table 7-20). Therefore, impacts from smothering within intertidal areas due to surface oil is not expected to occur. There was no exposure to dissolved (≥50 ppb) or entrained oil (≥100 ppb) at the Ningaloo Coast area and as such, exposure to coral reefs in deeper waters at Ningaloo is not predicted to occur.

For assessment of other coral habitats that occur around some of the Pilbara islands (including the Muiron Islands), the deterministic analysis for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations ≥100 ppb are present for ~2 days following the spill event, with a maximum area of coverage of ~23 km^2. There was no shoreline contact above impact thresholds predicted.

Therefore, as the extent and duration of exposure to nearshore environments is expected to be limited the potential for environmental impacts would also be limited.

Based on an assessment of the predicted magnitude and duration of surface oil it is expected that only a small proportion of any coral habitat would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause smothering was ranked as Minor (5).

Nearshore benthic habitats (e.g. coral, sponges, seagrass, macroalgae)

Smothering of benthic habitat communities within shallow water environments may occur if a surface slick or in-water entrained oil above impact thresholds occurs in the intertidal area.

No surface exposure at the ≥10 g/m^2 impact threshold was predicted for the Ningaloo Coast heritage area (Table 7-20). Further, there were no nearshore areas with or surrounding the EMBA that were predicted to be contacted at impact thresholds. Therefore, impacts from smothering within intertidal areas due to surface oil is not expected to occur.

Based on an assessment of the predicted magnitude and duration of entrained oil, it is expected that only a small proportion of any coral habitat would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause smothering was ranked as Incidental (6).

Coastal habitats (e.g. mangroves, mudflats)

Shoreline hydrocarbons can have smothering and toxic effects on mangroves and intertidal mudflats. Acute and chronic impacts to the health of mangrove communities can occur via pneumatophore smothering and exposure to the toxic volatile fraction of the hydrocarbons (Ref. 18). Intertidal mudflats, which are typically sheltered and have a large surface area for oil absorption, can trap oil, potentially causing toxicity impacts to infauna. Intertidal mudflats are very sensitive to oil pollution because the oil enters lower layers of the mudflats where a lack of oxygen prevents the oil from decomposing (Ref. 18).

No shoreline exposure above the impact threshold was predicted for the modelled scenario (Table 7-20); consequently, no further assessment has been undertaken.

Indirect impacts to commercial fisheries

As identified in Section 4.4.1, commercial fisheries have management areas and recent fishing effort recorded within the Hydrocarbon EMBA. Direct impacts to commercially targeted fish species are expected to occur from in-water exposures.

Stochastic modelling showed that where dissolved or entrained oil above impact thresholds was predicted to occur, it was predicted to remain in the surface layers, with no exposure at depths >10 m below the surface predicted to occur during any season. As described above, very few studies have demonstrated increased mortality of fish as a result of oil spills. However, fish stocks may be especially vulnerable to oil spills close to the spawning grounds or egg and larval drift areas (Ref. 190; Ref. 237). Fish eggs and larvae are typically vulnerable to toxic oil compounds due to their small size, poorly developed membranes and detoxification systems as well as their position in the water column (Ref. 237). Despite potential mortality of eggs and larvae following a spill, subsequent depletion of adult wild fish stocks is rarely recorded (Ref. 204).

As identified in Section 4.4.1, the spawning grounds for the Southern bluefin tuna intersects the Hydrocarbon Ecological EMBA. As such, the available deterministic analyses from the hydrocarbon spill modelling were utilised to understand the potential extent and duration of exposure to these spawning grounds.

The deterministic model for the largest area of entrained hydrocarbons >100 ppb indicates that entrained hydrocarbons concentrations ≥100 ppb are present for ~2 days following the spill event, with a maximum area of coverage of ~23 km^2. Based on the spatial extent of the southern bluefin tuna spawning ground (~1,850,534 km^2), modelling indicates that the extent of entrained exposures was predicted to be limited to ~0.001% of the entire spawning ground.

Although exposures above impact thresholds have the potential to affect the recruitment of targeted commercial and recreational fish species, any acute impacts are expected to be limited, given this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time. On this basis, recruitment of targeted species is not expected to be significantly impacted given the extent of exposure to concentrations above impact thresholds are expected to be limited due to rapid dilution and dispersion upon release.

Spill events also have the potential to impact commercial fisheries through indirect impacts associated with tainting. Tainting is a change in the characteristic smell or flavour, and renders the catch unfit for human consumption or sale. Tainting may not be a permanent condition but will persist if the organisms are continuously exposed; but when exposure is terminated, depuration will quickly occur (Ref. 232). Regardless of the small potential for tainting, if tainting occurs, or there is a customer perception that tainting has occurred, this may cause a larger impact than the direct impact itself. However, as this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time period, and the low persistence of the hydrocarbon in the environment, actual or perceived occurrences of tainting are not expected to be altered for a prolonged period.

Modelling predicts that inshore exposure would be limited, whilst offshore exposures are expected to dilute and disperse over a longer period of time. In both instances, it is expected that any impacts from this type of event would likely be short-term in duration. Therefore, CAPL assesses the consequence to commercial fisheries as localised and short-term and it is ranked as Minor (5).

Reduction in amenity resulting in impacts to tourism and recreation

Stochastic modelling predicts surface exposure ≥1 g/m^2 (visible impact threshold) does not intersect with any shorelines, Australian Marine Parks, or the Ningaloo Coast. There was a 1% probability of exposure to the Barrow Island and the Montebello-Barrow Islands Marine

Conservation Reserve and the Montebello Islands Marine Park, however these areas were not impacted by any surface hydrocarbons at any threshold.

Floating oil can impact the visual amenity of coastal areas and limit access for users, impacting tourism and recreation activities. However, given the proximity to shore, and the short-term and localised disturbance to marine tourism and recreation activities, CAPL has ranked the consequence as Minor (5).

Changes to values and sensitivities of marine protected areas

Stochastic modelling did not predict any exposure to AMPs at any threshold, and hence no further assessment has been undertaken (Table 7-20).

ALARP decision context justification

The operation of subsea production systems offshore is well-practised nationally and internationally.

The control measures to manage the risk associated with hydrocarbon system major defect events are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL. Specifically, CAPL has worked in the region for over 10 years, and has a demonstrated understanding of industry requirements and their operational implementation in these areas.

During relevant persons consultation, no objections or claims were raised regarding major defect events arising from the activity.

Modelling was undertaken to support the environmental risk evaluation and remove some of the uncertainty associated with this aspect, The risks associated with a vessel collision are considered lower-order risks in accordance with Table 5-3. As such, CAPL would apply ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Lifting procedure	Prior to commencement of the petroleum activity, the *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) is used to verify that all vessels undertaking complicated, complex, or heavy lifts have a Lifting Procedure (or equivalent) in place that complies with the requirements of the CoW process (Ref. 67).
Source control	Source control is part of the first actions taken stabilize the volume of hydrocarbon released and therefore reduce potential impacts and risks to the environment. CAPL has developed Emergency Operating Procedures (EOPs) (Ref. 37) that provides guidance to operations personnel to detect, isolate and stabilize non-routine events such as trunkline/flowline loss of containment scenarios.
EMT	An emergency management team (EMT) capable of managing a response to the credible spill discharge scenario described in this EP will be maintained.
OPEP	Under the OPGGS(E)R, NOPSEMA require that the petroleum activity have an accepted OPEP in place before commencing the activity. If a hydrocarbon system loss of containment occurs, the OPEP will be implemented. CAPL has developed a NOPSEMA-accepted OPEP (Ref. 68) to support all spill response activities across all its assets. Although formal activation of the ABU Consolidated OPEP occurs at Level 2 or above, the plan includes procedures relevant to Level 1 spills, such as alert procedures and initial response actions. These procedures will be followed as appropriate during Level 1 incidents in conjunction with the vessel SOPEP and/or Project Emergency Response Plans.
OSMP	The OSMP details the arrangements and capability in place for operational and scientific monitoring. Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required).

	CAPL has developed a NOPSEMA-accepted OSMP (Ref. 65) to support all spill monitoring activities across all its assets.

Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A

Likelihood and risk level summary	
Likelihood	Analysis of PARLOC database (Ref. 237) was used to evaluate the likelihood of a loss of containment from an individual offshore pipeline, which was determined to be equivalent to 0.189% per year (Ref. 237). This frequency was used as a guide to inform the likelihood of consequence. Given these statistics are based on incident history, largely for North Sea and European operations, their use is considered conservative given the geographically remote location of the Gorgon and Jansz feed gas pipeline system and the reduced risk of potential external interference. Because of the low probability of a major defect event, the likelihood of the event coinciding with the breeding or migration period of particular values and sensitivities, and the control measures in place, the likelihood of the worst-case environmental consequence occurring as described above was assessed as Rare (6).
Risk level	Very low (10)

Acceptability summary	
Principles of ESD	The potential impact associated with this aspect would be short-term, apply to some individuals, and consequently is not expected to affect biological diversity and ecological integrity. The consequence associated with this aspect is Minor (5), and subsequently the potential for serious or irreversible environmental damage is not expected. Therefore, no additional evaluation against the Principles of ESD is required.
Relevant environmental legislation and other requirements	Legislation and other requirements relevant for this aspect include: • *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 139) • *Conservation Advice Balaenoptera borealis Sei Whale* (Ref. 312) • *Conservation Advice Balaenoptera physalus Fin Whale* (Ref. 313) • *National Recovery Plan for the Southern Right Whale (Eubalaena australis)* (Ref. 110) • *Conservation Advice for Sousa Sahulensis (Australian Humpback Dolphin)* (*Ref. 121*) • *Conservation Advice for Orcaella Heinsohni (Australian Snubfin Dolphin)* (Ref. 113) • *Conservation Advice Rhincodon typus Whale Shark* (Ref. 314) • *Recovery Plan for Marine Turtles in Australia* (Ref. 83) • *Conservation Advice for Dermochelys coriacea (Leatherback Turtle)* (Ref. 131) • *Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)* (Ref. 151) • *Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)* (Ref. 152) • *Conservation Advice for Pristis pristis (Largetooth sawfish)* (Ref. 344) • Conservation Advice *for Sternula albifrons (Little Tern)* (Ref. 114) • *North-west Marine Parks Network Management Plan* (Ref. 135). CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.

Requirement	**Demonstration**

	Conservation Management Plan for the Blue Whale 2015–2025 No specific management action identified.	N/A
	Conservation Advice Balaenoptera borealis Sei Whale No specific conservation action identified.	N/A
	Conservation Advice Balaenoptera physalus Fin Whale No specific conservation action identified.	N/A
	Conservation Advice for Sousa sahulensis (Australian Humpback dolphin) Habitat loss and degradation: Comprehensively assess coastal development that is likely to have a significant impact on Australian humpback dolphins. For example, in areas identified as Habitat Critical to the Survival or inhabited by important populations of the species.	Activities described in this EP are located offshore and not within close proximity to coastal areas. Spill risk associated with the activity could impact coastal areas. Assessment of spill risk strategies, including completing a NEBA, is within scope of the OPEP (Ref. 68). Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 65). Therefore, this activity is not considered to be inconsistent with the Conservation Advice for *Sousa sahulensis.*
	Conservation Advice for Orcaella heinsohni (Australian Snubfin dolphin) Habitat loss and degradation: Comprehensively assess coastal development that is likely to have a significant impact on Australian Humpback dolphins. For example, in areas identified as Habitat Critical to the Survival or inhabited by important populations of the species.	Activities described in this EP are located offshore and not within close proximity to coastal areas. Spill risk associated with the activity could impact coastal areas. Assessment of spill risk strategies, including completing a NEBA, is within scope of the OPEP (Ref. 68). Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 65). Therefore, this activity is not considered to be inconsistent with the Conservation Advice for *Orcaella heinsohni*.
	National Recovery Plan for the Southern Right Whale (Eubalaena australis) No specific management action identified.	N/A
	Conservation Advice Rhincodon typus Whale Shark No specific conservation action identified.	N/A
	Recovery Plan for Marine Turtles in Australia Management action A4.2: Ensure spill risk strategies and response programs adequately include management for marine turtles and their habitats, particularly in reference to ‘slow to recover habitats’, e.g. nesting habitat, seagrass meadows or coral reefs	Assessment of spill risk strategies is within scope of the OPEP (Ref. 68). Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 65). Therefore, this activity is not considered to be inconsistent with the *Recovery Plan for Marine Turtles in Australia*.

	Approved Conservation Advice for Dermochelys coriacea (Leatherback Turtle) No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake) No specific conservation action identified.	N/A
	Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake) No specific conservation action identified.	N/A
	Conservation Advice Sternula albifrons (Little Tern)	No specific conservation action identified.
	Conservation Advice for Pristis pristis (Largetooth sawfish) No specific conservation action identified.	N/A
	North-west Marine Parks Network Management Plan The Plan requires that "[a]ctions required to respond to oil pollution incidents, including environmental monitoring and remediation, in connection with mining operations authorised under the OPGGS Act may be conducted in all zones. The Director should be notified in the event of an oil pollution incident that occurs within, or may impact upon, an Australian Marine Park and, so far as reasonably practicable, prior to a response action being taken within a marine park."	The Montebello Marine Park and Gascoyne Marine Park are a multiple use zone (IUCN VI). The control measures identified for the management of an unplanned release provide for the response to, and environmental monitoring and remediation of, an oil pollution incident. Requirements to report oil pollution incidents that occur within, or may impact upon, an AMP is included in Section 8.4.2. Therefore, this activity is not considered to be inconsistent with the *North-west Marine Parks Network Management Plan*.
Internal context	These CAPL management processes or procedures were deemed relevant for this aspect: • *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) • OPEP (Ref. 68) • OSMP (Ref. 65). Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
External context	During stakeholder consultation, no objections or claims were raised regarding major defect events arising from the activity.	
Defined acceptable level	These risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. However, in alignment with Section 5.7.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value,	

<table>
<tr><td></td><td colspan="2">CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:
<table><tr><th>Plan</th><th>Objective</th></tr><tr><td>Conservation Management Plan for the Blue Whale 2015–2025</td><td>Recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.
Interim objective 4 Anthropogenic threats are demonstrably minimised.</td></tr><tr><td>National Recovery Plan for the Southern Right Whale (Eubalaena australis)</td><td>Long–term vision: The long-term vision for the recovery of the Southern Right Whale is that the population has increased in size to a level that the conservation status has improved, and the species no longer qualifies for listing as threatened under any of the EPBC Act listing criteria.
Interim objective 2: Anthropogenic threats are managed consistent with ecologically sustainable development principles to facilitate recovery of Southern Right Whales.</td></tr><tr><td>Recovery Plan for Marine Turtles in Australia</td><td>Recovery objective: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.
Interim objective 3: Anthropogenic threats are demonstrably minimised.</td></tr><tr><td>North-west Marine Parks Network Management Plan</td><td>As per Section 4.5.1.</td></tr></table>Therefore, CAPL has defined the following acceptable levels of impact such that it is not inconsistent with these documents:
impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species
no adverse change to the values of the Australian Marine Parks.
CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level. In particular that by managing the unplanned release, that the risk to marine fauna and/or values of the AMPs are also subsequently managed.</td></tr>
<tr><th>Environmental performance outcome</th><th>Environmental performance standard</th><th>Measurement criteria</th></tr>
<tr><td rowspan="3">(EPO 21) Reduce the risk of impacts to the environment from the unplanned release of hydrocarbons or hazardous materials during petroleum activities</td><td rowspan="2">(EPS 21.3) OPEP
In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, response activities are implemented in accordance with the ABU Consolidated OPEP</td><td>(MC 21.3.1) Records confirm the alert procedures and initial response actions described within the OPEP were implemented for a Level 1 oil spill occurring to marine or coastal waters</td></tr>
<tr><td>(MC 21.3.2) Records confirm the OPEP has been activated and response activities implemented for Level 2 (or above) oil spill occurring to marine or coastal waters</td></tr>
<tr><td>(EPS 21.4) OPEP—Oil spill response organisation (OSRO) Capability Arrangements
CAPL shall maintain service agreements with oil spill response organisations (as per</td><td>(MC 21.4.1) Records confirm that service agreements are in place</td></tr>
</table>

	Section 8.3.9.6) that have capabilities to support a response to an oil spill event	
	(EPS 21.5) OPEP CAPL will maintain the following minimum preparedness capability: • number and type of response packages as identified in Table 7-22	(MC 21.5.1) Records confirm that CAPL has arrangements in place to access and maintain the minimum number and type of response packages required
	OPEP Refer to the ABU Consolidated OPEP for environmental performance outcomes, standards and measurement criteria related to emergency management, emergency preparedness, and each response tactic	
	(EPS 21.6) OSMP In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, the OSMP will be activated, and: • operational and scientific monitoring program are initiated once the specific initiation criteria are met • operational and scientific monitoring program are implemented within the timeframes outlined in the OSMP • operational and scientific monitoring components are continued until respective termination criteria are met	(MC 21.6.1) Records confirm the OSMP has been activated
		(MC 21.6.2) Records confirm that once initial criteria have been met, operational and scientific monitoring programs were initiated
		(MC 21.6.3) Records confirm that operational and scientific monitoring programs were implemented within the timeframes outlined in the OSMP
		(MC 21.6.4) If any OSMP programs requiring vessels are activated, records demonstrate that CAPL EMT identified vessel availability through existing contracts within 12 hours of OSMP component initiation activation
		(MC 21.6.5) If any OSMP programs requiring aircraft are activated, records demonstrate that CAPL EMT identified aircraft availability through existing contracts within 12 hours of OSMP component initiation activation
		(MC 21.6.6) Records show CAPL EMT mobilised a minimum of one identified, contracted vessel within 24 hours to Onslow, Dampier or Barrow Island (subject to Barrow Island quarantine requirements)
		(MC 21.6.7) Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased
	(EPS 21.7) OSMP Capability required to implement all operational and scientific monitoring programs are in place to meet the requirements outlined in the OSMP	(MC 21.7.1) Internal personnel capability is documented every six months in the ABU OSMP Capability Register
		(MC 21.7.2) External contractors self-assess their capability against the requirements and provide a Statement of Personnel Capability and Readiness every six months
		(MC 21.7.3) Hydrocarbon characterisation sample kits are maintained at Barrow Island and Karratha
(EPO 22) No unplanned release of hydrocarbons	**(EPS 16.1) Lifting procedure** If a vessel is undertaking complicated, complex, or heavy lifts, a Lifting Procedure (or	(MC 16.1.1) Records confirm that a Lifting Procedure (or equivalent) is in place prior to complicated, complex, or heavy lifts being undertaken.

or hazardous materials to the environment during the petroleum activities	equivalent) will be in place prior to activities commencing that complies with the requirements of the *ABU Operations Process: Control of Work Manual* (Ref. 67)	
(EPO 23) CAPL will be prepared and ready to manage an oil spill event	**(EPS 23.1) EMT** CAPL core and support EMT members will complete all hazards and oil spill training in accordance with the ABU Training and Exercise Program Procedure	(MC 23.1.1) Records confirm training is conducted
	(EPS 23.2) EMT CAPL shall maintain an EMT duty roster with a minimum of 10 qualified EMT personnel to fulfil core CAPL EMT positions	(MC 23.2.1) EMT Duty Roster records
	(EPS 23.3) EMT CAPL shall maintain the minimum required personnel within the ABU trained to fulfil core EMT functions as per Appendix F of the OPEP	(MC 23.3.1) Records confirm the minimum required personnel are trained
	(EPS 23.4) EMT During any oil spill response, ABU EMT support personnel, including mutual aid personnel, joining the CAPL EMT will be provided with training in accordance with the ABU Training and Exercise Program Procedure before they join the EMT	(MC 23.4.1) Training / induction records
	(EPS 23.5) EMT CAPL shall maintain Service Level Agreement / membership with OSROs enabling the provision of technical specialists to supplement the CAPL EMT either directly or via industry mutual aid framework agreements	(MC 23.5.1) Service Level Agreement / Membership
	(EPS 23.6) EMT ABU EMT exercises, including exercises to test source control response arrangements, will be conducted in accordance with Section 8.3.9.7	(MC 23.6.1) Records confirm exercises are conducted

7.16 Spill response

7.16.1 Response option selection

7.16.1.1 Strategic Net Environmental Benefit Analysis

CAPL has developed a series of Strategic Net Environmental Benefit Analysis (NEBAs) (Ref. 53) using generalised scenarios that reflect the spill risks associated with all CAPL offshore WA operations. Hydrocarbons associated with spill events from all CAPL operations were grouped into oil types as defined by the International Tanker Owners Pollution Federation Ltd (ITOPF) classification system:

- Group 1 – Including Iago, Wheatstone, and Jansz condensate; Wheatstone trunkline fluids; and Wheatstone flowline fluids
- Group 2 – Including MDO, Gorgon condensate, Barrow Island crude and Gorgon/Jansz mixed trunkline fluids
- Group 3/4 – Including HFO and intermediate fuel oil (IFO) (depending on blend).

These NEBAs were developed as a pre-spill planning tool for all CAPL EPs, to facilitate response option selection and support the development of the overall response strategies by identifying and comparing the potential effectiveness and impacts of oil spill response options (Ref. 202). After considering the benefits and drawbacks of each response option on the ecological, social, and economic receptors within the EMBA, the response options that were determined to minimise the impacts to the environment and people were pre-selected.

7.16.1.2 Protection prioritisation process

CAPL has developed a Protection Prioritisation Process (PPP) (Ref. 51) to support decision making in the event of a significant spill event. The information within the PPP document is used to identify priorities for protection within the activity specific spill scenario(s) EMBA, such as that described in Section 4. The identification of priorities for protection assists in the identification of resources to be assessed within the strategic and operational NEBAs, as described above. The NEBA considers the protection priority values, the EMBA, and the various control measures, including their feasibility, likely success, environmental benefits, level of effectiveness and performance of response tactics. The output of the NEBA and the protection priorities identified will then guide the strategic direction of the response through informing decisions made around tactical planning and response option selection.

The PPP (Ref. 51) ranks receptors (natural or anthropogenic value or resource that is potentially sensitivity to marine oil pollution) using a 5 level scale (from Very Low [1] to Very High [5]) based on a number of factors, including their sensitivity and vulnerability to oil, their conservation status and the biological and socioeconomic importance of the receptor. The PPP aligns with Western Australian Department of Transport (DoT) PPP (Ref. 144) and utilises the same shoreline cells to illustrate broad scale identification of sensitive areas.

Areas with high value receptors and at greatest risk of contact with oil (as indicated by stochastic modelling) are assigned a high protection priority and designated as priority planning areas. The process for identifying these areas (described in the CAPL PPP document) considers all High (4) and Very High (5) ranked shoreline cells where contact above the moderate exposure threshold

(from stochastic modelling across all seasons) is predicted within 4 days (96 hours). As described in the PPP, the 4-day contact timeframe is based on the expected time it would take CAPL to develop and implement a Tactical Response Guide for an area predicted to be impacted. For contact outside this timeframe, it expected that CAPL will have reasonable time to develop and implement a Tactical Response Guide prior to oil contacting the resource.

No High and Very High value areas (DoT shoreline cells) were identified for contact above the moderate exposure threshold nor within the 4-day timeframe for any spill scenario. In the absence of any priority planning area identification, CAPL has discretionally selected DoT shoreline cells that were contacted by the Gorgon condensate spill scenario at the low exposure threshold as priority planning areas (Table 7-21). These discretionary priority planning areas, and the specific receptors identified within them, are considered to ensure that tactical planning and response option selection are appropriate.

Table 7-21: Priority planning areas for Gorgon condensate spill scenario

Potential Area of Impact	Distance from Source of Spill	Shoreline Values	Planned Response Tactics
DoT Shoreline Cell # 326 (Baresand Point – Entrance Point E)	~110 km	Turtles – BIAs including nesting Seabirds – BIAs including breeding Coral and reef communities	Monitor, Evaluation and Surveillance Shoreline Protection and Deflection Shoreline Clean-up Oiled Wildlife Response
DoT Shoreline Cell # 329 (Locker Point – Baresand Point)	~125 km	Turtles – BIAs including nesting Seabirds – BIAs including breeding Coral and reef communities Marine protected areas	Monitor, Evaluation and Surveillance Shoreline Protection and Deflection Shoreline Clean-up Oiled Wildlife Response

** Note that the modelling for both vessel collision and loss of containment events did not predict any impact to High and Very High ranked areas within 4 days*

7.16.2 Activity-specific response option selection

To select the appropriate response options for this EP, hydrocarbons applicable to the worst credible scenarios specific to this activity are:

- Group 1 – Jansz condensate
- Group 2 – MDO, Gorgon condensate

The outcomes of the Strategic NEBA are outlined in Table 6-1 of the OPEP (Ref. 68). Taking into account the priority planning areas identified in Table 7-21, the outcomes of the Strategic NEBA determined that the recommended response options proposed to be used for the spill scenarios associated with this EP include:

- Monitoring, Evaluation, and Surveillance (MES)
- Shoreline Protection and Deflection (SPD)
- Shoreline Clean-up (SHC).

These response options are carried out alongside Oiled Wildlife and Waste Management response tactics. CAPL does not consider Oiled Wildlife and Waste

Management as separate response options as they are implemented as support tactics for all spill events in a manner that is commensurate to the level of impact and risk of that event.

7.16.3 CAPL existing spill response capability assessment

Based on the spill response arrangements that CAPL has in place across the business, the capability of these arrangements was determined. This process involved:

- identifying CAPL's existing response arrangements and the equipment and personnel available to CAPL under these arrangements
- defining the response package for each response option, and identifying the critical components for each response package (i.e. equipment or personnel that are limited in number and cannot be purchased or accessed readily)
- determining the number of critical components available to CAPL under existing arrangements
- identify the number of response packages available to CAPL under existing arrangements
- defining the volume of hydrocarbons that could be recovered or treated per response package.

The outcome of this evaluation is included as Appendix C of the OPEP (Ref. 68).

7.16.3.1 CAPL project-specific capability requirement assessment

To understand the spill response capability required for this activity, CAPL assessed the worst-case credible spill event and used modelling to understand the number of packages per response technique that may be required to respond to that event. The steps involved in this assessment were:

1. Review the Strategic NEBA (Ref. 53) and priority planning areas to understand the planned response to an event.
2. Predict the average surface hydrocarbon volume per day; and average volume of hydrocarbon accumulated onshore per shoreline per day (if relevant) to calculate the number of response packages required per response strategy.
3. Review the number of response packages available to determine if the capability exists.

7.16.3.2 CAPL planned response: Vessel collision and major defect

In accordance with the Strategic NEBA (Ref. 53), the response strategies proposed to be used for this spill scenario and response package calculations are described below. Offshore containment and recovery would not be effective because of the hydrocarbon properties (Group 2).

Implement MES response

A MES response will commence as soon as the spill is identified. This may range from very simplistic visual observation only, through to more involved monitoring and evaluating tactics. Appendix C of the OPEP (Ref. 68) has documented the arrangements that CAPL have in place to implement all the required MES tactics; therefore, this technique is not discussed further.

Implement an SPD response

Of the four modelled scenarios, only the major defect on the Gorgon production flowline resulted in shoreline contact. The following assessment is based on this modelling.

Deterministic analysis for the largest volume of oil ashore indicates that a hydrocarbons may wash ashore between six to nine days after the spill and deposit 3.7 m^3 over the duration over this time period. The volume of oil ashore was used to support the planned response requirements—the volume of hydrocarbons that would need to be treated by an SPD response is directly correlated to the volume of oil that may wash ashore.

Based on Appendix C of the OPEP (Ref. 68), each protection team is expected to treat (prevent shoreline contact) 15.6 m^3 of hydrocarbon per day. On the assumption that oil first washes ashore on day six, CAPL would need one SPD packages available and deployed on day five in preparation to implement the SPD response. Given that the modelling predicts the total volume to wash ashore over four days (day six to nine), from a tactical planning perspective it is unlikely that CAPL would be required to ramp up resources further than the one SPD package identified. Confirmation that CAPL has the arrangements in place to implement the required number of packages is provided in Table 7-22.

Implement an SHC response

Deterministic analysis for the largest volume of oil ashore indicates that a hydrocarbons may wash ashore between six to nine days after the spill and deposit 3.7 m^3 over the duration over this time period. The volume of oil ashore was used to support the planned response requirements.

This scenario predicted exposure to the Muiron Islands and some smaller inshore Pilbara Islands, such as Serrurier, Flat, Peak and Sunday Island. With the exception of the north-west coastlines of the Muiron Islands, these islands are located within low energy environments and are comprised of a mix of sandy and rocky shorelines, surrounded by shallow reef. Whilst clean-up activities are achievable, the relative isolation and environmental sensitivity of these islands would require pre-planning for response

CAPL would attempt to clean up the entire volume of oil washed ashore.

Based on Appendix C of the OPEP (Ref. 68), each SHC team is expected to recover 1.6 m^3 of hydrocarbon per day. If one clean-up team is mobilised on day six and used each day, all hydrocarbons can be recovered by day nine. If required, these efforts could be ramped up as directed and informed by MES activities.

Table 7-22: Vessel collision and major defect response package deployment timeline

Response Technique	Days Following Event							Weeks Following Event				
	1	2	3	4	5	6	7	1	2	3	4	5
No. packages – planned MES	1	1	1	1	1	1	1	1	1	1	1	1
Does CAPL have the required capability?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Response Technique	Days Following Event							Weeks Following Event				
	1	2	3	4	5	6	7	1	2	3	4	5
No. packages – planned SPD	0	0	0	0	1	1	1	1	0	0	0	0
Does CAPL have the required capability?					Y	Y	Y	Y				

No. packages – planned SHC	0	0	0	0	0	1	1	1	0	0	0	0
Does CAPL have the required capability?						Y	Y	Y				

7.16.4 Spill response environmental risk assessment

7.16.4.1 Ground disturbance – shoreline spill response

Conducting SPD or SHC involves moving personnel and equipment, which triggers the environmental aspect of ground disturbance.

SPD aims to decrease the overall effect of oil on shorelines before they are impacted and uses booms and sorbents placed adjacent to sensitive shoreline habitats to deflect or capture surface oil.

The objective of SHC is to apply techniques that are appropriate to the shoreline type to remove as much oil as possible. Various techniques may be used alone or in combination to clean oiled shorelines, including shoreline assessment, natural recovery, sorbents, sediment reworking, manual and mechanical removal, and washing, flooding, and flushing.

Source			
In the event of a worst-case spill event, implementing SPD and SHC techniques involves people and equipment, which may disturb shoreline habitat.			
Potential impacts and risks			
Impacts	**C**	**Risks**	**C**
N/A	–	Conducting SPD or SHC, including moving personnel and equipment, has the potential to damage terrestrial habitats (including nests), with subsequent impacts to fauna such as turtles and birds	5
Consequence evaluation			
Changes to terrestrial habitats and/or fauna Potential impacts of SPD and SHC vary, depending on the method used and the shoreline habitat. General impacts include physical disturbance from using personnel, vehicles, and equipment. Particular values and sensitivities in the area that may be affected by the spill include sensitive shoreline habitats (such as mangroves) and nesting/foraging habitat for fauna species such as turtles and birds. The impacts associated with undertaking SHC may be more than if the hydrocarbon product was left in place and remediated through natural processes. Leaving the product in place is a common response option if continual human and vessel/vehicle traffic has the potential to generate greater impacts than the product itself. This technique has been implemented internationally, including for the Montara spill (where persistent components of the product were left to naturally break down in			

dense coastal mangroves) and the Macondo spill (where marshes and wetlands that had been impacted by weathered product were allowed to recover naturally). If a smaller extent of shoreline is impacted, the impacts from an SHC response activity may be lessened and more localised.

Potential impacts associated with using vehicles, personnel, and equipment during SHC (and/or SPD) can include disturbing wildlife feeding or breeding (including damage to nests) and damaging dune structures, vegetation, or intertidal habitats. These shoreline activities have the potential to result in short-term and localised damage to or alteration of habitats and ecological communities and therefore the consequence is ranked as Minor (5).

ALARP decision context justification

The risks associated with shoreline oil spill response techniques are well understood, with the techniques having been applied successfully for a number of large spill events. Although there is a good understanding of these response techniques, there is uncertainty regarding the specific location at which this may be undertaken, and the level of response that may be required in these areas. Spill modelling was used to inform the extent of such a spill, and thus provide a sound basis for response planning (including shoreline response) to such an incident.

Control measures to manage the risks associated with shoreline spill response techniques are well defined with most being linked to detailed monitoring plans that feed into tactical planning requirements and NEBAs.

During relevant persons consultation, no objections or claims were raised regarding spill response activities.

The risks arising from implementing shoreline response techniques in the event of a spill are extremely low, and CAPL consider these to be lower-order risks in accordance with Table 5-3. As such, CAPL considers ALARP Decision Context A should be applied for this aspect.

Good practice control measures

Control measure	Description
OSMP	The OSMP details the arrangements and capability in place for operational and scientific monitoring. Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required). CAPL has developed a NOPSEMA-accepted OSMP (Ref. 65) to support all spill monitoring activities across all its assets. Specifically, Operational Study 6 – Rapid Seabird and Shorebird Assessment and Operational Study 7 – Rapid Marine Megafauna Assessment provide information on the presence of wildlife with regards to predicted trajectory to understand the level of oiled wildlife response (OWR) required.
OPEP	Under the OPGGS(E)R, NOPSEMA require that the petroleum activity have an accepted OPEP in place before commencing the activity. CAPL has developed a NOPSEMA-accepted OPEP (Ref. 68) to support all spill response activities across all its assets. The OPEP identifies the resource capability required to implement the spill response. Although formal activation of the ABU Consolidated OPEP occurs at Level 2 or above, the plan includes procedures relevant to Level 1 spills, such as alert procedures and initial response actions. These procedures will be followed as appropriate during Level 1 incidents in conjunction with the vessel SOPEP and/or Project Emergency Response Plans.

Likelihood and risk level summary

Likelihood	Depending on the clean-up technique and habitat, potential consequences of shoreline cleaning are remote (Note: Mechanical methods are generally expected to have greater consequences than manual cleaning). With the control measures in place, CAPL

	assessed the likelihood of the consequence described above as Remote (5).	
Risk level	Very low (9)	
Acceptability summary		
Principles of ESD	The potential impact associated with this aspect is considered to have the potential to result in minor, localised, incidental damage to, or alteration of, habitats and ecological communities; however, this is not expected to affect biological diversity and ecological integrity. The consequence associated with this aspect is Minor (5). Therefore, no additional evaluation against the Principles of ESD is required.	
Relevant environmental legislation and other requirements	No legislation and other requirements relevant to this aspect were identified.	
Internal context	This CAPL management process or procedure was considered relevant for this aspect: • OSMP (Ref. 65). Control measures related to the above management process or procedure have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
External context	During relevant persons consultation, no objections or claims were raised regarding spill response activities.	
Defined acceptable level	These risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 24) Reduce the risk of impacts to the environment during event response	**(EPS 21.6) OSMP** In the event of a Level 2 (or above) oil spill to marine or coastal waters occurring, the OSMP will be activated, and: • operational and scientific monitoring program are initiated once the specific initiation[41] criteria are met • operational and scientific monitoring program are implemented within the timeframes outlined in the OSMP • operational and scientific monitoring components are continued until respective termination criteria are met	(MC 21.6.1) Records confirm the OSMP has been activated (MC 21.6.2) Records confirm that once initial criteria have been met, operational and scientific monitoring programs were initiated. (MC 21.6.7) Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased.
	(EPS 21.3) OPEP In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters,	(MC 21.3.1) Records confirm the alert procedures and initial response actions described within the OPEP were implemented for a Level 1 oil

[41] As per Section 2.1 of the OSMP, for this plan initiation means starting preparation for implementation.

	response activities are implemented in accordance with the *ABU Consolidated OPEP*	spill occurring to marine or coastal waters
		(MC 21.3.2) Records confirm the OPEP has been activated and response activities implemented for Level 2 (or above) oil spill occurring to marine or coastal waters
	OPEP Refer to the *ABU Consolidated OPEP* for environmental performance outcomes, standards and measurement criteria related to emergency management, emergency preparedness, and each response tactic	

7.16.4.2 Physical presence – oiled wildlife response

OWR activities are aimed at treating fauna that have encountered, or are likely to encounter, spilt hydrocarbons. OWR generates the environmental aspect of physical presence/interaction with fauna, through handling, treating, rehabilitating, and releasing fauna.

Source

In the event of a worst-case spill event, the handling and treating marine fauna (through an OWR) will result in personnel interacting with marine fauna.

Potential impacts and risks

Impacts	C	Risks	C
N/A	–	Conducting OWR has the potential to cause further harm to oiled fauna due to hazing, barriers, deterrents, and cleaning activities, and has the potential to cause injury/death.	5

Consequence evaluation

Harm to oiled fauna

Particular environmental values that may be affected by OWR activities include marine fauna such as turtles and birds.

Due to the intensive nature of OWR activities and the fragile nature of many shore and wading birds, OWR activities can have high bird mortality rates. Physical exclusion and hazing operations can result in entanglement and stress-related impacts to marine birds. Cleaning of oiled wildlife may result in skin irritations, impacts to the hydrophobic properties of bird plumage, and stress-induced physiological effects.

Spill modelling indicates that small offshore islands frequented by fauna, such as the Muiron Islands, are areas where OWR is most likely to be undertaken. If a spill coincided with turtle nesting/hatchling or bird nesting periods, a small number of animals may be treated using OWR. Impacts from hazing and deterrents are anticipated to be localised to the area of potential spill impact and limited to the spill period. Even if OWR was undertaken during nesting periods, only a small proportion of the nesting population would be involved as the species potentially involved nest widely elsewhere. The potential consequences associated with an OWR are localised and short-term and are ranked as Minor (5).

ALARP decision context justification

The risks associated with OWR are well understood, with the technique having been applied successfully for a number of large spill events. Although there is a good understanding of the response technique, there is uncertainty regarding the specific location at which this may be undertaken, the number of animals that may be impacted, and thus the level of response that may be required.

Spill modelling was used to inform the extent of such a spill, and thus provide a sound basis for response planning to such an incident.

Control measures to manage the risks associated with OWR are well defined with most being linked to detailed monitoring plans that feed into tactical planning requirements and NEBAs. During relevant persons consultation, no objections or claims were raised regarding OWR activities. The risks arising from implementing OWR in the event of a spill are extremely low, and CAPL consider these to be lower-order risks in accordance with Table 5-3. As such, CAPL considers ALARP Decision Context A should be applied for this aspect.	
Good practice control measures	
Control measure	**Description**
OSMP	The OSMP details the arrangements and capability in place for operational and scientific monitoring. Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required). CAPL has developed a NOPSEMA-accepted OSMP (Ref. 65) to support all spill monitoring activities across all its assets. Specifically, Operational Study 6 – Rapid Seabird and Shorebird Assessment and Operational Study 7 – Rapid Marine Megafauna Assessment provide information on the presence of wildlife with regards to predicted trajectory to understand the level of OWR required.
OPEP	Under the OPGGS(E)R, NOPSEMA require that the petroleum activity have an accepted OPEP in place before commencing the activity. CAPL has developed a NOPSEMA-accepted OPEP (Ref. 68) to support all spill response activities across all its assets. The OPEP identifies the resource capability required to implement the spill response. Although formal activation of the ABU Consolidated OPEP occurs at Level 2 or above, the plan includes procedures relevant to Level 1 spills, such as alert procedures and initial response actions. These procedures will be followed as appropriate during Level 1 incidents in conjunction with the vessel SOPEP and/or Project Emergency Response Plans.
Likelihood and risk level summary	
Likelihood	Where there is the possibility for surface oil to impact wildlife, the risks associated with OWR are lower than those associated with inaction. With the control measures in place, the likelihood of the described consequences occurring from OWR activities was determined to be Remote (5).
Risk level	Very low (9)
Acceptability summary	
Principles of ESD	The potential impact associated with this aspect is considered as having the potential to result in a localised incidental impact and thus is not expected to affect biological diversity and ecological integrity. The consequence associated with this aspect is Minor (5). Therefore, no additional evaluation against the Principles of ESD is required.
Relevant environmental legislation and other requirements	No legislation and other requirements considered relevant to this aspect were identified.
Internal context	The CAPL management process or procedure considered relevant for this aspect is: • OSMP (Ref. 65). Control measures related to the above management process or procedure have been described for this aspect. As such, CAPL considers

	that impact and risk management is consistent with company policy, culture, and standards.	
External context	During relevant persons consultation, no objections or claims were raised regarding spill response activities.	
Defined acceptable level	These risks are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 24) Reduce the risk of impacts to the environment during event response	**(EPS 21.5) OSMP** In the event of a Level 2 (or above) oil spill to marine or coastal waters occurring, the OSMP will be activated, and: • operational and scientific monitoring program are initiated once the specific initiation criteria are met • operational and scientific monitoring program are implemented within the timeframes outlined in the OSMP • operational and scientific monitoring components are continued until respective termination criteria are met	(MC 21.5.1) Records confirm the OSMP has been activated
		(MC 21.5.2) Records confirm that once initial criteria have been met, operational and scientific monitoring programs were initiated.
		(MC 21.5.7) Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased.
	(EPS 21.3) OPEP In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, response activities are implemented in accordance with the *ABU Consolidated OPEP*	(MC 21.3.1) Records confirm the alert procedures and initial response actions described within the OPEP were implemented for a Level 1 oil spill occurring to marine or coastal waters
		(MC 21.3.2) Records confirm the OPEP has been activated and response activities implemented for Level 2 (or above) oil spill occurring to marine or coastal waters
	OPEP Refer to the *ABU Consolidated OPEP* for environmental performance outcomes, standards and measurement criteria related to emergency management, emergency preparedness, and each response tactic	

7.17 Intangible cultural heritage values

Source			
Activities identified in Sections 7.1 to 7.16 have the potential to result in impacts on intangible cultural heritage values.			
Potential impacts and risks			
Impacts	**C**	**Risks**	**C**
–	–	• changes to intangible cultural heritage values	5

Consequence evaluation

Changes to intangible cultural heritage values

Intangible cultural heritage refers to the "practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage" (Ref. 316). As identified from literature and/or consultation (Section 4.3.5.2), Sea Country is a value for First Nations people. It is understood that the term 'Country' refers to more than just a geographical area, and includes values, places, resources, stories, and cultural obligations associated with that geographical area. Specific intangible values of Sea Country identified through consultation include Dreamtime stories and songlines (Table 4-16). In particular, representatives of from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-16).

Songlines are paths that track across Country and skies, representing Indigenous knowledge that has been collected, protected and transmitted (Ref. 206). Songlines are living tools that embed and mediate history, ecological knowledge, relationships, ancestral beings, and cultural belonging on Country (Ref. 206). Certain songlines may be referred to as 'Dreaming Pathways' because of the tracks forged by Creator Spirits during the Dreaming (Ref. 123). Kearney et al. (Ref. 211) describe that for saltwater peoples "stories and songlines locate, interpret and inscribe knowledges of both the Dreaming tracks, bodies and movements of ancestral beings that criss-cross over Sea Country and the permanent sites of ancestral inhabitation within the marine environment". Fauna are also woven into the Dreaming, songlines and stories (Ref. 80). For example, the MCH identified that there are songlines, including a whale songline, that go through Barrow Island and offshore and connect Barrow Island to the mainland (Table 4-16).

Listening and talking with Country through stories, songlines, and other practices are ways First Nations care for, navigate, and connect with Country (Ref. 335). Songlines rely on the continued health of Country, and people's continued access and connection to it (Ref. 206). When Country is damaged or altered, so too are songlines and the knowledge they embody and enact (Ref. 206). Representatives from MCH described this as when songlines are disrupted, their widdart (heart) is disconnected (Table 4-16).

All of the potential impacts and risks assessed in Section 7 have the potential to impact intangible cultural heritage, however, as all have been assessed as lower-order impacts and risks, that are ALARP and acceptable with suitable controls in place (see Table 7-1). As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from the petroleum activities and CAPL has ranked the consequence for intangible cultural heritage values as Minor (5).

ALARP decision context justification

Offshore petroleum activities are commonplace; and are practised nationally and internationally. The control measures to manage the impacts associated with intangible cultural heritage have been implemented by the industry.

During relevant persons consultation, no objections or claims were raised regarding intangible cultural heritage values arising from the activity.

The impacts on intangible cultural heritage are considered lower-order impacts in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Good practice control measures

Control measure	Description
Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3). Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.

	If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation as per Section 8.3.2.2.	
Additional control measures and cost benefit analysis		
Control measure	**Benefit**	**Cost**
N/A	N/A	N/A
Likelihood and risk level summary		
Likelihood	The petroleum activity may cause localised and temporary impacts to intangible cultural heritage. Consequently, CAPL consider the likelihood of the consequence occurring as being Unlikely (4).	
Risk level	Low (8)	
Determination of acceptability		
Principles of ESD	The potential impact is limited to localised short-term effects that are not expected to affect biological diversity and ecological integrity and in turn intangible cultural heritage values The consequence associated with this aspect is Minor (5). Therefore, no further evaluation against the Principles of ESD is required.	
Relevant environmental legislation and other requirements	No legislation or other requirements considered relevant for this aspect.	
Internal context	No CAPL environmental performance standards / procedures were deemed relevant for this aspect.	
External context	No objections or claims were raised regarding interaction with intangible cultural heritage arising from the activity.	
Defined acceptable level	All potential impacts and risks evaluated in Section 7 are inherently acceptable as they are considered lower-order impacts and risks in accordance with Table 5-3. In addition, all potential impacts and risks evaluated in Section 7 are not inconsistent with any relevant recovery or conservation management plans, conservation advice, or bioregional plans. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level. In particular that by managing the risk to marine fauna, that the impacts to intangible cultural heritage are also subsequently managed to this acceptable level.	
Environmental performance outcome	**Environmental performance standard**	**Measurement criteria**
(EPO 25) No adverse change to First Nations intangible cultural heritage values from the petroleum activity	**(EPS 5.1) Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)** Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol	(MC 5.1.1) Relevant persons consultation records
	(EPS 5.2) Relevant persons consultation—Ongoing consultation (First Nations	(MC 5.2.1) As required, records show that the MoC process was undertaken in response to any new

	people and/or representative bodies) If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation	information on cultural values or features within the OA or EMBA

8 Implementation strategy

This section describes the implementation strategy as required under regulation 22 of the OPGGS(E)R. The implementation strategy identifies the systems, practices, and procedures used to ensure the environmental impacts and risks of the activities are continuously reduced to ALARP and the environmental performance outcomes and standards detailed in Section 7 are achieved.

CAPL, as nominated titleholder, is responsible for ensuring the petroleum activity within scope of this EP is managed in accordance with this implementation strategy. The vessel contractors will be required to comply with the requirements of this EP to ensure that the environmental performance outcomes and standards are achieved.

8.1 Operational Excellence Management System

CAPL's operations are managed in accordance with Chevron Corporation's OEMS, which is a comprehensive management framework that supports the corporate commitment to protect the safety and health of people and the environment. The OEMS aligns with ISO 14001:2015 *Environmental management system - Requirements with guidance for use* (Ref. 301) and meets the requirements of the OPGGS(E)R.

OE systematically manages workforce safety and health, process safety, reliability, and integrity, environment, efficiency, security, and stakeholders to meet the OE objectives and ensure safe operations of CAPL facilities and projects. The OEMS comprises the following key components (Figure 8-1):

- **leadership and OE culture**—through the OEMS, CAPL leaders engage employees and contractors to build and sustain the OE culture and deliver OE performance
- **management system cycle (MSC)**—by applying the MSC, CAPL leaders make risk-based and data-driven decisions, prioritise activities, and direct improvements
- **focus areas and OE expectations** (including common expectations)—focus areas are categories of OE risks and include workforce safety and health, process safety reliability and integrity, environment, efficiency, security, and stakeholder engagement; OE expectations guide the design, management, and assurance of the presence and effectiveness of safeguards.

The OEMS outlines the process for identifying, establishing, and maintaining safeguards and to provide assurance that they are in place, functioning as intended, and are in accordance with legal and OE requirements. The risk management process (Figure 8-1) assesses and identifies safeguards, which are the hardware and human actions designed to directly prevent or mitigate an incident or impact associated with the project, personnel, and the environment. The assurance process (Figure 8-1) provides the verification and validation that the safeguards are in place and functioning as intended.

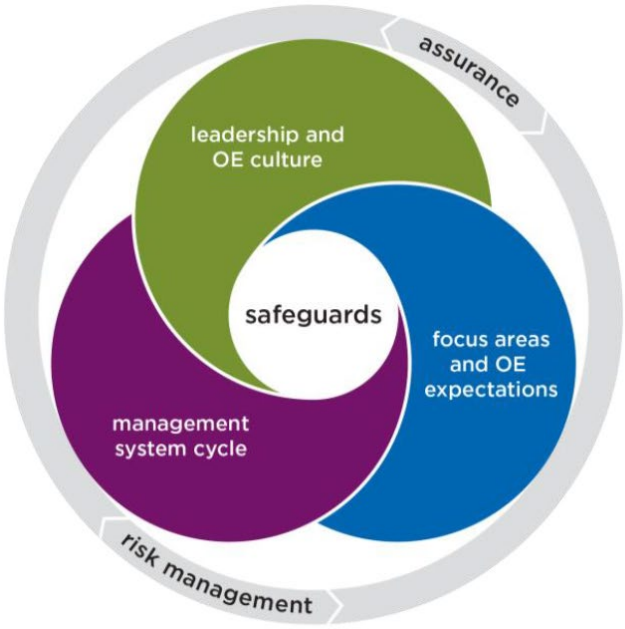


Figure 8-1: Overview of Chevron Corporation's OEMS

8.2 Leadership and OE culture

CAPL leaders demonstrate and are accountable for the consistent and rigorous application of the OEMS to drive performance and manage risks. The actions and visibility of leaders reinforce CAPL's commitment to place the highest priority on the safety and health of its workforce, and on the protection of communities, the environment, and its assets.

8.2.1 Roles and accountability

CAPL leaders have the overall accountability for the implementation of the OEMS.

8.2.1.1 Chain of command (petroleum activity)

As required under regulation 22(3) of the OPGGS(E)R, a clear chain of command for implementing the petroleum activity is outlined in Figure 8-2.

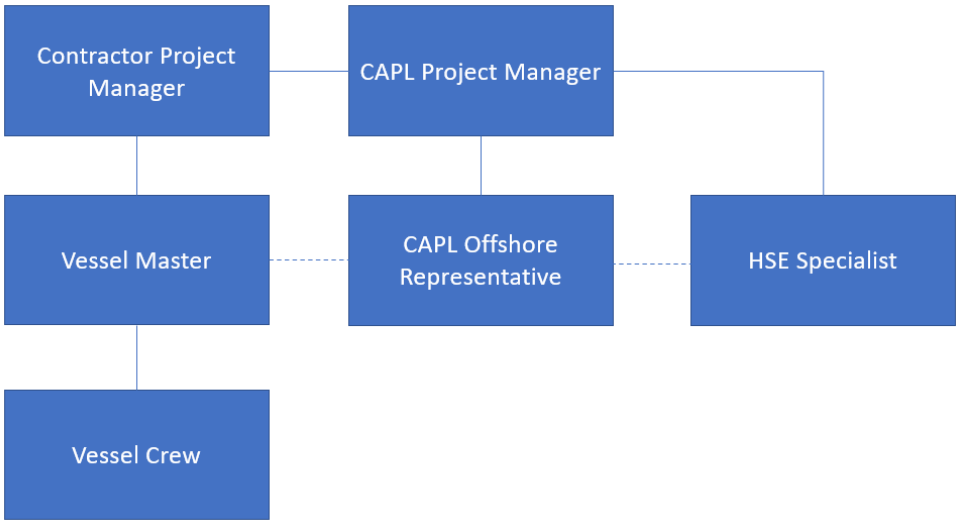


Figure 8-2: Chain of command—petroleum activities

8.2.1.2 Roles and responsibilities (petroleum activity)

The roles and responsibilities of key CAPL and contractor personnel for implementing task-specific control measures are detailed in Section 7, and are summarised in Table 8-1.

Table 8-1: Key roles and responsibilities—petroleum activities

Roles	Responsibilities
CAPL Project Manager	• Overall responsibility for implementing, managing, and reviewing this EP Ensure that: • third-party vessels or contractors are aware of any requirements within this EP, including completion of relevant inductions as per Section 8.2.1.3 • ongoing consultation is conducted in accordance with Section 8.3.4.1 • any MoC is conducted in accordance with Section 8.3.2.2, and notify the CAPL Offshore Representative and HSE Specialist of any scope changes where relevant • environmental incident reporting is completed in accordance with Section 8.4.2 • routine environmental reporting is undertaken in accordance with Section 8.4.3
Contractors Project Manager	• Overall responsibility for contractors implementing requirements under this EP Ensure that: • all contractor personnel are aware of their requirements within this EP, including completion of relevant inductions as per Section 8.2.1.3 • sufficient resources are provided to enable compliance with the requirements of this EP • corrective actions identified during environmental inspections are implemented (as required) • assist with reviewing, investigating, and reporting environmental incidents (as required)
CAPL Offshore Representative	Ensure that: • All CAPL personnel are made aware of their requirements under this EP and have completed inductions • impacts and risks are continually reduced to ALARP and an acceptable level by implementing this EP in accordance with Section 7 • pre-mobilisation inspections of vessels are undertaken to confirm they comply with relevant legislative requirements, and all requirements under this EP • corrective actions identified during environmental inspections are closed out in accordance with Section 8.3.6 • seabird management procedure is implemented • UCH finds protocol is implemented • all incidents, including breaches of environmental performance standards, are reported to Project Manager
HSE Specialist	Ensure that: • all personnel are made aware of their requirements under this EP • impacts and risks are continually reduced to ALARP and an acceptable level by implementing this EP in accordance with Section 7

Roles	Responsibilities
	• all changes to this EP are subject to a MoC assessment as described in Section 8.3.2.2 • compliance with this EP is verified in accordance with Section 8.3.6, including: – completing environmental inspections – collecting evidence against environmental performance standards – regularly review compliance with environmental performance standards – preparing environmental performance report following the completion of activity • assist with reviewing, investigating, and reporting environmental incidents (as required) • this EP is reviewed in accordance with Section 8.5 • preparing the cetacean sighting report at the end of the petroleum activity (Section 8.4.1.1).
Vessel Master	Ensure that • impacts and risks are continually reduced to ALARP and an acceptable level by implementing this EP in accordance with Section 7 • all necessary vessel-related documentation (e.g. SOPEPs, certificates, etc.) is available in accordance with Section 7 • all marine safety information notifications are issued in accordance with Section 7 • vessel operations are being conducted in accordance with the legislative requirements and this EP, including waste management, and emergency/oil spill response • maintenance of equipment and records meet statutory requirements • establish and maintain radio contact with other vessels in the OA and adjacent waters • vessels implement cetacean interaction requirements in accordance with EPBC Regulations 2000 and additional marine fauna separation distances as per requirements of this EP • report any potential UCH finds to CAPL Offshore Representative • all incidents are immediately reported to CAPL Offshore Representative • all emissions and discharges are monitored and recorded in accordance with Section 7 • a Vessel Master (or delegate) is on duty at all times.
Vessel crew	Ensure that: • the activity is undertaken in a professional and safe manner with attention to good housekeeping procedures and work practices • immediately report any incidents to the Vessel Master • immediately report any environmental incidents or spills to the Vessel Master • bridge-watch crew are to record marine fauna observations in accordance with Section 7 of this EP.
ROV operator	Ensure that: • UCH finds protocol is implemented.

8.2.1.3 Training and competency (petroleum activity)

In accordance with regulation 22(4) of the OPGGS(E)R, each employee responsible for implementing task-specific control measures during operational

activities must be aware of their specific responsibilities as detailed in this EP. People who hold responsibilities relating to implementing this EP are hired by CAPL on the basis of their particular qualifications, experience, and competency.

All external contractor personnel involved with activities within scope of this EP will hold qualifications or training certification relevant to their role, which will be confirmed through the contractor selection process, audits and review processes.

The vessel contractors will provide marine crew who are trained and competent to undertake their respective activities on board the vessel. All marine personnel will be qualified in accordance with the International Convention on Standards of Training Certification and Watch Keeping for Seafarers (STCW95).

Personnel with specific responsibilities under this EP (refer to Section 8.2.1.2) were included during the internal review of this EP and are made aware of their role-specific responsibilities under this EP.

All personnel (including contractors) must attend inductions that are relevant to their role (Table 8-2). Records of attendance at inductions will be maintained as per Section 8.3.2.1.

Table 8-2: Training and competency

Training/ competency	Required personnel	Scope
Induction	All relevant personnel	Before commencing operations, all personnel, including subcontractors, must attend an induction that includes an overview of the requirements of this EP. This induction fosters environmental stewardship amongst all personnel and ensures that they are aware of the control measures implemented minimize the potential impact on the environment. The induction includes: • awareness of Chevron Corporation's Operational Excellence Policy 530 (appendix a) • an overview of environmental sensitivities, and key impacts and risks from the petroleum activity • roles and responsibilities of vessel crew members • cetacean interaction requirements under Part 8 of the EPBC Regulations 2000 and additional marine fauna separation distances as per requirements of this EP • seabird management procedure for night vessel-based activities • overview of the identification of potential UCH and requirements of the UCH finds protocol • good waste management and hazardous materials housekeeping requirements • incident reporting requirements (including definitions and reporting pathways) • incident response arrangements.
First Nations UCH	ROV operators	Before commencing a petroleum activity within water depths of <130 m, ROV operators will be provided with a UCH-specific induction. This induction will include an overview of the identification of potential UCH (including First Nations UCH), and the specific management requirements of the UCH finds protocol.

Training/ competency	Required personnel	Scope
Marine fauna observations	Bridge-watch crew	All bridge-watch crew must have completed an MFO awareness session facilitated by a CAPL HSE Specialist. This awareness session includes: • cetacean observation requirements under the EPBC Regulations 2000 • additional marine fauna observation requirements as specified within this EP • sighting process and forms.

8.3 Focus areas and OE expectations

The OE expectations are organised into six focus areas (Figure 8-3). The OE expectations provide guidance to design, operate, maintain, improve, and assure the presence and effectiveness of safeguards. Common expectations also apply and support the OE expectations and focus areas.

Figure 8-3: Focus areas and common expectations

The focus areas and common expectations relevant to this EP, and their key processes that demonstrate how CAPL is effective in reducing environmental impacts and risks to ALARP and an acceptable level, are listed in Table 8-3. Each focus area and common expectation is described in further detail in the following subsections.

Table 8-3: Relevant focus areas and common expectations

Focus area or common expectation	Key processes
Focus area	
Workplace safety and health	• *ABU Operations Process: Control of Work Manual* (Ref. 67) • *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) • *ABU Hazardous Materials Management Procedure: ABU Standardised OE Procedure* (Ref. 48)
Process safety, reliability and integrity	• *OE Information Management: ABU Standardised OE Process* (Ref. 38) • *Management of Change for Facilities and Operations: ABU Standardised OE Process* (Ref. 34)

Focus area or common expectation	Key processes
Environment	• *Environmental Risk Management Process* (Ref. 35) • *Quarantine Procedure Marine Vessels: ABU Standardised OE Process* (Ref. 52)
Stakeholders	• *Stakeholder Engagement and Issues Management: ABU Standardised OE Process* (Ref. 47)
Common expectation	
Risk management	• *ABU OE Risk Management Process* (Ref. 49)
Assurance	• *OE Assurance Corporate Process* (Ref. 39) • *OE Corporate Standard Incident Investigation* (Ref. 55) • *OE Data Reporting Standard* (Ref. 58)
Contractor OE management	• *Contractor Operational Excellence Management: ABU OE Process* (Ref. 56)
Incident investigation and reporting	• *Incident Investigation and Reporting (II&R) Execution Manual* (Ref. 57)
Emergency management	• *Emergency Management OE Process* (Ref. 41) • OPEP (Ref. 68) • OSMP (Ref. 65)

8.3.1 Workforce safety and health

8.3.1.1 Control of work

The CoW expectation is to assess workplace safety and health hazards and manage the risks associated with the execution and control of work performed by CAPL employees and their business partners. The CoW process (Ref. 67) ensures activities are assessed and executed in a safe and consistent manner.

Standards and procedures relating to CoW relevant to this EP include the Work Authorisation (formerly permit to work system. The Work Authorisation system, which includes SIMOPS and hazard analysis, is a way to identify, communicate, mitigate, and control hazards associated with work that have the potential to adversely affect health, safety, and environment (HSE). As the potential consequence associated with each task increases, so does the level of controls and approval that are required.

8.3.1.2 Marine

The *Chevron Marine Standard Non Tankers: Corporate OE Standard* (Ref. 63) identifies the requirements and activities necessary to deliver safe, reliable, and efficient third-party marine operations. This process describes key roles and responsibilities for managing marine safety and establishes measurement and verification activities designed to promote a process of continual improvement.

The Marine Standard applies to all marine vessels, emergency response, and all other (non-bulk petroleum) vessels chartered, owned, or operated by CAPL. The process also applies to vessels contracted by an affiliate or contractor that provide marine support or marine services to CAPL.

The key elements of the Marine Standard that apply to the activities outlined In this EP are:

- vessel inspections—vessels used by CAPL or its affiliates must undergo a vessel audit/inspection process before deployment to ensure that the vessels and the staffing levels meet safety requirements and are fit-for-purpose; inspections also ensure emergency procedures (such as SOPEP/Shipboard marine pollution emergency plan) are available and that the required standards are met for navigation equipment, lighting, waste systems, and other marine safety protocols including Marine Order 30 (Prevention of Collisions)
- competency management—vessels used by CAPL must be operated by competent personnel who meet applicable international and local regulations
- cargo handling—cargo transport and handling operations on marine vessels must comply with handling procedures and align to standard marine industry practices
- complicated and/or heavy lifts—all lifting and installing of heavy equipment near offshore infrastructure must meet the detailed requirements
- hose management—operations involving the transfer of bulk liquids using loading hoses must align to standard industry practice and safety of the environment
- vessel communication—vessels must have in place communications procedures for operations close to installations, or other mobile units to ensure that safe positioning and communications are maintained at all times.

Vessels provide an activity-specific operational guideline, based on their use and specification, which must be accepted by CAPL.

8.3.1.3 Hazardous materials

CAPL's *Hazardous Materials Management Procedure* (Ref. 48) outlines the process for HSE assessment and approval of hazardous materials. Hazardous materials include those classified as 'hazardous substances or 'dangerous goods'.

The *Hazardous Materials Management Procedure* is designed to:

- assess hazardous materials requested for procurement for their HSE risks
- ensure that appropriate controls are identified for using procured hazardous materials and that these controls are communicated to the requestors of the materials and end users at locations within CAPL's operations
- ensure no product includes CAPL-prohibited ingredients
- ensure substitutes were considered if a product contains CAPL-restricted ingredients.

As part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment. This environmental assessment is guided by the methodology and classification system used by the Offshore Chemical Notification Scheme (OCNS) and Chemical Hazard Assessment and Risk Management (CHARM). Hazardous materials not listed on OCNS or CHARM, are still subject to the environmental assessment described below.

The environmental assessment includes an evaluation of the potential environmental risks that could be associated with the chemical, and considers the relevant dosage, quantity and frequency of the chemical discharge, the location

and nature of the receiving environment, and the assessment criteria described in Table 8-4.

The chemical selection process ensures impacts and risks associated with chemical discharge are reduced to levels that are ALARP and acceptable, while meeting operational performance requirements.

Table 8-4: Chemical risk assessment criteria

Assessment criteria	Selection rationale
Potential for acute and/or chronic toxicity to aquatic life	The toxicity of a chemical is the fundamental consideration within this assessment. This reflects the UK OCNS system which ranks chemicals based on their toxicity, and then adjusts rankings depending on biodegradation and bioaccumulation properties. The scale for toxicity is based on the toxicity rating classification system used by the DEMIRS, from Hinwood et al. (Ref. 189).
Persistence or biodegradability	Biodegradation rate provides an indication of the potential persistence of the chemical within the environment, and therefore the potential duration of exposure for environmental sensitivities. The scale for biodegradation is based on adjustment criteria used by Centre for Environment, Fisheries and Aquaculture Science (CEFAS) to finalise chemical hazard assessment scores under the OCNS system.
Bioaccumulation or bio-concentration	Indicates the potential for the chemical (or components of the chemical) to accumulate within biological matrices and food chains. Chemicals, which may not be toxic and are introduced to the environment in low concentrations, can concentrate within biological matrices to the point where they become toxic and may have either acute or chronic effects. The scale for bioaccumulation is based on adjustment criteria used by CEFAS to finalise chemical hazard assessment scores under the OCNS system.

8.3.2 Process safety, reliability and integrity

8.3.2.1 OE information management

Under the OEMS, records (including compliance records to demonstrate environmental performance and compliance with commitments in this EP) will be retained in accordance with regulation 52 of the OPGGS(E)R.

The OE information management process (Ref. 38) explains how critical information related to HSE, reliability, efficiency, and process safety is to be identified, developed, assessed, and maintained so that the workforce has access to, and is using, the most current information. This document describes key roles, responsibilities, and competencies associated with the process, and includes measurement and verification activities.

Vessel contractors will maintain records as above and must make these available upon request.

Records relevant to installation activities may include:

- this EP
- induction material and attendance records
- assurance register
- inspection records and supporting evidence

- incident reports, if applicable
- routine environmental reporting
- emissions and discharge data
- relevant vessel certificates, plans and log book records.

8.3.2.2 Management of change

Management of Change (MoC) expectations are to manage proposed changes to design, equipment, operations and products before they are implemented. In conjunction with the *ABU OE Risk Management Process* (Section 8.3.5), the *Management of Change for Facilities and Operations Process* (Ref. 34) is followed to document and assess the impact of changes to activities described in this EP. These changes will be addressed to determine if there is potential for any new or increased environmental impact or risk not already provided for in this EP. If these changes do not trigger relevant petroleum regulations, as detailed below, this EP will be revised, and changes recorded in the EP without resubmission.

For the activity, the following would trigger an MoC:

- changes to the activity scope (e.g. timing, method, etc.)
- changes to knowledge of the receiving environment (e.g. EPBC listed species, Part 13 statutory instruments [i.e. recovery plans, threat abatement plans, conservation advice, wildlife conservation plans], requirements for AMPs, First Nations cultural heritage, etc.)
- new objections or claims received from relevant persons that are assessed to have merit
- non-conformances or opportunities for improvement which indicate that control measures may not be managing environmental impacts and risk to ALARP and acceptable levels
- incidents that identify new or increased impacts and risks arising from activities not previously identified in the accepted EP.

In accordance with regulations 38 and 39 of the OPGGS(E)R this EP must be resubmitted to NOPSEMA under the relevant jurisdiction in the following circumstances:

- before commencing a new activity, or any significantly modification or new stage of the activity, not provided for in this EP
- if a change in the titleholder results in a change in the manner in which the impacts and risks of the activity are managed
- as soon as practicable after the occurrence of any significant new environmental impact or risk, or significant increase in an existing environmental impact or risk, that is not provided for in this EP
- as soon as practicable after the occurrence of a series of new environmental impacts or risks, or a series of increases in existing environmental impacts or risks, occur which, taken together, amount to the occurrence of a significant new environmental impact or risk, or a significant increase in an existing environmental impact or risk, not provided for in this EP.

8.3.3 Environment

The Environment Focus Area provides CAPL's framework for the protection of the environment and community health using a risk-based approach that addresses potential environmental impacts.

8.3.3.1 Environmental risk management

The *Environment Risk Management Process* (Ref. 35) provides a framework for CAPL to identify, assess, mitigate, and manage environmental risks, including environment-related community health and social risks, across the life-cycle of CAPL assets.

The objectives of the process are to:

- establish standardised methodologies for the data-driven assessment and management of environmental risks
- identify environmental safeguards and mitigation measures, and support prioritisation of their verification
- support assurance activities for environmental safeguards and mitigation measures
- maintain environmental information associated with the evaluation of environmental risks
- utilise the MSC process to identify improvement opportunities for the *Environment Risk Management Process*.

8.3.3.2 Quarantine

The *Quarantine Procedure Marine Vessels* (Ref. 52) provides information about quarantine compliance to CAPL, contractors, and others associated with marine vessels.

In relation to the offshore title areas, this procedure prevents offshore facilities and activities associated with CAPL title areas becoming staging areas for the introduction of marine pests into Australian waters and ports.

This procedure also outlines the requirements for vessels operating in title areas and details the premobilisation requirements and ongoing management of vessels operating in title areas.

All vessels operating in title areas must comply with applicable Australian biofouling and ballast water requirements to prevent the introduction and spread of marine pests. Regardless of the origin of the vessel or where it will be operating, all vessels must be free from marine pests when mobilised and the contractor must demonstrate the vessel meets low risk rating for biofouling.

As per the *Quarantine Procedure Marine Vessels* (Ref. 52), CAPL undertakes a risk assessment before any vessel is mobilised to title areas to confirm the vessel meets the requirements for approaching and accessing these areas. For this purpose, each vessel contractor submits a completed Marine Vessel Questionnaire with supporting evidence to CAPL for assessment.

This risk assessment will consider the vessel's attributes and history, including wetsides cleaning, application of antifoul coating, and recent transit history, including time in known high-risk waters.

If the vessel's history is unknown or if there is a moderate risk of IMP presence, additional actions must be undertaken. These action items (which may include requirements such as dry-dock, hull cleaning, etc.) will be issued to the contractor to implement. The contractor must also submit the vessel details to the Vessel Check online risk assessment tool (https://www.vessel-check.com/) and provide CAPL with a copy of the resulting Risk Assessment Report demonstrating the vessel has achieved low risk rating. Only once a vessel has met the requirements of the *Quarantine Procedure Marine Vessels* (Ref. 52), will CAPL issue a Vessel Mobilisation Certificate.

8.3.4 Stakeholders

Stakeholder engagement expectations are to manage social, political, and reputational risks to CAPL (and Chevron), address potential business impacts, and generate business value by:

- identifying, assessing, and prioritising issues
- building and maintaining relationships with external stakeholders, including governments and the communities where CAPL operates
- developing and executing issue management and stakeholder engagement plans, tracking engagements and issues, and validating the effectiveness of plans.

The Stakeholder Engagement and Issues Management Process (Ref. 47) details an integrated approach for engaging stakeholders and managing external stakeholder issues. This process describes key roles and responsibilities for stakeholder engagement, establishes measurement and verification activities designed to monitor the effectiveness of the stakeholder engagement process and to promote continual improvement.

8.3.4.1 Ongoing consultation with relevant persons

In accordance with regulation 22(15) of the OPGGS(E)R, CAPL will undertake ongoing consultation for this petroleum activity with relevant authorities and other relevant interested persons or organisations for this petroleum activity as described in Table 8-5.

Through co-design of consultation, CAPL will agree processes for ongoing consultation with relevant persons. This may include consultation on the ongoing environmental performance of the petroleum activity and review of applicable control measures with the relevant persons. Engagement agreements and consultation plans with relevant persons are included in the sensitive information report. Records for ongoing consultation with relevant persons will be recorded and maintained in CAPLs online tracking engagements system.

Any objections or claims arising from ongoing consultation that have merit and have the potential to result in changes to the description of environment, impact or risk assessment, or control measures, will be subject to CAPL's MoC process, in accordance with Section 8.3.2.2.

If a new relevant person is identified during the in-force period of the EP, CAPL will provide sufficient information to that relevant person (as described in Section 6.2.4) and will assess the merits of the objections or claims of that relevant person in accordance with Section 6.3.7 and CAPL's MoC process (Section 8.3.2.2).

Table 8-5: Notifications and ongoing consultation

Relevant person	Notification or ongoing consultation requirement	Timing	Frequency
Notifications			
AHO	Provide information to enable promulgation of Notice to Mariners Notify AHO via datacentre@hydro.gov.au	At least four weeks before commencing activities, or as otherwise agreed with AHO	Once, prior to activities commencing
AMSA	Provide information to enable promulgation of radionavigation warnings Notify AMSA's JRCC via rccaus@amsa.gov.au (phone: 1800 641 792 or +61 2 6230 6811)	At least 24 to 48 hours before commencing activities, or as otherwise agreed with AMSA	Once, prior to activities commencing
DoD	CAPL will provide a pre-start notification confirming the start date of the petroleum activity	At least five weeks before commencing activities, or as otherwise agreed with DoD	Once, prior to activities commencing
Relevant persons that have requested ongoing notifications including: • Recfishwest	CAPL will provide a pre-start notification confirming the start date of the petroleum activity	At least two weeks before commencing activities	Once, prior to activities commencing
	CAPL will provide notification following completion of the petroleum activity	Within two weeks of completion of activities	Once post activity completion
Potentially affected relevant persons and/or relevant persons that have requested emergency event notifications, including: • First Nations people and/or representative bodies	CAPL will provide an incident notification if an unplanned emergency event occurs that is likely to affect the functions, interests, or activities of the identified relevant person.	As soon as practicable within an emergency response	Once, post unplanned emergency event
Ongoing consultation			
WAFIC	To inform of changes to activities or impacts/risks occurring that may affect fisheries Notify WAFIC via oilandgas@wafic.org.au	Prior to new or significant changes to activities or impacts/risks occurring	As required
Potentially affected relevant persons	CAPL to advise of any new or significant changes to activities or impacts/risks within the scope of the EP, following an evaluation as per Section 8.3.2.2, that may potentially impact marine users functions, interests, or activities	Prior to new or significant changes to activities or impacts/risks occurring	As required

Relevant person	Notification or ongoing consultation requirement	Timing	Frequency
First Nations people and/or representative bodies	CAPL to continue engagement with First Nations people and/or representative bodies regarding identifying and understanding the cultural values or features that may be present within the EMBA (refer to Section 8.3.4.3)	Ongoing	Ongoing
	Any new information on cultural values or features within the EMBA, and subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation as per Section 8.3.2.2.	Ongoing	Ongoing
	CAPL to advise of any new or significant changes to activities or impacts/risks within the scope of the EP, following an evaluation as per Section 8.3.2.2, that may potentially impact the functions, interests and activities of First Nations people and/or representative bodies	Prior to new or significant changes to activities or impacts/risks occurring	As required
	If an unplanned emergency event occurs that is likely to affect the functions, interests, or activities of First Nations people and/or representative bodies, CAPL will commence engagement with the relevant person and/or representative bodies	As soon as practicable within an emergency response	Once, post unplanned emergency event
DCCEEW	CAPL to advise of any new or significant changes to activities or impacts/risks within the scope of the EP, following an evaluation as per Section 8.3.2.2, that may potentially impact UCH (as protected by the UCH Act).	Prior to new or significant changes to activities or impacts/risks occurring	As required

8.3.4.2 Consultation in the event of an emergency

In the event of an emergency hydrocarbon spill event, CAPL will commence oil spill trajectory modelling using the actual inputs associated with the spill event to predict trajectory, as described in the OPEP (Ref. 68).

Once oil spill trajectory modelling is completed, CAPL will start engaging with potentially affected relevant persons (those considered relevant from Table 6-4,

and any additional relevant persons identified under Section 8.3.4.1), plus any others identified from the oil spill trajectory modelling). This engagement will include WAFIC and any potentially affected commercial fisheries as required. The process for reaching out to these relevant persons includes direct contact (phone or email) or indirect contact via the CAPL website.

In the event of other emergency events (e.g. potential reportable incident), CAPL will commence any emergency management as required (and in accordance with Section 8.3.9), and consultation with required departments or agencies will occur as per regulatory requirements (e.g. refer to Table 8-12 for incident reporting requirements).

CAPL will also notify any relevant persons (as identified in Table 6-4, and any additional relevant persons identified under Section 8.3.4.1) that requested to be notified in the event of an oil spill or in the event of any other emergency event (Table 8-5).

8.3.4.3 Ongoing engagement with First Nations representative bodies

Through the consultation process in preparation of this EP (Section 6), several potential initiatives or scopes for ongoing engagement with First Nations representative bodies were identified, including consideration of

- ranger programs
- capacity building for emergency response support
- support to assist with identifying and articulating the cultural values and features of Country.

These initiatives/scopes are being discussed and progressed with the respective representative bodies.

Where requested, formal engagement plans and/or consultation protocols are in development and once agreed to by CAPL and the relevant representative body, these will be implemented.

Table 8-6 provides a summary of the objectives, scope, and responsibilities of the engagement plans and/or consultation protocols drafted to date. Further information on ongoing consultation and relationship building with First Nations representative bodies is presented in Table 8-7.

Table 8-6: Summary of objectives, scope, and responsibilities in engagement plans and/or consultation protocols

Objectives	Scope	Responsibilities
• Provide governance and strategic oversight to guide collaboration and communications • Sets out general terms for allocation of resources and recovery of reasonable costs • Establish a framework for ongoing consultation • Outlines the principles for building relationships: – co-design and co-decide – transparency – walking together	• Consultation meetings • Consultation funding • Review of information relating to CAPL proposals • Confidentiality • Negotiation principles • Dispute resolution • General correspondence	CAPL responsibilities: • design and plan engagements in advance • engage in person and aim to provide information in plain English • provide access to internal subject matter experts as well as support for external and independent advice • meet reasonable costs and expenses Joint responsibilities: • share plans and strategies with each other • plan and engage early and work together on issues • use the negotiations to build trust and goodwill and to negotiate in good faith • spend time together outside of the boardroom

Table 8-7: First Nations representative bodies ongoing consultation and relationship building

First Nations representative body	Ongoing Consultation	Relationship Building
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	• CAPL has executed a cost recovery agreement with BTAC for ongoing consultation • CAPL and BTAC have executed consultation and engagement framework in 2024 • CAPL working with BTAC to forecast consultation requirements and schedule for 2025 • CAPL continuing to co-design consultation process with BTAC.	• CAPL has provided and are implementing an agreed Engagement Plan • Cost recovery mechanisms in place for informal meetings with BTAC including on country meetings and events • CAPL has invited BTAC to an on-country consultation on Barrow Island • CAPL has supported BTAC with an expression of interest to participate in a joint venture with the Pilbara Development Commission on the Northern Native Seed Initiative • CAPL provided opportunity to participate in Chevron Community Spirit Grant program • CAPL has provided support to BTAC to commence the first phase of a cultural mapping program • Invitation to participate in MFO training in September 2024 and 2025 • CAPL provided opportunities for oil spill training in Perth in 2024 and 2025 • Invitation to participate in Gorgon Turtle Monitoring Program on Barrow Island in January 2025 • CAPL provided opportunities to participate in workshops and attend the 25th Biennial Conference on the Biology of Marine Mammals in Perth in November 2024
Mardathoonera Cultural Heritage Pty Ltd (MCH)	• CAPL has provided an engagement plan and consultation protocol which includes a cost recovery negotiation protocol • CAPL has provided a consultation meeting protocol • CAPL working with MCH to forecast consultation requirements and schedule for 2025 • Invitation to participate in Gorgon Turtle Monitoring Program on Barrow Island.	• CAPL has provided an Engagement Plan and Consultation Protocol which provides cost recovery for informal meetings with MCH including on country meetings to learn more about Country and Sea Country • CAPL has provided an on-country consultation at Barrow Island and tour (2 nights) • Invitation to participate in MFO training in September 2024 and 2025

First Nations representative body	Ongoing Consultation	Relationship Building
		• CAPL provided opportunities for oil spill training in Perth in 2024 and 2025 • On-country meetings in 2024 • Invitation to participate in Gorgon Turtle Monitoring Program on Barrow Island in January 2025 • CAPL provided opportunities to participate in workshops and attend the 25th Biennial Conference on the Biology of Marine Mammals in Perth in November 2024
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	• CAPL has completed a workshop with the NTGAC board to design ongoing consultation • CAPL has provided an Engagement Plan to NTGAC which provides cost recovery for informal meetings with NTGAC including on country meetings and events • CAPL working with NTGAC to forecast consultation requirements and schedule for 2025.	• CAPL has offered funding support to NTGAC for a resource to assist with consultations and the development of the corporation • CAPL invited NTGAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023) • CAPL provided opportunity to participate in Chevron Community Spirit Grant program • Invitation to participate in MFO training in September 2024 and 2025 • CAPL provided opportunities for oil spill training in Perth in 2024 and 2025 • CAPL provided opportunities to participate in workshops and attend the 25th Biennial Conference on the Biology of Marine Mammals in Perth in November 2024 • CAPL has participated in On-Country meetings with NTGAC representatives
Nhuwala Claimant Group (NGC)	CAPL and NGC are developing a consultation protocol which provides cost recovery and agreed meeting schedule.	• Invitation to participate in MFO training and oil spill training in August 2025 • CAPL provided opportunities for oil spill training in Perth • CAPL are working with NCG on a visit to Barrow Island and discuss future ethnographic survey opportunities
Wirrawandi Aboriginal Corporation (WAC)	• CAPL has confirmed cost recovery for consultation meetings and have provided WAC a draft consultation protocol	• CAPL invited WAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)

First Nations representative body	Ongoing Consultation	Relationship Building
	• CAPL working with WAC to forecast consultation requirements and schedule for 2025 • CAPL working with WAC to co-design ongoing consultation.	• CAPL provided WAC Board and Elders opportunity to spend time on Barrow Island in 2023 • CAPL has provided WAC funding support to employ a Ranger Coordinator • CAPL supported WAC with an expression of interest to participate in a joint venture with the Pilbara Development Commission on the Northern Native Seed Initiative • CAPL provided opportunity to participate in Chevron Community Spirit Grant program. • CAPL provided opportunities to participate in workshops and attend the 25th Biennial Conference on the Biology of Marine Mammals in Perth in November 2024. • Invitation to participate in MFO training in September 2024 and 2025 • CAPL provided opportunities for oil spill training in Perth in 2025

8.3.5 Risk management

The risk management process (Ref. 49) assesses and identifies safeguards, which are the hardware and human actions designed to directly prevent or mitigate an incident or event and is designed to be consistent with the environmental risk management requirements of *ISO 14001 Environmental Management System* (Ref. 301) and *ISO 31000:2018 Risk management – Principles and guidelines* (Ref. 302).

This risk management process is summarised in Section 5 of this EP. Additional risk assessments must be undertaken if the MoC process (Section 8.3.2.2) is triggered. Risk assessments are undertaken in accordance with this process.

The *ABU OE Risk Management Process* (Ref. 49) and the *Management of Change for Facilities and Operations process* (Ref. 34) are the key systems CAPL use to ensure, that in accordance with regulation 22(2)(a) of the OPGGS(E)R, the impacts and risks of the petroleum activity continue to be identified and reduced to ALARP.

8.3.6 Assurance

Within the OEMS, assurance is a common expectation that supports the OE objective of each focus area. The *ABU OE Assurance Process* (Ref. 39) enables CAPL to deliver assurance that safeguards are established and functioning; it details:

- a framework for managing safeguards and verification activities that assure that CAPL complies with applicable legal and OEMS requirements
- a process to identify and resolve potential noncompliance
- the minimum qualifications and organisational capability to execute this process.

The *ABU OE Assurance Plan* (Ref. 45) documents the CAPL ABU integrated assurance system and associated assurance activities (Figure 8-4). The *ABU OE Assurance Plan* is reviewed and approved annually and includes:

- a list of OE assurance priorities based on risk
- a schedule of assurance activities to evaluate safeguards and verifications (e.g. safeguard assurance workshops, audits, and assurance programs)
- reference to asset assurance plans that outline asset specific assurance activities and risk-based frequency (i.e. field inspection programs, audits, compliance reviews, performance reviews).

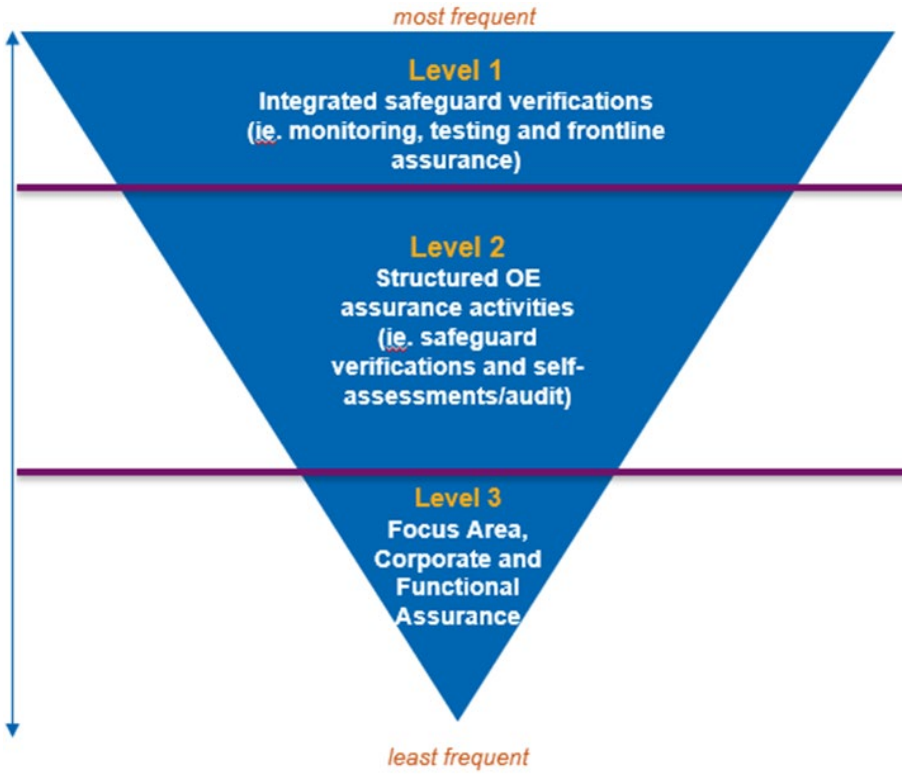


Figure 8-4: ABU integrated assurance system

To support the implementation of the ABU OE Assurance Process, CAPL have developed an ABU integrated assurance system (Figure 8-4), which integrates and leverages assurance activities across the various levels of CAPL business through to the corporate level—to provide confidence that safeguards are in place and functioning as intended. This integrated assurance system includes:

- **Level 1 – Monitoring, testing and frontline assurance**: ongoing, routine, planned verifications of safeguards specific for the asset/facility (e.g. inspections, preventive maintenance, emergency drills and exercises,)
- **Level 2 – OE assurance**: OE assurance activities (e.g. assessments, reviews, audits, inspections) that verify safeguards are in place and functioning, and validate that L1 assurance is effective. These assurance activities monitor weaknesses in the management system and compliance with regulatory requirements, and input learnings into the MSC.
- **Level 3 – Corporate and functional assurance**: Assurance activities undertaken by Chevron, CAPL's functional groups (e.g. HSE, Drilling and Completions, base business) or third parties. These assurance activities test effectiveness of the focus area's complete assurance system and how associated safeguards are being sustained

Assurance activities are scheduled on a risk-based approach and conducted to verify the effectiveness of safeguards and verifications and the extent to which requirements are met by CAPL.

Assurance activities focus on in-field activities and administrative processes, depending on the activities being undertaken and assurance priorities (these priorities are based on risk) and provide sufficient demonstration that environmental performance objectives and environmental performance standards

have been met and the activity implemented in accordance with this Implementation Strategy. A record of all assurance activities undertaken, and the outcomes, are maintained and actions are tracked until closure.

As outlined in Section 8.3.1.2, before commencing the activity, a pre-survey vessel inspection will be undertaken to confirm that vessel management systems are consistent with the requirements in this EP.

Before commencing the activity, an assurance register specific to the requirements of this EP will be developed. This register will include the commitments established in the EP, such as those related to the environmental performance outcomes, environmental performance standards, implementation strategy (where relevant) and stakeholder consultation, as well as details on where evidence of compliance can be found. Assurance activities will be undertaken in accordance with the *ABU OE Assurance Process* (Ref. 39). Any potential non-conformances or opportunities for improvement will be identified, and corrective actions associated with these will be implemented as soon as practicable. Corrective actions will be delegated to the person deemed most appropriate to fulfil the action. Records of inspections will be maintained in accordance with Section 8.3.2.1.

Environmental performance standards in the EP will undergo a compliance review and evidence will be gathered for each environmental performance standard to support the end of activity environmental report. Environmental performance during the petroleum activity will be reviewed to ensure that environmental performance standards and environmental performance outcomes are being met, reviewed and where necessary amended to continue to manage the environmental impacts and risks of the petroleum activity to ALARP and acceptable levels.

Environmental inspections onboard the construction vessel will be conducted at a weekly frequency. These inspections will also check compliance against a selection of EPOs and EPSs and inform end of activity reporting. Assurance related to the petroleum activity described in this EP will be summarised in the end of activity report submitted to NOPSEMA (Section 8.4.3).

8.3.6.1 Managing Instances of Nonconformance

The reporting, investigation, and tracking of non-conformances are managed via Chevron's *OE Corporate Standard Incident Investigation* (Ref. 55) and *OE Data Reporting Standard* (Ref. 58). These processes apply to instances where the requirements of this EP have not been met. This process is used if audit findings identify that activities in the scope of this EP are not being implemented in accordance with the risk and impact control measures identified in Section 7.

Audit findings and corrective actions are recorded and tracked in a CAPL compliance assurance database for timely closure of actions. As per Section 8.3.6, any corrective action/s identified during inspections must be implemented as soon as practicable during the petroleum activity. Audit findings that identify a breach of an environmental performance outcome or environmental performance standard will be reported in accordance with Section 8.4.2.

Any suggested changes to activities or control measures arising from audit findings or instances of potential noncompliance will be subject to a MoC process in accordance with Section 8.3.2.2.

8.3.7 Contractor operational excellence management

The *Contractor Operational Excellence Management: ABU OE Process* (Ref. 56) is implemented to define CAPL's expectations regarding contractor OE and HSE performance, the qualification of contractors and the monitoring of contractor performance against expectations. When CAPL appoints the primary contractor to control work (including supervising the work of third parties and subcontractors) using their management system, a gap analysis between the CAPL OEMS and the contractor's management system is undertaken to ensure the contractor's management system meets applicable OEMS requirements.

8.3.8 Incident investigation and reporting

Incident investigation and reporting (IIR) expectations are to identify, report, record and investigate incidents, analyse trends, correct deficiencies, and share and adopt relevant lessons learned.

The *Incident Investigation and Reporting (II&R) Execution Manual* (Ref. 57) defines the requirements to report, classify, record, and investigate incidents and near misses, including but not limited to injury, occupational illness, environmental impact, reliability, business disruption, and community concern.

The IIR process includes these requirements:

- training for employees and contractors to recognise and report events
- internal and external notification of events
- investigating incidents at the probable level of consequence, with the rigor of investigation based upon learning opportunity and incident severity
- allocating an incident management sponsor for selected investigations
- sharing alerts, lessons learned, and bulletins
- tracking recommended actions to closure
- analysing event trends.

Events that meet the required criteria are recorded in the CAPL incident management system. The system holds records of the associated investigation results. The lessons learned from selected investigations are shared to reduce the likelihood of future comparable events.

Specific incident reporting requirements for this EP are detailed in Section 8.4.2.

8.3.9 Emergency management

CAPL's emergency management implementation strategy is described in the following sub-sections.

In addition to CAPL's overarching emergency management strategies, and with specific reference to vessel-based activities, an approved SOPEP will also be in place (in accordance with vessel class requirements) as required by MARPOL 73/78 Annex I and Marine Order 91 (Marine pollution prevention – oil). In the event of a vessel-based spill event the SOPEP will be implemented by the Vessel Master. Control measures and environmental performance standards relating to SOPEPs are described in Sections 7.13 and 7.14, and requirements have not been duplicated here.

8.3.9.1 Emergency management arrangements

The emergency management arrangements outline a systematic approach for preventing, planning, responding to, and recovering from emergency events and are intended to provide a standardised corporate management and response structure that details emergency management documentation, Emergency Response Organisation (ERO), facilities and equipment, and training and exercises.

The ERO provides a standardised management and response structure for any emergency. Personnel filling roles within this structure may include full-time professionals, but most will be part-time volunteers drawn from across the workforce.

The system used to organise CAPL's emergency management teams (EMTs) is based on the Incident Command System and provides a standardised approach to the coordination of an emergency response across all hazards, including oil spill response. This program is compatible with the Australasian Inter-service Incident Management System, and the *National Plan for Maritime Environmental Emergencies* (National Plan; Ref. 13) and is consistent with the core aspects presented in the International Maritime Organisation (IMO) equivalent courses.

The ERO comprises the groups listed in Table 8-8; this table also describes the major functions of teams during an emergency.

Figure 8-5 to Figure 8-7 outline the organisational chart of the On-site Response Teams (ORTs) and EMTs. The Crisis Management Teams (CMTs), which focus on the business implications of incidents and events, are further described in the *ABU Crisis Management Plan* (Ref. 46).

As the incident escalates and the workload of each function increases, it may be necessary to delegate specific roles to additional people within each section. These roles may lead a team of people to fulfil the tasks under their control.

To establish emergency response arrangements that can be scaled up or down depending on the nature of the incident by integrating with other local, regional, national, and industry plans and resources, CAPL has adopted a tiered approach in its response system. This tiered-response model scales the number of resources mobilised for a response, and the emergency team activated, according to the severity of the incident. This approach is consistent with the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990. The response tiers and resources that may be mobilised for an oil spill incident within CAPL are further described within the OPEP (Ref. 68).

Table 8-8: CAPL emergency management teams

Team	Description
Tier 1 (CAPL)	
On-site Response Teams (ORTs)	Trained responders at the installation who are responsible for on-scene tactical response operations during an incident. ORTs are led by an On-scene Commander (OC) who has incident control during smaller Level 1A incidents, which do not require further escalation to an emergency management team. If the Installation Emergency Management Team (IEMT) is activated, the OC will come under the direction of the Operations Section Chief (OSC).
Installation Emergency	The IEMT is led by an Incident Commander (IC) and operates out of an on-site emergency command centre.

Team	Description
Management Team (IEMT)	The IEMT may be activated to take control of Level 1B incidents and coordinate local resources and ORTs.
Perth Emergency Management Team (PEMT)	The PEMT is led by an IC and operates out of a Perth-based emergency command centre. The PEMT may be activated in a support role to assist IEMTs with the emergency response to major incidents that require coordination of further resources, personnel, and support. If required, incident control may also be transferred from the installation to the PEMT to manage the ongoing response (proactive phase) for long-duration, complex incidents such as a major oil spill. The PEMT stands up at the direction of the PEMT IC for Level 2 and 3 incidents.
CAPL Crisis Management Team (CMT)	Comprises senior CAPL executives and ensures emergency response and crisis management operations are carried out consistent with The Chevron Way, Chevron Corporation policies, and the tenets of OE. The CMT stands up at the direction of the CAPL Crisis Manager for Level 3 incidents.
Tier 2 (Regional Response)	
Chevron Corporation's Asia–Pacific Regional Response Team	An enterprise-level team able to support CAPL during the initial response (reactive phase) to a significant incident and help manage the transition to the ongoing response (proactive phase).
Tier 3 (Global Response)	
Chevron Corporation's Functional Response Teams	Enterprise-level teams with specific technical expertise in selected command staff positions and unit positions in the Planning, Logistics, and Finance sections. Team members are trained to support the management of global- and regional-level (Tier 2 and 3) incidents but are available to support any response.
Chevron Corporation's Worldwide Emergency Response Team (WWERT)	An enterprise-level team of Chevron Corporation's most highly trained and experienced personnel capable of filling incident management system command and general staff roles of a response organisation, including Deputy IC. Team members are trained to support the management of global-level (Tier 3) incidents but are available to support any response.
Chevron Corporation's Advisory and Resource Team	An enterprise-level initial assessment and support team available to advise during the initial stages of a significant event, assess incident potential, and help the local response team marshal additional resources.

8.3.9.2 Emergency management process

The *Emergency Management OE Process* (Ref. 41) is CAPL's system for emergency management. The process ensures CAPL is prepared to respond immediately and effectively to all emergencies involving contractor- or CAPL-owned or -operated assets as defined in their scope of work.

The emergency management process (Ref. 41) comprises these key elements.

- emergency scenarios, including worst case, have been identified; these scenarios are based on the findings from risk assessments of significant safety, health and environmental hazards and other sources (e.g. historical incidents)
- emergency response plans are developed and maintained to address emergency scenarios

- a reliability program is in place for inspection, testing and preventive maintenance of critical emergency response equipment and systems supporting emergency response plans
- an incident management system is in place capable of immediately and effectively managing all emergencies
- a training and exercise program, including minimum training and exercise requirements, has been developed to establish and maintain emergency response capability
- crisis management plans have been developed to address a potential crisis or significant event
- business continuity plans have been developed in conformance with the *Business Continuity Planning Corporate OE Process* (Ref. 46).

The OPEP (Ref. 68) acts as an operational document to ensure an appropriate response to the emergency events described in this EP. Smaller spills will be monitored, evaluated, and cleaned up as part of routine duties, where relevant and appropriate to the nature and scale of the spill, and will not require activation of the ORT or OPEP. Several emergency management subprocesses are outlined below that are integral to emergency preparedness and management.

8.3.9.3 Chain of command (emergency response)

A well-delineated EMT chain of command has been established for emergency response (Figure 8-5 to Figure 8-7). As incidents grow or reduce in size or complexity, command may transfer several times. Within the response structure, command may transfer between On-scene Commanders (OC) at the tactical level. For a major incident, incident command may transfer to a designated Control Agency or to the Perth EMT, if required.

Although the identity of those filling command positions may change over the course of the incident, the continuity of responsibility and accountability will be maintained. Typically, specialists for particular response options will fulfil Task Leader positions in the ORT where they will be expected to oversee a team or particular response operations.

Throughout an incident, a formal handover will be conducted whenever any command or control position is transferred from one person to another.

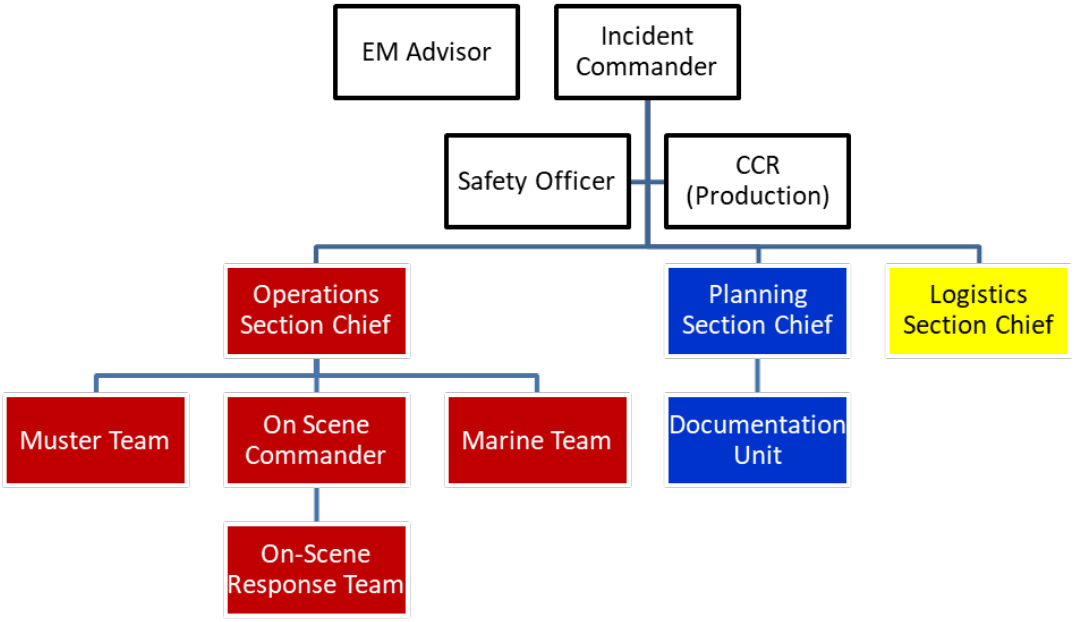


Figure 8-5: Basic installation EMT organisation chart

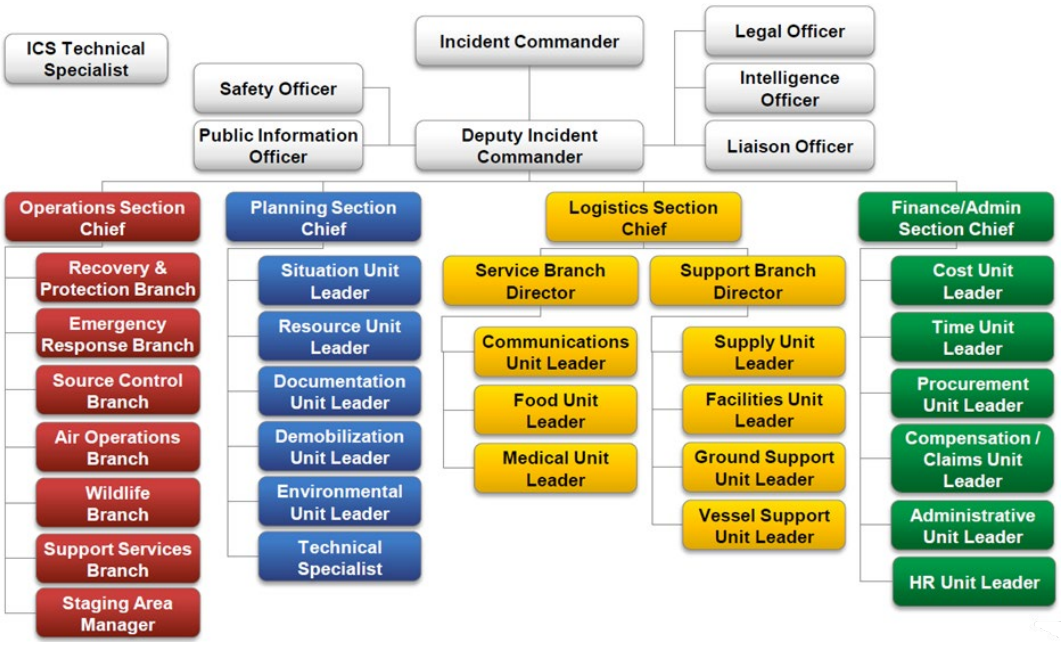


Figure 8-6: Expanded EMT organisation chart

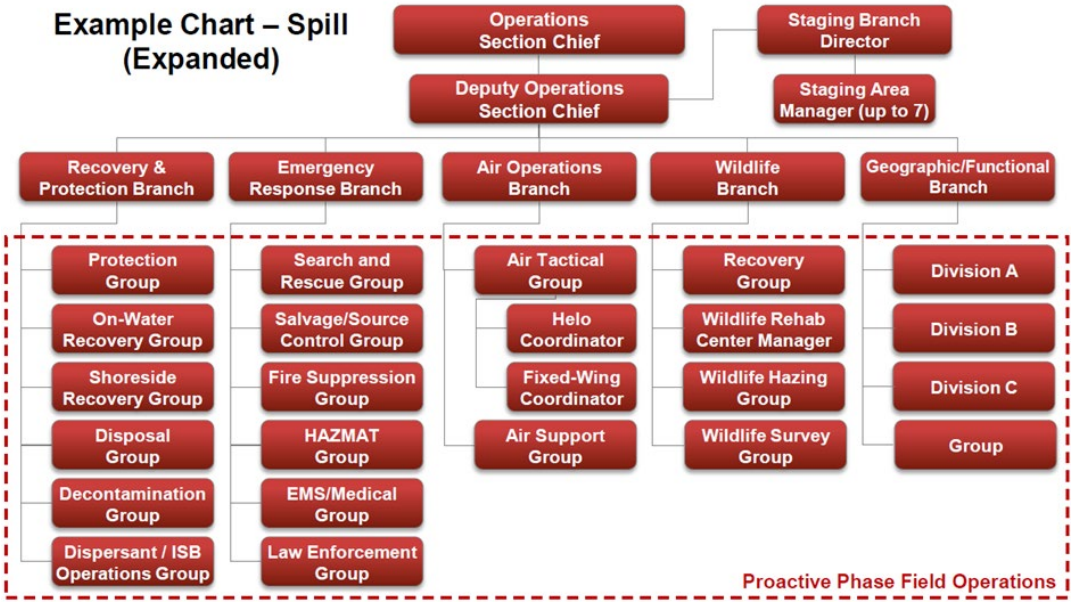


Figure 8-7: Example expanded operations Section organisation chart

8.3.9.4 Roles and responsibilities (emergency response)

Table 8-9 lists additional information about the structure of these teams and the key individual roles and responsibilities during emergency response. Not all roles presented in Figure 8-5 to Figure 8-7 are described; these are presented as examples only and the final structure of the EMT would be shaped by the specific requirements of the incident. Further information on all Chevron EMT roles are provided in the ABU Emergency Response Plan (Ref. 41).

Table 8-9: Key roles and responsibilities—emergency response

Role	Responsibilities
On-Site Response Team	
On-Scene Commander (OC) *(Vessel Master)*	• Safely and effectively organises and manages the ORT response operations • Keeps the EMT informed regarding the nature and status of the incident and on-site tactical response operations.
Site Safety Officer	• Ensures that appropriate actions are taken to protect the safety and health of ORT response personnel.
Task Leader	• Safely carries out their assignment consistent with directions received from the OC, branch director, division, or group supervisor.
Emergency Management Team	
Incident Commander (IC)	• Manages the overall emergency response operations and ensures that they are carried out safely, effectively, and efficiently • Establishes direct line of communications with the OC • Mobilises the EMT and assigns additional support from other response teams (as appropriate to the incident) for Level 2 and 3 incidents that require support beyond the ORT.
Operations Section Chief (OSC)	• Provides strategic direction and support to the OC and muster and/or shelter area managers • Receives information regarding the nature and status of the ORT and provides support for mustering and/or shelter-in-place operations • Disseminates information to the IC and other members of the EMT.
Planning Section Chief	• Focuses on the incident's potential using the compilation and display of information regarding the nature and status of an incident and emergency response operations • Assists the IC in defining strategic objectives • Assists the IC in providing information to the Level 3 EMT • Compiles and retains documentation.
Logistics Section Chief	• Obtains personnel, equipment, materials, and supplies needed to mount and sustain emergency response operations • Provides services necessary to ensure that emergency response operations are carried out safely and efficiently.

8.3.9.5 Training and competency (emergency response)

Competencies and training requirements for the EMT, ORT, and other personnel during implementation of the OPEP (Ref. 68) are detailed in Appendix G of the OPEP in the *Emergency Management ABU Training and Exercise Program Procedure* (Ref. 69). Competency and training records for personnel, including contractors and subcontractors, are maintained and available via live Oil Spill Response and Emergency Management readiness dashboards.

Training and course information, including frequency and content, are also described in the *Chevron Emergency Management ABU Training and Exercise Program Procedure* (Ref. 69). Training is delivered via a mix of computer-based training or face-to-face, depending on the particular course, and all EMT positions have minimum training and competency requirements identified.

Oil spill response management training has been designed to align with the knowledge requirements outlined in the Australian Energy Producers (AEP) *Guidance Document: Incident Management Teams – Knowledge Requirements*

for Responding to Marine Oil Spills (Ref. 15), specifically the general knowledge requirements for all EMT members and the EMT function specific knowledge requirements.

Specific details on the oil spill training packages, including their content and alignment with the AEP guidance, and role specific training requirements can be found in the Chevron *Emergency Management ABU Training and Exercise Program Procedure* (Ref. 69).

8.3.9.6 Oil spill response resourcing and capability

CAPL has multiple EMT resourcing arrangements in place to respond to a potential worst case discharge scenario including internal ABU EMT capacity (inclusive of Source Control Section), Regional and Global CAPL support teams and functional groups, Oil Spill Response Organisations (OSROs) and industry mutual aid agreements.

Appendix F of the ABU Consolidated OPEP (Ref. 68) outlines CAPL's EMT Resourcing Assessment Plan for an Oil Spill Incident and evaluates EMT capability requirements. It quantifies and justifies the core and support EMT capability requirements required for a generalised loss of well control oil spill scenario (based on 13 weeks) and summarises the assumptions used to develop the EMT capability needs assessment (such as allowances for redundancy, rostering, shift coverage and rotation).

The PEMT Oil Spill Response Resource Assessment Tool (Ref. 66) provides a real time assessment of resources available to CAPL to fill the core and support positions identified in the EMT Resourcing Assessment Plan for an Oil Spill Incident (Appendix F in the ABU Consolidated OPEP [Ref. 68]). Using activity-specific worst-case spill scenarios (such as the MDO and condensate scenarios described in this EP), the tool can demonstrate that sufficient capability is in place.

The PEMT Oil Spill Response Resource Assessment Tool (Ref. 66) quantifies the core and support EMT capability requirements specific to the worst credible scenario described in this EP and demonstrates that at the time of writing, CAPL maintains access to personnel to fill these roles (based on information contained within the PEMT Oil Spill Response Resource Assessment Tool (Ref. 66).

8.3.9.6.1 CAPL ABU resources

CAPL maintains a PEMT with a 24/7 call out roster available to be stood up at any time if required. This includes 13 on-call positions sourced from a pool of trained personnel. Each on-call PEMT member must be within 1 hour of the Perth office at all times, and the PEMT duty roster enables the formation of the PEMT within 2 hours of notification. Further information on the PEMT is contained in the ABU Emergency Response Plan (Ref. 41).

Current numbers of qualified EMT personnel, including those trained in accordance with the training requirements outlined in the *Chevron Emergency Management ABU Training and Exercise Program Procedure* (Ref. 69), are reflected in the PEMT Oil Spill Response Resource Assessment Tool (Ref. 66). In addition, CAPL currently has 'all hazards' personnel, and this capability would be able to be inducted/trained in the oil spill response functions before entering the EMT (as outlined in *Chevron Emergency Management ABU Training and Exercise Program Procedure* [Ref. 69]), as the response transitions from a rapidly evolving reactive response phase to a more proactive, steady-state, project phase response.

8.3.9.6.2 CAPL regional and worldwide global teams

As per the Chevron Corporate *Emergency ABU Response Teams and Resources Procedure* (Ref. 40) the Chevron Centre for Emergency Preparedness and Response maintains a global mutual-aid capability, available on a 24/7 basis to quickly and effectively provide enterprise-wide support for major incidents and events. This capability shall include pre-identified, trained, and fit-for-duty response teams capable of filling Incident Management System positions, access to industry owned response cooperatives, and access to internal experts and key external vendors. It includes the following services.

The Advisory and Resource Team (ART)

The ART is an initial assessment and support team available to provide advice during the initial stages of an event, to assess incident potential, assist the local response team in marshalling additional resources, and to keep corporate management briefed on the situation or incident. The ART is comprised of a management representative from the impacted operating company, a representative of Chevron Centre for Emergency Preparedness and Response, plus a subject matter expert in each of the following areas: public affairs, environmental, safety, and law. The ART team is available via conference call within 2 hours (or less) of notification, and may also mobilise to the incident site to continue with the assessment and provide assistance to the incident management team.

Worldwide Emergency Response Team (WWERT)

The WWERT is a team of Chevron's most highly trained and experienced personnel capable of filling Incident Management System Command and General Staff roles of a response organisation, including Deputy Incident Commander. WWERT members are trained to support the management of global-level (Tier 3) incidents but are available to support any response. Team members are subject matter experts in emergency management and in developing incident action plans.

Functional Teams

There are 13 Functional response teams with specific technical expertise in selected Command Staff positions (safety officer, legal officer) and unit positions in the Planning, Logistics and Finance sections. Functional team members are trained to support management of global and regional level (Tier 2 and 3) incidents but are available to support any response.

Regional Response Teams (RRT)

There are 2 corporate RRTs: Europe/Africa/Middle East; and Asia-Pacific. The RRTs are Regional level (Tier 2) response teams trained to support the initial response (reactive phase) of a significant incident within their respective regions and assist in managing the transition to the ongoing response (proactive phase). The RRTs include personnel capable of filling positions including the Deputy Incident Commander, and Section Chiefs for the Operations, Planning, and Logistics Sections, and specialist to fill the Safety, Documentation, and Public Affairs/Liaison positions.

8.3.9.6.3 Oil spill response organisation arrangements

CAPL maintains contractual arrangements with oil spill response organisations (OSROs), which include providing technical specialists to supplement the CAPL EMT, as detailed in the OPEP (Ref. 68).

Australian Marine Oil Spill Centre (AMOSC)

CAPL is a participating company in AMOSC. This arrangement provides CAPL with access to the AMOSC personnel and the AMOSC Core-Group, under AMOSPlan.

The AMOSC Core-Group is an Australian industry initiative that was initially crafted in 1992. It is unique within the international context and is noted for being innovative and effective to rapidly expand and surge well trained personnel into a spill response. The AMOSC Core-Group has attended most Australian-based spills and also several offshore spills.

The AMOSC Core-Group averages around 100 personnel at any one time (subject to fluctuations), with expertise split between the incident management team and field based personnel.

AMOSC Core Group policy requires all Core-Group personnel to undertake initial training, followed by competency revalidation/training every 2 years. Typically, AMOSC manage the Core-Group revalidation/training by conducting 3 one-week Core-Group training/workshops per year. AMOSC coordinates the routine testing, monitoring and monthly reporting of Core-Group personnel availability.

Oil Spill Response Limited Centre (OSRL)

CAPL is a Participant member with OSRL, which guarantees access to Tier 3 technical advice, resources and expertise 365 days a year on a 24-hours a day basis. OSRL have capacity to mobilise additional equipment and personnel to ABU from their global bases. Anyone within the ABU PEMT can notify OSRL of an incident, however only the nominated CAPL personnel may request the assistance of OSRL using the Mobilisation Form, as per the Service Level Agreement.

The OSRL service level statements provides for:

- 24/7 call-out arrangements
- guaranteed initial response from OSRL of 5 technical support personnel (EMT or field personnel) for 5 days
- surge to guaranteed 18 OSRL personnel, upon request from the CAPL EMT
- depending on size/complexity, OSRL maintain 80 response team personnel globally, who are potentially able to be provided to support an ongoing Level 3 event, on a best-endeavours basis.

OSRL service level statement defines the types of services provided by the 18-person surge capability as:

- technical advice and incident management coaching within the command centre
- developing an Incident Management Plan
- Tier 1 / 2 equipment readiness and contractor training
- in-country logistics planning and support for inbound equipment
- impact assessment and advice on response strategy selection
- Shoreline Clean-up Assessment Technique and aerial surveillance / quantification surveys
- tactical response planning.

8.3.9.7 Oil spill exercise schedule

The CAPL *Emergency Management 5 Year Training and Exercise Schedule* (Ref. 62) describes the schedule of training and exercise required for all emergency events. The training and exercise program incorporates CAPL's oil spill exercise schedule for oil spill training, drills, and exercises. As CAPL'S response arrangements are common among its assets, and resource capabilities are shared, the testing and exercise schedule has been developed to test the various response options. The focus changes for each exercise to ensure any unique aspects of that location (e.g. resources at risk, first-strike equipment) are tested.

The objective is to test and maintain the capability to respond to emergency events. The exercises aim to test:

- notification, activation, and mobilisation of the ORT and EMT
- efficiency and effectiveness of equipment deployment
- efficiency and effectiveness of communication systems.

The testing schedule is a live document that is subject to change. The *Emergency Management 5 Year Training and Exercise Schedule* (Ref. 62) outlines the proposed testing arrangements to be completed, including the exercise types (Table 8-10) and proposed level of response to be tested (Table 8-11) that may be used to meet the defined objectives. A minimum of one test for each level will be conducted each year.

Table 8-10: Exercise types

Type	Details
Notification exercise	• Tests the procedures to notify and activate the EMTs, support organisations, and regulators
Tabletop exercise	• Normally involves interactive discussions of a simulated scenario amongst members of an EMT; personnel or equipment are not mobilised
Drill	• Conducts field activities such as equipment deployment, shoreline assessment, monitoring etc.
Functional exercise	• Activates at least one EMT to establish command, control, and coordination of a serious emergency event • Often more complex as it simulates several different aspects of an oil spill incident and may involve third parties.

Table 8-11: Exercise levels

Level	Details
Level 1 – ORT	• At least two ORT exercises held per year • May be held in conjunction with a Level 2 EMT exercise • Designed to evaluate the ability of ORTs to implement the Gorgon Emergency Management System as it applies to ORTs • ORTs are encouraged to conduct as many exercises as they want each year that do not include the Emergency Response Team or a Level 2 EMT
Level 2 – EMT	• Exercises may include the participation of an ORT and may be held in conjunction with a Level 3 EMT exercise • Usual duration – one to two hours • Designed to evaluate a Level 2 EMT's ability to notify and activate team members, set up a Level 2 EMT emergency command centre, and implement the Gorgon Emergency Management System as it applies to Level 2 EMTs
Level 3 – EMT	• Each exercise may include the participation of a Level 2 EMT and/or ORT • Usual duration – three to six hours • Designed to evaluate the EMT's ability to notify and activate team members, transfer command to a Level 3 EMT Emergency Command Centre and implement the Gorgon Emergency Management System as it applies to incident escalation
Oiled Wildlife	Exercises may include the participation of an ORT and may be held in conjunction with a Level 3 EMT exercise • Usual duration – 3–6 hours • Designed to evaluate the Oiled Wildlife Branch's ability to notify and activate OWR teams and implement a response in line with ABU and DBCA oiled wildlife plans and manuals.
Operational and Scientific Monitoring (OSMP)	• Exercises may be held in conjunction with a Level 3 EMT exercise, or conducted as a standalone exercise • Usual duration – 3–6 hours • Designed to evaluate the EMT's ability to notify and activate OSMP team members and external service providers, and test the arrangements and capability in place for operational and scientific monitoring.

The training and exercise program outlines the process for evaluating training, drills, and exercises against defined objectives, and incorporating lessons learned. An after-action report is generated for all Level 2 (and above) exercises, which is used during spill exercises to assess the effectiveness of the exercise against its objectives and to record recommendations. Relevant actions are then assigned to the responsible party where they are tracked to completion using internal processes. Exercise planners will be required to refer to previous recommendations for continual review and improvement.

Response arrangements as detailed in the OPEP (Ref. 68) must be tested:

- when they are introduced
- when they are significantly amended
- not later than 12 months after the most recent test
- if a new location for the activity is added to this EP after the response arrangements have been tested, and before the next test is conducted: test the response arrangements in relation to the new location as soon as practicable after it is added to this EP.

8.4 Environmental monitoring and reporting

8.4.1 Environmental monitoring

Regulation 22(6) of OPGGS(E)R requires that the implementation strategy provides for sufficient monitoring of, and maintaining a quantitative record of, emissions and discharges such that this record can be used to assess whether the environmental performance outcomes and standards in the EP are being met.

CAPL and contractors will monitor and record emissions and discharges as detailed in Section 7 to ensure that that this record can be used to assess whether the environmental performance outcomes and standards in this EP are being met.

If an emergency condition resulting in a Level 2 or 3 spill event occurs, CAPL will implement the OSMP (Ref. 65), which is identified as a control measure in Section 7.14 and 7.16. The OSMP describes a program of monitoring, and is the principal tool for determining the extent, severity, and persistence of environmental impacts from an emergency condition and the emergency response activities to be undertaken by CAPL.

8.4.1.1 Marine fauna sighting records

A cetacean sighting report, based on the marine fauna observations undertaken from vessels (as detailed in Section 7), will be prepared.

8.4.2 Incident reporting

Environmental incidents will be reported by CAPL in accordance with Table 8-12.

Table 8-12: Incident reporting

Recordable Incident reporting – Regulation 50	
Legislative definition of 'recordable incident': 'Recordable incident, for an activity, means a breach of an environmental performance outcome or environmental performance standard, in the environment plan that applies to the activity, that is not a reportable incident' Recordable incidents are breaches of the environmental performance outcomes and standards described in Section 5.8.	
Reporting requirements	**Report to/Timing**
Written notification to NOPSEMA by the 15th of each month As a minimum, the written incident report must describe: • the incidents and all material facts and circumstances concerning the incidents • any actions taken to avoid or mitigate any adverse environmental impacts • any corrective actions already taken, or that may be taken, to prevent a repeat of similar incidents. If no recordable incidents occur during the reporting month, a 'nil report' will be submitted.	Submit written report to NOPSEMA by the 15th of each month

Reportable Incident reporting – Regulations 47, 48 and 49	
Legislative definition of 'reportable incident': '*Reportable incident, for an activity means an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage*.' Therefore, in alignment with Chevron Corporation's Integrated Risk Prioritization Matrix (Table 5-1), 'reportable incidents' under this EP include those events (not planned activities) that have been risk assessed within Section 7 as having a consequence level between Moderate (4) and Catastrophic (1). In accordance with this definition, the reportable incidents with the potential to cause moderate to significant environmental damage identified under this EP are: • introduction of an IMP (Section 7.8) • unplanned release from a vessel collision event (Section 7.14) • unplanned release from a hydrocarbon system event (Section 7.15) Incident reporting is assessed on a case-by-case basis to determine if they trigger a reportable incident as defined by the OPGGS(E)R and this EP. Other incidents that may be considered reportable incidents include: • death or injury to individual(s) from an EPBC Act listed species.	
Reporting requirements	**Report to**
Verbal or written notification must be undertaken within two hours of the incident or as soon as practicable. This information is required: • the incident and all material facts and circumstances known at the time • any actions taken to avoid or mitigate any adverse environmental impacts.	Report verbally to NOPSEMA within two hours or as soon as practicable and provide written record of notification by email. Phone: 1300 674 472 In Australia: 08 6188 8990 From overseas: +61 8 6188 8990 Email: submissions@nopsema.gov.au
Verbal notifications must be followed by a written report as soon as practicable, and not later than three days following the incident. At a minimum, the written incident report will include: • the incident and all material facts and circumstances • actions taken to avoid or mitigate any adverse environmental impacts • any corrective actions already taken, or that may be taken, to prevent a recurrence. If the initial notification of the reportable incident was verbal, this information must be included in the written report.	Written report to be provided to: • NOPSEMA: submissions@nopsema.gov.au • National Offshore Petroleum Titles Authority: info@nopta.gov.au • DEMIRS: petroleum.environment@demirs.wa.gov.au
Additional Reporting Requirements	
Reporting requirements	**Report to**
An oil/gas pollution incident that occurs within a marine park or is likely to impact on a marine park. The notification should include: • titleholder details • time and location of the incident (including name of marine park likely to be affected) • proposed response arrangements as per the OPEP (e.g. dispersant, containment, etc.)	Report verbally to the DNP (24-hour) Marine Duty Officer as soon as practicable, and also provide a follow-up email. Phone: 0419 293 465 Email: marine.compliance@environment.gov.au

• confirmation of providing access to relevant monitoring and evaluation reports when available • contact details for the response coordinator.	
Death or injury to individual(s) from an EPBC Act Listed Species as a result of the petroleum activities	Report injury to or death of EPBC Act Listed Threatened or Migratory species within 7 business days of observation to DCCEEW or equivalent: • Phone: +61 2 6274 1111 • Email: EPBC.Permits@environment.gov.au
Vessel collision with marine mammals (whales)	Reported as soon as practicable. https://data.marinemammals.gov.au/report/shipstrike
Presence of any suspected IMP or disease within 24 hours	DPIRD: • Email: biosecurity@fish.wa.gov.au • Phone: FishWatch 24-hour hotline: 1800 815 507
Unplanned release that is likely to impact land or water within Western Australian State jurisdiction	Reported as soon as practicable. petroleum.environment@demirs.wa.gov.au
	Report verbally to the DoT MEER Duty Officer within two hours, and also provide a follow-up email with a pollution report (POLREP) attached. Phone: 08 9480 9924 Email: Report verbally to the DNP (24-hour) Marine Compliance Duty Officer as soon as practicable, and also provide a follow-up email. Phone: 0419 293 465 Email: marine.compliance@environment.gov.au.

8.4.3 Routine environmental reporting

Regulation 51 of the OPGGS(E)R requires environmental performance reporting for the activity described in this EP, as summarised in Table 8-13. Routine notifications required by regulation 54 of the OPGGS(E)R, and additional notifications as required by other legislation or guidelines, are included in Table 8-13.

Table 8-13: Routine external reporting or notification requirements

Reporting requirement	Description	Reporting to	Timing
Environmental performance reporting – Regulation 51			
Environmental performance reporting	A report detailing environmental performance of the activity detailed in this EP	NOPSEMA submissions@nopsema.gov.au Phone: 1300 674 472 In Australia: 08 6188 8990 From overseas: +61 8 6188 8990	Within 3 months of completion of activities
Notification of start and end of activity – Regulation 54			
Notification of start of activity	CAPL must complete Form FM1405 and submit to NOPSEMA at least 10 days	NOPSEMA submissions@nopsema.gov.au or:	Once before activity commences

Reporting requirement	Description	Reporting to	Timing
	before activity commencement	https://securefile.nopsema.gov.au/filedrop/submissions	
Notification of conclusion of activity	CAPL must complete Form FM1405 and submit to NOPSEMA within 10 days of activity completion	NOPSEMA submissions@nopsema.gov.au or: https://securefile.nopsema.gov.au/filedrop/submissions	Once following completion of activity
Additional notification requirements			
Notification of start of activity	CAPL will provide DEMIRS a pre-start notification confirming the start date of the proposed activity	DEMIRS: Petroleum.environment@demirs.wa.gov.au	Notification of start of activity
Notification of conclusion of activity	CAPL must notify DEMIRS following completion of the activity	DEMIRS: Petroleum.environment@demirs.wa.gov.au	Once within 1 week of completing the activity
Discovery of certain UCH	In accordance with Section 40 of the UCH Act, CAPL must provide written notification setting out: • a description of the article • a description of the place where the article is situated that is sufficient to enable the article to be located.	Electronic form available via the Australasian Underwater Cultural Heritage Database: http://www.environment.gov.au/shipwreck/public/forms/notification.do;jsessionid=08546DC0F8BB76EEA72FCE054D9139F1?mode=add	Within 21 days of the discovery

8.5 Environment Plan review

If required, any revisions and/or resubmission of this EP to NOPSEMA, in accordance with Division 5 of the OPGGS(E)R, will be undertaken in accordance with the OEMS, and particularly the MoC process (Section 8.3.2.2).

9 abbreviations and definitions

Table 9-1 defines the acronyms and abbreviations used in this document.

Table 9-1: Abbreviations and definitions

Acronym/ Abbreviation	Definition
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ABU	Australian Business Unit
ACMA	Australian Communications and Media Authority
ACN	Australian Company Number
AEP	Australian Energy Producers (formerly Australian Petroleum Production and Exploration Association [APPEA]; from 13 September 2023)
AFMA	Australian Fisheries Management Authority
AHO	Australian Hydrographic Office
AIMS	Australian Institute of Marine Science
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
API	American Petroleum Index
APPEA	Australian Petroleum Production and Exploration Association
AR6	Sixth Assessment Report (AR6) of the United Nations Intergovernmental Panel on Climate Change (IPCC)
ART	The Advisory and Resource Team
AUD INJ	Auditory Injury
AUSCOAST	Australian Coastal (weather warning)
BIA	Biologically Important Area
BIAWA	Boating Industry Association Western Australia
BP	Boiling Point
BRS	Australian Government Bureau of Resource Sciences
BTAC	Buurabalayji Thalanyji Aboriginal Corporation
BTEX	Benzene, toluene, ethylbenzene and xylenes
CALM Act	*Conservation and Land Management Act 1984* (WA)
CAPL	Chevron Australia Pty Ltd
CDU	Central Distribution Unit
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CHARM	Chemical Hazard Assessment and Risk Management
CMT	Crisis Management Team
CO_2	Carbon dioxide

Acronym/ Abbreviation	Definition
COLREGS	Convention on the International Regulations for Preventing Collisions at Sea
COP	Concurrent Operations Plan
CoW	Control of Work
cP	Centipoise
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cth	Commonwealth
DAFF	Commonwealth Department of Agriculture, Fisheries and Forestry
DAWE	Commonwealth Department of Agriculture, Water and the Environment (now denominated Department of Climate Change, Energy, the Environment and Water)
dB re 1 µPa	Decibels relative to one micropascal; the unit used to measure the intensity of an underwater sound
DBCA	Western Australia Department of Biodiversity, Conservation and Attractions
DCCEEW	Commonwealth Department of Agriculture, Climate Change, Energy, the Environment and Water
DEMIRS	Western Australian Department of Energy, Mines, Industry Regulation and Safety (previously DMIRS)
DMIRS	Western Australian Department of Mines, Industry Regulation and Safety
DNP	Director of National Parks
DoT	Western Australian Department of Transport
DP	Dynamic positioning
DPIRD	Western Australian Department of Primary Industries and Regional Development
DWER	Western Australian Department of Water and Environment
EARS	Environmental Assessment and Regulatory System
EEZ	Exclusive economic zone
EFL	Electrical flying lead
EJB	Electrical junction box
EMBA	Environment That May Be Affected
EMF	Electromagnetic field
EMT	Emergency Management Team
ENGO	Environmental non–government organisation
EOFL	End of facility life
EP	Environment Plan
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
$ER_{95\%}$	Exposure Range
ERO	Emergency Response Organisation
ESD	Ecologically Sustainable Development

Acronym/ Abbreviation	Definition
Feed Gas Pipeline	Pipeline system from the offshore gas wells to the Gas Treatment Plant
g	Grams
g/m^2	Grams per square metre
GFP	Gorgon Foundation Project
GHG	Greenhouse gas
GIS	Geographic Information System
GS2	Gorgon Stage 2
h	Hour
HB	Handbook
HCTS	Habitat critical to the survival
HFO	Heavy Fuel Oil
HSE	Health, Safety and Environment
HVSC	High voltage submarine cable
HWM	High water mark
Hz	Hertz
IAATO	International Association of Antarctica Tour Operators
IAPP	International Air Pollution Prevention
IBRA	Interim Biogeographic Regionalisation for Australia
IC	Incident Commander
IEE	International energy efficiency
IEMT	Installation Emergency Management Team
IFO	Intermediate Fuel Oil
IIR	Incident investigation and reporting
IMCRA	Integrated Marine and Coastal Regionalisation of Australia
IMO	International Maritime Organisation
IMP	Invasive marine pests
IMR	Inspection, maintenance, and repair
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardisation
ITOPF	International Tanker Owners Pollution Federation Limited
IUCN	International Union for Conservation of Nature
J–IC	Jansz–Io Compression
JRCC	Joint Resource Coordination Centre
KEF	Key ecological feature
kg	Kilogram
km	Kilometre

Acronym/ Abbreviation	Definition
KP	Kilometre point
kV	kilovolt
LAT	Lowest astronomical tide
LBL	long baseline
LC_{50}	Lethal Concentration with the potential to result in a 50% mortality of a sample population
LGM	Last glacial maximum
LOC	Loss of containment
m	Metre
m^2	Square metre
m^3	Cubic metre
MARPOL	The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978; also known as MARPOL 73/78.
MARS	Maritime Arrivals Reporting System
MCH	Mardathoonera Cultural Heritage Pty Ltd
MDO	Marine Diesel Oil
MEER	Maritime Environmental Emergency Response
MEPC	Marine Environment Protection Committee
MES	Monitoring, Evaluation, and Surveillance
MFO	Marine Fauna Observer
MMA	Marine Management Area
MMA	Marine Management Area
MNES	Matters of National Environmental Significance
MoC	Management of Change
MoU	Memorandum of Understanding (MoU)
MSC	Management System Cycle
N/A	Not Applicable
NEBA	Net Environmental Benefit Analysis
NEPM AAQ	National Environment Protection (Ambient Air Quality) Measure
nm	Nautical Mile
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOPSEMA	National Offshore Petroleum Safety and Environment Management Authority
NOPTA	National Offshore Petroleum Titles Administrator
No_x	Nitrogen oxides
NTGAC	Nganhurra Thanardi Garrbu Aboriginal Corporation
NTRB	Native Title Representative Body
NWMR	North-west Marine Region

Acronym/ Abbreviation	Definition
NWS	North West Shelf
NWSTF	North West Slope Trawl Fishery
OA	Operational Area
OC	On-Scene Commander
OCNS	Offshore Chemical Notification Scheme
OD	Outer diameter
OE	Operational Excellence
OEMS	Operational Excellence Management System
OFL	Optical flying leads
OGUK	Oil and Gas UK
OPEP	Oil Pollution Emergency Plan
OPGGS Act	Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006*
OPGGS(E)R	Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
ORT	On-site Response Team
OSC	Operations Section Chief
OSMP	Operational and Scientific Monitoring Plan
OSRL	Oil Spill Response Limited Centre
OSRO	Oil spill response organisation
OVIS	Offshore Vessel Information System
OWR	Oiled wildlife response
PAH	Polycylic aromatic hydrocarbon
PASM	Planning Area for Scientific Monitoring
PBC	Prescribed Bodies Corporate
PCDM	Power communications distribution module
PEMT	Perth Emergency Management Team
PFHxS	Perfluorohexane sulfonate
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PM_{10}	Particular matter in the air with a diameter of 10 µm or less
PMST	Protected Matters Search Tool
Ppb	Parts per billion
Ppm	Parts per million
PPP	Protection Prioritisation Process
PTS	Permanent threshold shift
RAAF	Royal Australian Air Force
RNTBC	Registered Native Title Body Corporate

Acronym/ Abbreviation	Definition
ROV	Remotely operated vehicle
RRT	Regional Response Teams
SEEMP	Ship Energy Efficiency Management Plan
SEL	Sound exposure level
SHC	Shoreline Clean-up
SIMAP	Spill Impact Mapping and Analysis Program
SIMOPS	Simultaneous operations
SOPEP	Ship Oil Pollution Emergency Plan
SO_x	Sulfur oxides
SPD	Shoreline Protection and Deflection
SPL	Sound pressure level
STCW95	Standards of Training Certification and Watch Keeping for Seafarers
T	Gross tonnes
TEC	Threatened ecological community
TRH	Total recoverable hydrocarbon
TTS	Temporary threshold shift
UCH	Underwater Cultural Heritage
UCH Act	*Underwater Cultural Heritage Act 2018* (Cth)
UCH Procedure	Underwater Cultural Heritage Discovery Procedure
UK	United Kingdom
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
USBL	Ultra–short baseline
UTA	Umbilical termination assembly
VOCs	Volatile organic compounds
WA	Western Australia
WAC	Wirrawandi Aboriginal Corporation
WWERT	Worldwide Emergency Response Team

10 references

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appendix a operational excellence—policy 530

policy 530

operational excellence: achieving world-class performance

It is the policy of Chevron Corporation to protect the safety and health of people and the environment, and to conduct our operations reliably and efficiently. The Operational Excellence Management System (OEMS) is the way Chevron systematically manages workforce safety and health, process safety, reliability and integrity, environment, efficiency, security, and stakeholder engagement and issues. OEMS puts into action our Chevron Way value of Protecting People and the Environment, which places the highest priority on the safety and health of our workforce and the protection of communities, the environment and our assets. Compliance with the law is a foundation for the OEMS.

Our OEMS is a risk-based system used to understand and mitigate risks and maintain and assure safeguards. OEMS consists of three parts:

leadership and OE culture

Leadership is the largest single factor for success in OE. Leaders are accountable not only for achieving results, but achieving them in the right way. Leaders must demonstrate consistent and rigorous application of OE to drive performance and meet OE objectives.

focus areas and OE expectations

Chevron manages risks to our employees, contractors, the communities where we operate, the environment and our assets through focus areas and OE expectations that guide the design, management and assurance of safeguards.

management system cycle

Chevron takes a systematic approach to set and align objectives; identify, prioritize and close gaps; strengthen safeguards and improve OE results.

We will assess and take steps to manage OE risks within the following framework of focus areas and OE expectations:

Workforce Safety and Health: We provide a safe and healthy workplace for our employees and contractors. Our highest priorities are to eliminate fatalities and prevent serious injuries and illnesses.

Process Safety, Reliability and Integrity: We manage the integrity of operating systems through design principles and engineering and operating practices to prevent and mitigate process safety incidents. We execute reliability programs so that equipment, components and systems perform their required functions across the full asset lifecycle.

Environment: We protect the environment through responsible design, development, operations and asset retirement.

Efficiency: We use energy and resources efficiently to continually improve and drive value.

Security: We protect personnel, facilities, information, systems, business operations and our reputation. We proactively identify security risks, develop personnel and sustainable programs to mitigate those risks, and continually evaluate the effectiveness of these efforts.

Stakeholders: We engage stakeholders to foster trust, build relationships, and promote two-way dialogue to manage potential impacts and create business opportunities. We work with our stakeholders in a socially responsible and ethical manner, consistent with our respect for human rights, to create a safer, more inclusive business environment. We also work with our partners to responsibly manage Chevron's non-operated joint venture partnerships and third-party aviation and marine activities.

There are specific OE expectations which need to be met under each focus area. Additional expectations apply to all focus areas and address legal, regulatory and OE compliance; risk management; assurance; competency; learning; human performance; technology; product stewardship; contractor OE management; incident investigation and reporting; and emergency management.

Through disciplined application of the OEMS, we integrate OE processes, standards, procedures and behaviours into our daily operations. While leaders are responsible for managing the OEMS and enabling OE performance, every individual in Chevron's workforce is accountable for complying with the principles of 'Do it safely or not at all' and 'There is always time to do it right'.

Line management has the primary responsibility for complying with this policy and applicable legal requirements within their respective functions and authority limits. Line management will communicate this policy to their respective employees and will establish policies, processes, programs and standards consistent with expectations of the OEMS.

Employees are responsible for understanding the risks that they manage and the safeguards that need to be in place to mitigate those risks. Employees are responsible for taking action consistent with all Company policies, and laws applicable to their assigned duties and responsibilities. Accordingly, employees who are unsure of the legal or regulatory implications of their actions are responsible for seeking management or supervisory guidance.

Mark Hatfield
Managing Director, Australasia Business Unit

the human energy company™

appendix b protected matters search reports

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 21-Feb-2025

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	2
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	24
Listed Migratory Species:	40

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	63
Whales and Other Cetaceans:	29
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	1

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	34
Key Ecological Features (Marine):	2
Biologically Important Areas:	6
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area [Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Phaethon rubricauda westralis](#) Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat may occur within area
[Sternula nereis nereis](#) Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
MAMMAL		
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Migration route known to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat may occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Scientific Name	Threatened Category	Presence Text
SHARK		
Carcharias taurus (west coast population)		
Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Pristis clavata		
Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini		
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species	[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus		
Common Noddy [825]		Species or species habitat may occur within area
Calonectris leucomelas		
Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel		
Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Macronectes giganteus		
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Phaethon lepturus		
White-tailed Tropicbird [1014]		Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata		
Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera bonaerensis		
Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis		
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni		
Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus		
Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus		
Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus		
Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
Carcharias taurus		
Grey Nurse Shark [64469]		Species or species habitat likely to occur within area
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Scientific Name	Threatened Category	Presence Text
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Fish		
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Choeroichthys latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Reptile		
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat may occur within area
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
Ephalophis greyae as Ephalophis greyi Mangrove Sea Snake [93738]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Hydrophis czeblukovi Fine-spined Sea Snake [59233]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Whales and Other Cetaceans [Resource Information]

Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
[Physeter macrocephalus](#) Sperm Whale [59]		Species or species habitat may occur within area
[Pseudorca crassidens](#) False Killer Whale [48]		Species or species habitat likely to occur within area
[Sousa sahulensis](#) Australian Humpback Dolphin [87942]		Species or species habitat may occur within area
[Stenella attenuata](#) Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
[Stenella coeruleoalba](#) Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
[Stenella longirostris](#) Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
[Steno bredanensis](#) Rough-toothed Dolphin [30]		Species or species habitat may occur within area
[Tursiops aduncus](#) Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat may occur within area
[Tursiops aduncus (Arafura/Timor Sea populations)](#) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
[Tursiops truncatus s. str.](#) Bottlenose Dolphin [68417]		Species or species habitat may occur within area
[Ziphius cavirostris](#) Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
All year (Jun - Aug)		
Natator depressus		
Flatback Turtle [59257]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081		Completed
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260		Completed
Gorgon Gas Development	2003/1294		Post-Approval
Project Highclere Cable Lay and Operation	2022/09203		Completed
Controlled action			
Construct and operate LNG & domestic gas plant including onshore and offshore facilities - Wheatston	2008/4469	Controlled Action	Post-Approval
Develop Jansz-Io deepwater gas field in Permit Areas WA-18-R, WA-25-R and WA-26-	2005/2184	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval
Pluto Gas Project	2005/2258	Controlled Action	Completed
Not controlled action			
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703	Not Controlled Action	Completed
Development of Halyard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Jansz-2 and 3 Appraisal Wells	2002/754	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Not controlled action (particular manner)			
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
Aperio 3D Marine Seismic Survey, WA	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
CGGVERITAS 2010 2D Seismic Survey	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
Drilling 35-40 offshore exploration wells in deep water	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Harmony 3D Marine Seismic Survey	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
John Ross & Rosella Off Bottom Cable Seismic Exploration Program	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
Munmorah 2D seismic survey within permits WA-308/9-P	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
Orcus 3D Marine Seismic Survey in WA-450-P	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
Osprey and Dionysus Marine Seismic Survey	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
Warramunga Non-Inclusive 3D Seismic Survey	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
West Anchor 3D Marine Seismic Survey	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed

Key Ecological Features [Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Continental Slope Demersal Fish Communities	North-west

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence
Marine Turtles		
Natator depressus		
Flatback Turtle [59257]	Internesting buffer	Known to occur
Seabirds		
Ardenna pacifica		
Wedge-tailed Shearwater [84292]	Breeding	Known to occur
Sharks		
Rhincodon typus		
Whale Shark [66680]	Foraging	Known to occur
Whales		
Balaenoptera musculus brevicauda		
Pygmy Blue Whale [81317]	Distribution	Known to occur
Balaenoptera musculus brevicauda		
Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae		
Humpback Whale [38]	Migration (north and south)	Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 16-Apr-2025

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	2
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	26
Listed Migratory Species:	40

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	67
Whales and Other Cetaceans:	29
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	1

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	39
Key Ecological Features (Marine):	3
Biologically Important Areas:	5
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area [Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Phaethon rubricauda westralis](#) Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat may occur within area
[Sternula nereis nereis](#) Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
MAMMAL		
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Migration route known to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
[Orcaella heinsohni](#) Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat may occur within area
[Sousa sahulensis](#) Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat may occur within area
REPTILE		
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat may occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
SHARK		
Carcharias taurus (west coast population)		
Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Pristis clavata		
Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini		
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus		
Common Noddy [825]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Carcharias taurus Grey Nurse Shark [64469]		Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area

Migratory Wetlands Species

Scientific Name	Threatened Category	Presence Text
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Fish		
Acentronura larsonae Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Bulbonaricus brauni Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
Campichthys tricarinatus Three-keel Pipefish [66192]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Trachyrhamphus longirostris](#) Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Reptile		
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat may occur within area
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
[Aipysurus laevis](#) Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
[Aipysurus mosaicus as Aipysurus eydouxii](#) Mosaic Sea Snake [87261]		Species or species habitat may occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
[Emydocephalus annulatus](#) Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
[Ephalophis greyae as Ephalophis greyi](#) Mangrove Sea Snake [93738]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Hydrophis czeblukovi Fine-spined Sea Snake [59233]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		

Current Scientific Name	Status	Type of Presence
[Balaenoptera acutorostrata](#) Minke Whale [33]		Species or species habitat may occur within area
[Balaenoptera bonaerensis](#) Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Migration route known to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
[Delphinus delphis](#) Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
[Feresa attenuata](#) Pygmy Killer Whale [61]		Species or species habitat may occur within area
[Globicephala macrorhynchus](#) Short-finned Pilot Whale [62]		Species or species habitat may occur within area
[Grampus griseus](#) Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
[Kogia breviceps](#) Pygmy Sperm Whale [57]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat may occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahulensis Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat may occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
All year (Jun - Aug)		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081		Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260		Completed
Gorgon Gas Development	2003/1294		Post-Approval
Project Highclere Cable Lay and Operation	2022/09203		Completed
Controlled action			
Construct and operate LNG & domestic gas plant including onshore and offshore facilities - Wheatston	2008/4469	Controlled Action	Post-Approval
Develop Jansz-Io deepwater gas field in Permit Areas WA-18-R, WA-25-R and WA-26-	2005/2184	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pluto Gas Project Including Site B	2006/2968	Controlled Action	Post-Approval
Not controlled action			
Bollinger 2D Seismic Survey 200km North of North West Cape WA	2004/1868	Not Controlled Action	Completed
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703	Not Controlled Action	Completed
Development of Halyard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed
Jansz-2 and 3 Appraisal Wells	2002/754	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Wheatstone 3D seismic survey, 70km north of Barrow Island	2004/1761	Not Controlled Action	Completed
Not controlled action (particular manner)			
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
Aperio 3D Marine Seismic Survey, WA	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
Balnaves Condensate Field Development	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
CGGVERITAS 2010 2D Seismic Survey	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
Drilling 35-40 offshore exploration wells in deep water	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Harmony 3D Marine Seismic Survey	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
John Ross & Rosella Off Bottom Cable Seismic Exploration Program	2008/3966	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Julimar Brunello Gas Development Project	2011/5936	Not Controlled Action (Particular Manner)	Post-Approval
Munmorah 2D seismic survey within permits WA-308/9-P	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
Orcus 3D Marine Seismic Survey in WA-450-P	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
Osprey and Dionysus Marine Seismic Survey	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
Warramunga Non-Inclusive 3D Seismic Survey	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
West Anchor 3D Marine Seismic Survey	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed

Key Ecological Features [Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Continental Slope Demersal Fish Communities	North-west
Exmouth Plateau	North-west

Biologically Important Areas

[Resource Information]

Scientific Name	Behaviour	Presence
Marine Turtles		
Natator depressus		
Flatback Turtle [59257]	Internesting buffer	Known to occur
Seabirds		
Ardenna tenuirostris		
Short-tailed Shearwater [84292]	Breeding	Known to occur
Sharks		
Rhincodon typus		
Whale Shark [66680]	Foraging	Known to occur
Whales		
Balaenoptera musculus brevicauda		
Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae		
Humpback Whale [38]	Migration (north and south)	Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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Hydrocarbon EMBA

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 21-Feb-2025

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	2
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	47
Listed Migratory Species:	61

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	1
Commonwealth Heritage Places:	1
Listed Marine Species:	100
Whales and Other Cetaceans:	30
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	3
Habitat Critical to the Survival of Marine Turtles:	4

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	14
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	130
Key Ecological Features (Marine):	5
Biologically Important Areas:	34
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [Resource Information]

Name	State	Legal Status
The Ningaloo Coast	WA	Declared property

National Heritage Places [Resource Information]

Name	State	Legal Status
Natural		
The Ningaloo Coast	WA	Listed place

Commonwealth Marine Area [Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Charadrius leschenaultii		
Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Malurus leucopterus edouardi White-winged Fairy-wren (Barrow Island), Barrow Island Black-and-white Fairy-wren [26194]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
[Sternula nereis nereis](#) Australian Fairy Tern [82950]	Vulnerable	Breeding known to occur within area
[Thalassarche carteri](#) Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area
FISH		
[Milyeringa veritas](#) Cape Range Cave Gudgeon, Blind Gudgeon [66676]	Vulnerable	Species or species habitat may occur within area
MAMMAL		
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Migration route known to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Bettongia lesueur Barrow and Boodie Islands subspecies](#) Boodie, Burrowing Bettong (Barrow and Boodie Islands) [88021]	Vulnerable	Translocated population known to occur within area
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat may occur within area
[Eubalaena australis](#) Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Isoodon auratus barrowensis		
Golden Bandicoot (Barrow Island) [66666]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes conspicillatus conspicillatus		
Spectacled Hare-wallaby (Barrow Island) [66661]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes hirsutus Central Australian subspecies		
Mala, Rufous Hare-Wallaby (Central Australia) [88019]	Endangered	Translocated population known to occur within area
Macroderma gigas		
Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Osphranter robustus isabellinus		
Barrow Island Wallaroo, Barrow Island Euro [89262]	Vulnerable	Species or species habitat likely to occur within area
Petrogale lateralis lateralis		
Black-flanked Rock-wallaby, Moororong, Black-footed Rock Wallaby [66647]	Endangered	Species or species habitat known to occur within area
Rhinonicteris aurantia (Pilbara form)		
Pilbara Leaf-nosed Bat [82790]	Vulnerable	Species or species habitat may occur within area
REPTILE		
Aipysurus apraefrontalis		
Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
Aipysurus foliosquama		
Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Ctenotus zastictus Hamelin Ctenotus [25570]	Vulnerable	Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
SHARK		
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Congregation or aggregation known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Ardenna pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
[Sternula albifrons](#) Little Tern [82849]		Breeding known to occur within area
[Thalassarche carteri](#) Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
Migratory Marine Species		
[Anoxypristis cuspidata](#) Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area
[Balaenoptera bonaerensis](#) Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Migration route known to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Carcharhinus longimanus](#) Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
[Carcharias taurus](#) Grey Nurse Shark [64469]		Congregation or aggregation known to occur within area
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Dugong dugon Dugong [28]		Breeding known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Migratory Terrestrial Species		
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
[Numenius madagascariensis](#)		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
[Pandion haliaetus](#)		
Osprey [952]		Breeding known to occur within area
[Thalasseus bergii](#)		
Greater Crested Tern [83000]		Breeding known to occur within area
[Tringa nebularia](#)		
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Defence	
Defence - EXMOUTH VLF TRANSMITTER STATION [50123]	WA

Commonwealth Heritage Places [Resource Information]

Name	State	Status
Natural		
[Ningaloo Marine Area - Commonwealth Waters](#)	WA	Listed place

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Bird		
[Actitis hypoleucos](#)		
Common Sandpiper [59309]		Species or species habitat known to occur within area
[Anous stolidus](#)		
Common Noddy [825]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Ardenna pacifica as Puffinus pacificus Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area
Chroicocephalus novaehollandiae as Larus novaehollandiae Silver Gull [82326]		Breeding known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Breeding known to occur within area
Onychoprion fuscatus as Sterna fuscata Sooty Tern [90682]		Breeding known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
[Sterna dougallii](#) Roseate Tern [817]		Breeding known to occur within area
[Sternula albifrons as Sterna albifrons](#) Little Tern [82849]		Breeding known to occur within area
[Sternula nereis as Sterna nereis](#) Fairy Tern [82949]		Breeding known to occur within area
[Thalassarche carteri](#) Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
[Thalasseus bengalensis as Sterna bengalensis](#) Lesser Crested Tern [66546]		Breeding known to occur within area
[Thalasseus bergii as Sterna bergii](#) Greater Crested Tern [83000]		Breeding known to occur within area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area
Fish		
[Acentronura larsonae](#) Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
[Bulbonaricus brauni](#) Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
[Campichthys tricarinatus](#) Three-keel Pipefish [66192]		Species or species habitat may occur within area
[Choeroichthys brachysoma](#) Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
[Choeroichthys latispinosus](#) Muiron Island Pipefish [66196]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Micrognathus micronotopterus](#) Tidepool Pipefish [66255]		Species or species habitat may occur within area
[Phoxocampus belcheri](#) Black Rock Pipefish [66719]		Species or species habitat may occur within area
[Solegnathus hardwickii](#) Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
[Solegnathus lettiensis](#) Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
[Solenostomus cyanopterus](#) Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
[Syngnathoides biaculeatus](#) Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
[Trachyrhamphus bicoarctatus](#) Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
[Trachyrhamphus longirostris](#) Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Mammal		
[Dugong dugon](#) Dugong [28]		Breeding known to occur within area
Reptile		
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
[Aipysurus laevis](#) Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
[Aipysurus mosaicus as Aipysurus eydouxii](#) Mosaic Sea Snake [87261]		Species or species habitat may occur within area
[Aipysurus tenuis](#) Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Breeding known to occur within area
[Crocodylus porosus](#) Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
[Emydocephalus annulatus](#) Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
[Ephalophis greyae as Ephalophis greyi](#) Mangrove Sea Snake [93738]		Species or species habitat may occur within area
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
[Hydrophis czeblukovi](#) Fine-spined Sea Snake [59233]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Migration route known to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Delphinus delphis](#) Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
[Eubalaena australis](#) Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
[Feresa attenuata](#) Pygmy Killer Whale [61]		Species or species habitat may occur within area
[Globicephala macrorhynchus](#) Short-finned Pilot Whale [62]		Species or species habitat may occur within area
[Grampus griseus](#) Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
[Kogia breviceps](#) Pygmy Sperm Whale [57]		Species or species habitat may occur within area
[Kogia sima](#) Dwarf Sperm Whale [85043]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
[Lagenodelphis hosei](#) Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
[Megaptera novaeangliae](#) Humpback Whale [38]		Breeding known to occur within area
[Mesoplodon densirostris](#) Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
[Orcaella heinsohni](#) Australian Snubfin Dolphin [81322]		Species or species habitat known to occur within area
[Orcinus orca](#) Killer Whale, Orca [46]		Species or species habitat may occur within area
[Peponocephala electra](#) Melon-headed Whale [47]		Species or species habitat may occur within area
[Physeter macrocephalus](#) Sperm Whale [59]		Species or species habitat may occur within area
[Pseudorca crassidens](#) False Killer Whale [48]		Species or species habitat likely to occur within area
[Sousa sahulensis](#) Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
[Stenella attenuata](#) Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
[Stenella coeruleoalba](#) Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks	[Resource Information]
Park Name	Zone & IUCN Categories
Gascoyne	Multiple Use Zone (IUCN VI)
Montebello	Multiple Use Zone (IUCN VI)
Ningaloo	Recreational Use Zone (IUCN IV)

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
All year (Jun - Aug)		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Nov-Feb		
Caretta caretta Loggerhead Turtle [1763]	Nesting	Known to occur
Oct - Feb		

Scientific Name	Behaviour	Presence
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur

Oct - Mar		
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State
Barrow Island	Nature Reserve	WA
Barrow Island	Marine Management Area	WA
Barrow Island	Marine Park	WA
Bessieres Island	Nature Reserve	WA
Montebello Islands	Conservation Park	WA
Montebello Islands	Marine Park	WA
Montebello Islands	Conservation Park	WA
Muiron Islands	Nature Reserve	WA
Muiron Islands	Marine Management Area	WA
Ningaloo	Marine Park	WA
Round Island	Nature Reserve	WA
Serrurier Island	Nature Reserve	WA
Unnamed WA41080	5(1)(h) Reserve	WA
Unnamed WA44665	5(1)(h) Reserve	WA

Nationally Important Wetlands [Resource Information]

Wetland Name	State
Cape Range Subterranean Waterways	WA

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status

Title of referral	Reference	Referral Outcome	Assessment Status
3D Seismic Survey in the Carnarvon Bsin on the North West Shelf	2002/778		Completed
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081		Completed
DAVROS MC 3D marine seismic survey northwaet of Dampier, WA	2013/7092		Completed
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260		Completed
Gorgon Gas Development	2003/1294		Post-Approval
Project Highclere Cable Lay and Operation	2022/09203		Completed
Action clearly unacceptable			
Highlands 3D Marine Seismic Survey	2012/6680	Action Clearly Unacceptable	Completed
Controlled action			
'Van Gogh' Petroleum Field Development	2007/3213	Controlled Action	Post-Approval
Construct and operate LNG & domestic gas plant including onshore and offshore facilities - Wheatston	2008/4469	Controlled Action	Post-Approval
Develop Jansz-Io deepwater gas field in Permit Areas WA-18-R, WA-25-R and WA-26-	2005/2184	Controlled Action	Post-Approval
Development of Coniston/Novara fields within the Exmouth Sub-basin	2011/5995	Controlled Action	Post-Approval
Development of Stybarrow petroleum field incl drilling and facility installation	2004/1469	Controlled Action	Post-Approval
Echo-Yodel Production Wells	2000/11	Controlled Action	Post-Approval
Enfield full field development	2001/257	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Greater Enfield (Vincent) Development	2005/2110	Controlled Action	Post-Approval
Light Crude Oil Production	2001/365	Controlled Action	Post-Approval
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pluto Gas Project Including Site B	2006/2968	Controlled Action	Post-Approval
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
The Scarborough Project - FLNG & assoc subsea infrastructure, Carnarvon Basin	2013/6811	Controlled Action	Post-Approval
Vincent Appraisal Well	2000/22	Controlled Action	Post-Approval
Not controlled action			
'Van Gogh' Oil Appraisal Drilling Program, Exploration Permit Area WA-155-P(1)	2006/3148	Not Controlled Action	Completed
Bollinger 2D Seismic Survey 200km North of North West Cape WA	2004/1868	Not Controlled Action	Completed
Bultaco-2, Laverda-2, Laverda-3 and Montesa-2 Appraisal Wells	2000/103	Not Controlled Action	Completed
Carnarvon 3D Marine Seismic Survey	2004/1890	Not Controlled Action	Completed
Cazadores 2D seismic survey	2004/1720	Not Controlled Action	Completed
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703	Not Controlled Action	Completed
Controlled Source Electromagnetic Survey	2007/3262	Not Controlled Action	Completed
Development of Halyard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed
Eagle-1 Exploration Drilling, North West Shelf, WA	2019/8578	Not Controlled Action	Completed
Echo A Development WA-23-L, WA-24-L	2005/2042	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Exploration drilling well WA-155-P(1)	2003/971	Not Controlled Action	Completed
Exploration of appraisal wells	2006/3065	Not Controlled Action	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759	Not Controlled Action	Completed
Exploratory drilling in permit area WA-225-P	2001/490	Not Controlled Action	Completed
HCA05X Macedon Experimental Survey	2004/1926	Not Controlled Action	Completed
Hess Exploration Drilling Programme	2007/3566	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
Infill Production Well (Griffin-9)	2001/417	Not Controlled Action	Completed
Jansz-2 and 3 Appraisal Wells	2002/754	Not Controlled Action	Completed
Klammer 2D Seismic Survey	2002/868	Not Controlled Action	Completed
Montesa-1 and Bultaco-1 Exploration Wells	2000/102	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Spool Base Facility	2001/263	Not Controlled Action	Completed
Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline	2005/2033	Not Controlled Action	Completed
Telstra North Rankin Spur Fibre Optic Cable	2016/7836	Not Controlled Action	Completed
To construct and operate an offshore submarine fibre optic cable, WA	2014/7373	Not Controlled Action	Completed
Wanda Offshore Research Project, 80 km north-east of Exmouth, WA	2018/8293	Not Controlled Action	Completed
Western Flank Gas Development	2005/2464	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Wheatstone 3D seismic survey, 70km north of Barrow Island	2004/1761	Not Controlled Action	Completed
Not controlled action (particular manner)			
'Kate' 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km	2005/2037	Not Controlled Action (Particular Manner)	Post-Approval
'Tourmaline' 2D marine seismic survey, permit areas WA-323-P, WA-330-P and WA-32	2005/2282	Not Controlled Action (Particular Manner)	Post-Approval
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D seismic surveys	2005/2151	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey	2008/4281	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey over petroleum title WA-268-P	2007/3458	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, WA	2008/4428	Not Controlled Action (Particular Manner)	Post-Approval
Apache Northwest Shelf Van Gogh Field Appraisal Drilling Program	2007/3495	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Aperio 3D Marine Seismic Survey, WA	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
Artemis-1 Drilling Program (WA-360-P)	2010/5432	Not Controlled Action (Particular Manner)	Post-Approval
Balnaves Condensate Field Development	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
Cable Seismic Exploration Permit areas WA-323-P and WA-330-P	2008/4227	Not Controlled Action (Particular Manner)	Post-Approval
CGGVERITAS 2010 2D Seismic Survey	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
Charon 3D Marine Seismic Survey	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
Cue Seismic Survey within WA-359-P, WA-361-P and WA-360-P	2007/3647	Not Controlled Action (Particular Manner)	Post-Approval
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Drilling Program	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval
Demeter 3D Seismic Survey, off Dampier, WA	2002/900	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
Drilling 35-40 offshore exploration wells in deep water	2008/4461	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M3 & Vincent 4D Marine Seismic Surveys	2008/3981	Not Controlled Action (Particular Manner)	Completed
Enfield M3 4D, Vincent 4D & 4D Line Test Marine Seismic Surveys	2008/4122	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M4 4D Marine Seismic Survey	2008/4558	Not Controlled Action (Particular Manner)	Post-Approval
Enfield oilfield 3D Seismic Survey	2006/3132	Not Controlled Action (Particular Manner)	Post-Approval
Exploration drilling of Zeus-1 well	2008/4351	Not Controlled Action (Particular Manner)	Post-Approval
Foxhound 3D Non-Exclusive Marine Seismic Survey	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval
Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L	2010/5570	Not Controlled Action (Particular Manner)	Post-Approval
Geco Eagle 3D Marine Seismic Survey	2008/3958	Not Controlled Action (Particular Manner)	Post-Approval
Glencoe 3D Marine Seismic Survey WA-390-P	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval
Greater Western Flank Phase 1 gas Development	2011/5980	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Grimalkin 3D Seismic Survey	2008/4523	Not Controlled Action (Particular Manner)	Post-Approval
Harmony 3D Marine Seismic Survey	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
Harpy 1 exploration well	2001/183	Not Controlled Action (Particular Manner)	Post-Approval
Honeycombs MC3D Marine Seismic Survey	2012/6368	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
John Ross & Rosella Off Bottom Cable Seismic Exploration Program	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
Julimar Brunello Gas Development Project	2011/5936	Not Controlled Action (Particular Manner)	Post-Approval
Klimt 2D Marine Seismic Survey	2007/3856	Not Controlled Action (Particular Manner)	Post-Approval
Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval
Lion 2D Marine Seismic Survey	2007/3777	Not Controlled Action (Particular Manner)	Post-Approval
Macedon Gas Field Development	2008/4605	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Moosehead 2D seismic survey within permit WA-192-P	2005/2167	Not Controlled Action (Particular Manner)	Post-Approval
Munmorah 2D seismic survey within permits WA-308/9-P	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Program, WA-264-P	2007/3844	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Survey	2005/2017	Not Controlled Action (Particular Manner)	Post-Approval
Orcus 3D Marine Seismic Survey in WA-450-P	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
Osprey and Dionysus Marine Seismic Survey	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees 4D Marine Seismic Monitor Survey, HCA12A	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees-Macedon 3D marine seismic survey	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
Rose 3D Seismic Program	2008/4239	Not Controlled Action (Particular Manner)	Post-Approval
Rydal-1 Petroleum Exploration Well, WA	2012/6522	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Santos Winchester three dimensional seismic survey - WA-323-P & WA-330-P	2011/6107	Not Controlled Action (Particular Manner)	Post-Approval
Skorpion Marine Seismic Survey WA	2001/416	Not Controlled Action (Particular Manner)	Post-Approval
Stybarrow 4D Marine Seismic Survey	2011/5810	Not Controlled Action (Particular Manner)	Post-Approval
Stybarrow Baseline 4D marine seismic survey	2008/4530	Not Controlled Action (Particular Manner)	Post-Approval
Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5679	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5715	Not Controlled Action (Particular Manner)	Post-Approval
Vincent M1 and Enfield M5 4D Marine Seismic Survey	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval
Warramunga Non-Inclusive 3D Seismic Survey	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
West Anchor 3D Marine Seismic Survey	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
West Panaeus 3D seismic survey	2006/3141	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Wheatstone 3D MAZ Marine Seismic Survey	2011/6058	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2008/4134	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2007/3941	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
3D Seismic Survey	2008/4219	Referral Decision	Completed
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed
CVG 3D Marine Seismic Survey	2012/6270	Referral Decision	Completed
Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L	2005/2370	Referral Decision	Completed
Rose 3D Seismic acquisition survey	2008/4220	Referral Decision	Completed
Stybarrow Baseline 4D Marine Seismic Survey (Permit Areas WA-255-P, WA-32-L, WA-	2008/4165	Referral Decision	Completed

Key Ecological Features

[Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	North-west
Commonwealth waters adjacent to Ningaloo Reef	North-west
Continental Slope Demersal Fish Communities	North-west
Exmouth Plateau	North-west

Biologically Important Areas		[Resource Information]
Scientific Name	Behaviour	Presence
Dugong		
Dugong dugon Dugong [28]	Breeding	Known to occur
Dugong dugon Dugong [28]	Calving	Known to occur
Dugong dugon Dugong [28]	Foraging (high density seagrass beds)	Known to occur
Dugong dugon Dugong [28]	Nursing	Known to occur
Marine Turtles		
Caretta caretta Loggerhead Turtle [1763]	Internesting buffer	Known to occur
Caretta caretta Loggerhead Turtle [1763]	Nesting	Known to occur
Chelonia mydas Green Turtle [1765]	Aggregation	Known to occur
Chelonia mydas Green Turtle [1765]	Basking	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur
Chelonia mydas Green Turtle [1765]	Mating	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur

Scientific Name	Behaviour	Presence
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Mating	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur
Natator depressus Flatback Turtle [59257]	Aggregation	Known to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Mating	Known to occur
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Seabirds		
Ardenna pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sternula nereis Fairy Tern [82949]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
Sharks		
Rhincodon typus Whale Shark [66680]	Foraging	Known to occur
Rhincodon typus Whale Shark [66680]	Foraging (high density prey)	Known to occur
Whales		
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Distribution	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Foraging	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Resting	Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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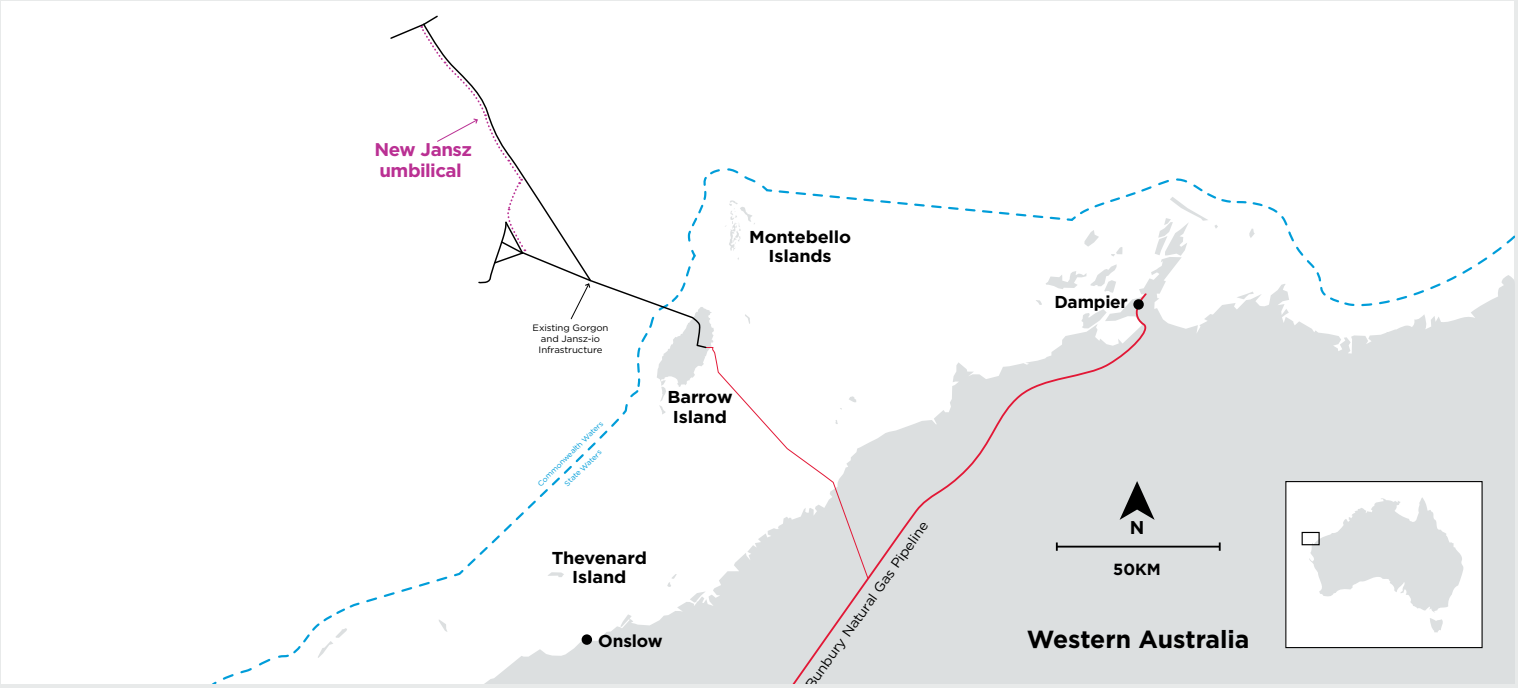
appendix c consultation material

information sheet

jansz umbilical



overview

Chevron Australia, on behalf of the Gorgon Joint Venture, operates the Gorgon Project (Gorgon) located off the northwest coast of Western Australia (WA).

Since 2015, offshore production wells and pipeline infrastructure have gathered natural gas from the Jansz-Io and Gorgon gas fields and transported it to the Gorgon Gas Facility on Barrow Island. From the Gorgon Gas Facility, gas is processed for export as liquefied natural gas (LNG) or piped to the mainland for WA domestic gas users.

To support the reliability of the Gorgon offshore gas gathering systems, Chevron Australia plans to install an electrical power and communications umbilical (cable) between the Gorgon and Jansz-Io fields, adjacent to existing infrastructure and areas previously disturbed as part of the Gorgon development.

The existing Jansz umbilical, which provides chemical, hydraulic, electrical power and communications will remain in use.

The additional umbilical will provide safe and reliable electrical power and communications to Jansz-Io offshore infrastructure, which is critical to maintaining current production levels over the approved life of the Gorgon development and supporting the ongoing delivery of energy to customers in WA and the Asia Pacific region for decades to come.

Chevron Australia is currently developing the Gorgon Gas Development – Jansz Umbilical Environment Plan, which will be submitted for assessment by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

This information is intended to assist 'relevant persons' to make an informed assessment of the environmental impact and risks of our activities and to provide input and feedback to enhance the EP.

Relevant persons are those whose functions, interests or activities may be affected by our activities. This includes Traditional Owners and Custodians' spiritual and cultural connection to Country, commercial and recreational fishing, tourism, individuals or groups in local communities.

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Please note: in the context of an EP, each of the following is considered part of the 'environment':

- an ecosystem and their constituent parts, including people and communities
- natural and physical resources
- the qualities and characteristics of locations, places & areas
- the heritage value of places
- the social, economic and cultural features of the above.

location and water depths

The Jansz-Io gas field is located within production licences WA-36-L, WA-39-L and WA-40-L, approximately 200 kilometres (km) off the northwest coast of WA in water depths of approximately 1,350 metres (m).

The Gorgon gas field is located within production licences WA-37-L and WA-38-L, ~130 km off the northwest coast of WA in water depths of ~1,350 m, and ~65 km northwest of Barrow Island in water depths of ~200 m.

The umbilical lay route, between the Gorgon and Jansz-Io fields, is adjacent to existing infrastructure and areas previously disturbed as part of the Gorgon development.

Table 1 provides infrastructure details and Figures 1 and 2 show the location and Operational Area (OA).

schedule and duration

Installation of the umbilical is planned to occur between mid-2026 to mid-2028 and is expected to be completed within a 3-month window.

This timing is indicative and subject to vessel availability, delays caused by weather events, and other unforeseen factors.

It is expected works will be undertaken 24 hours a day and 7 days a week for the duration of the activities.

activity overview

Chevron Australia plans to install the following:

- an additional umbilical to supplement power and communications to the Jansz-Io field
- a junction box at the Jansz end of the umbilical and umbilical termination assemblies and flying leads at both the Gorgon and Jansz ends of the umbilical to connect power and communications to existing subsea infrastructure; and
- pipeline crossings and stabilisation mattresses, as required.

Table 1 provides infrastructure details.

Activities outlined in the EP will include:

- installation of the additional Jansz umbilical infrastructure undertaken by the primary installation vessel / inspection maintenance and repair (IMR) vessel
- non-invasive seabed feature surveys may be conducted before and after installation undertaken by Remotely Operated Vehicles (ROVs)
- pre-commissioning and commissioning undertaken by ROVs and the IMR vessel
- a helicopter may be used for supplies or crew change, where required.

environment that may be affected (EMBA)

As part of our environmental assessment and consultation process, we create an EMBA map to provide geographical context for stakeholders to determine if their functions, interests or activities may be affected by an offshore activity during operations or in an emergency condition.

Figure 1 shows the EMBA, which is based on worst-case environmental scenarios — an unplanned release (oil spill) from a vessel collision and loss of containment from the hydrocarbon system. Shoreline loading refers to areas of the coast that may be impacted by hydrocarbons.

The EMBA has been defined through combining 300 simulations for each unplanned release scenario under different weather and ocean conditions. This means that in the highly unlikely event an unplanned release does occur, a geographical area much smaller than the EMBA would be affected.The majority of the impacts or risks directly arising from installation activities would occur within close proximity of the OA.

Chevron Australia has systematic control measures to prevent and mitigate emergencies and to reduce the impact of planned activities on the environment, including ecological, social and cultural sensitivities.

Table 2 summarises the key impacts or risks and proposed control measures to manage these to levels that are as low as reasonably practicable (ALARP) and acceptable.

marine fauna and biologically important areas

Marine fauna that may be found at the Jansz umbilical location include pelagic and demersal fish species. Some threatened and/or migratory fish species (e.g. whale sharks, other sharks and manta rays) may transit the area.

As with most offshore areas in WA, a range of marine mammal species are known to transit the Jansz umbilical area including Antarctic minke whales, Bryde's whales, fin whales, humpback whales, pygmy blue whales, sei whales, sperm whales, killer whales and spotted bottlenose dolphins.

Biologically Important Areas (BIAs) for several marine fauna species overlap the EMBA. Additionally, the pygmy blue whale migration BIA overlaps with the Jansz umbilical OA.

The closest turtle nesting habitats are Barrow, Montebello, and Lowendal islands, ~60 km away from the Gorgon end of the Jansz umbilical. Similarly, shallower internesting BIAs extend a maximum of 60 km from these nesting beaches.

first nations cultural values

We acknowledge that Traditional Owners and Custodians in the northwest region of WA have expressed a deep obligation to protect cultural values and features, including songlines, dreaming stories and the fauna connected to them.

Chevron Australia is committed to ongoing engagement and consultation with Traditional Owners and their representative bodies. This process will continue to inform our understanding of cultural values and features, allow us to risk assess impacts and risks to those features, and help facilitate the co-design of appropriate controls to avoid, minimise and mitigate potential impacts and risks.

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safe navigation area and marine exclusion zone

During installation of the infrastructure, notices to mariners will be sought, to advise vessels to navigate with caution. A temporary 500-metre exclusion zone will be in place around vessels engaged in installation activities.

No new permanent exclusion zones will be sought for the additional umbilical.

approvals process

Petroleum activities in Commonwealth waters are regulated by NOPSEMA. Before petroleum activities can take place, Chevron Australia must develop an EP which will be assessed by NOPSEMA in accordance with the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (the Regulations).

The Regulations require us to consult with relevant persons whose functions, interests and activities may be affected by the petroleum activity.

Following consultation, we will submit the Gorgon Gas Development – Jansz Umbilical Environment Plan to NOPSEMA, which will:

- describe the environment in which installation activities are planned to take place;
- include an assessment of environmental impacts and risks arising from the activities;
- identify control measures to manage the potential impacts and risks to levels that are ALARP and acceptable; and
- outline how Chevron Australia has engaged with relevant persons and how their feedback has been considered and addressed.

NOPSEMA will assess whether the EP satisfies the Regulations, including whether the environmental impacts and risks of operations will be managed so that they are ALARP and acceptable before accepting the EP.

your input

We are now seeking your feedback and input if you consider your functions, interests, or activities may be affected based on the information provided, including the summary of the key environmental impacts and risks identified to date in Table 2.

We encourage you to provide additional details about the environment, aspects, consequences of the activity or control measures or to ask for further information or consultation by 16 May 2025.

You can contact us with any questions, requests for information, or feedback at:

- 1800 225 195
- australia.chevron.com/**feedback**
- or scan the QR code

To subscribe to Chevron Australia consultation email or text message updates relating to our proposed activities, please visit go.chevron.com/**subscriptions**

Relevant persons may request that the information they provide be treated as confidential. Chevron Australia will make this known to NOPSEMA and it will be identified as sensitive information and not published in the EP.

what's next

The feedback we receive during consultation will be used to inform and enhance the EP before it is submitted to NOPSEMA for assessment.

We commit to keeping you informed and providing responses to any relevant person who so requests.

privacy notice

If you choose to provide feedback on this proposal, Chevron Australia will collect your name and contact details, in addition to your comments, for the purposes of maintaining contact with you and inclusion of your feedback in our submission to NOPSEMA. Provision of this information is purely voluntary, however if you choose not to provide it, we may not be able to contact you in the future regarding your submission. Chevron Australia may transfer your information to NOPSEMA, if required and if you do not identify it as sensitive, and to other Chevron affiliates including our head office based in the United States. For further information regarding how we protect your personal information, and your rights, please refer to our privacy notice at australia.chevron.com/**privacy**

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Table 1: Jansz Umbilical Infrastructure Details

Infrastructure	Details	Indicative Installation Timing*	Latitude South	Longitude East	Depth (~m)
Jansz umbilical	An additional 88 km long (142-millimetre diameter) electrical power and communications umbilical will be installed between the Jansz-Io gas field and the Gorgon gas field to supplement existing infrastructure. The umbilical will be adjacent to existing infrastructure and in corridors previously disturbed as part of the development.	Mid 2026 – mid 2028	Refer to Figures 1 and 2 for location		130 – 1,350
Umbilical termination assemblies, subsea electrical junction box and flying leads	Umbilical termination assemblies will be installed at both the Gorgon and Jansz ends of the umbilical. A subsea electrical junction box will be installed at the Jansz end of the umbilical. Flying leads will be used at both the Gorgon and Jansz end of the umbilical to connect the electrical and fibre optic services.	Mid 2026 – mid 2028	Refer to Figures 1 and 2 for location		130 – 1,350
Pipeline and umbilical crossings	Concrete mattresses or a protective cover encasing the umbilical may be installed at existing pipeline and umbilical crossings. Concrete mattresses may also be used to stabilise the umbilical.	Mid 2026 – mid 2028	Refer to Figures 1 and 2 for location		130 – 240

*Calendar year indicative timing provided. This timing is indicative and subject to vessel availability, delays caused by weather events, and other unforeseen factors.

Table 2: Summary of key potential impacts and risks and proposed controls for installation activities

Aspect	Key impacts/risks	Key proposed control measures[1]
First Nations cultural values (tangible and intangible) **- physical presence** **- seabed disturbance** **- underwater sound** **- air and light emissions** **- planned discharges**	• Potential disturbance to underwater cultural heritage (UCH) during installation activities. • Potential changes to cultural values, including songlines, dreaming stories and culturally important marine fauna.	• Chevron Australia is committed to ongoing engagement and consultation with Traditional Owners and their representative bodies. • Chevron Australia inadvertent Aboriginal cultural heritage discovery procedures will be implemented where there are activities interacting with the seabed with the risk of disturbing unlocated First Nations UCH, to ensure discoveries are identified and responded to with adequate conservation and management actions. • Control measures related to marine fauna and other cultural values and features are outlined in sections below.
Planned activities		
Physical presence of subsea infrastructure and vessels within the Operational Area (OA)	• Presence of subsea infrastructure and vessels within the OA has the potential to interact and disrupt commercial shipping, fishing vessels and marine fauna. • Potential interaction with fishing vessels may result in entanglement of trawl fishing gear on subsea infrastructure.	• Relevant parties will be advised of the commencement of key phases of the activity. • Marine safety information to be issued via AUSCOAST and/or Notice to Mariners (where required) prior to commencing the installation activity. • Vessels will meet Chevron Australia's crew competency, navigation equipment, and radar requirements as per the Chevron Corporation Marine Standard. • In accordance with EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with Cetaceans, vessels will implement caution and no approach zones, where practicable. • Where required, a simultaneous operation plan will be developed and implemented to manage the activity.
Light emissions	• Navigation and operational lighting from vessels within the OA may result in a localised and temporary change in ambient light. • Change in ambient light may result in the temporary attraction of light-sensitive species.	• Vessels will meet lighting requirements of the Chevron Corporation Marine Standard. • Vessels working at night will be required to reduce external lighting to the minimum required for safe operations and navigation.

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Aspect	Key impacts/risks	Key proposed control measures[1]
Underwater sound from vessels and helicopter operations	• Vessel and/or helicopter operations within the OA may result in localised and temporary increase to ambient underwater sound levels. • A change in ambient sound may result in temporary and localised behavioural disturbance to marine fauna.	• In accordance with EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with Cetaceans, vessels will implement caution and no approach zones, and interaction management action. • Vessel bridge-watch crew will undertake marine fauna observations. • Pre-start visual observations will be undertaken prior to the commencement of installation activities.
Seabed disturbance	• Seabed disturbance from installation activities may result in the alteration of marine habitat and a localised and temporary change in water quality.	• Pre-lay surveys will be conducted to identify and avoid emergent seabed features before installing subsea infrastructure. • Vessels will meet the crew competency, navigation equipment, and radar requirements in accordance with the Chevron Corporation Marine Standard.
Air emissions	• Combustion of fuel from vessels within the OA may result in a localised and temporary reduction in air quality.	• Reduced sulphur content fuel will be used. • Vessels will comply with the requirements of Marine Order 97 (MARPOL 73/78 Annex VI) in relation to air pollution.
Planned discharges from vessel operations	• Planned discharges from vessel operations may result in localised and temporary change in water quality.	• Vessels will comply with the requirements of Marine Order 96 (MARPOL 73/78 Annex IV) in relation to sewage discharge. • Vessels will comply with the requirements of Marine Order 95 (MARPOL 73/78 Annex V) in relation to food waste discharge. • Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to oily bilge water discharges.
Unplanned risks		
Invasive marine pests	• Planned discharged of ballast water or the presence of biofouling on vessels may result in the introduction of an invasive marine pest.	• Vessels will meet the requirements of the Chevron Australia Quarantine Management Procedure for Marine Vessels. • Ballast water exchanges will be managed in accordance with the Australian Ballast Water Management Requirements. • Vessels greater than 400 gross tonnes with an antifoul coating are to maintain an up-to-date international antifouling coating certification in accordance with the Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 and/or relevant codes and standards. • Where required, vessel pre-arrival information will be reported through the Maritime Arrivals Reporting System as per the Commonwealth Biosecurity Act 2015.
Unplanned release – hazardous materials	• Unplanned release of hazardous material from vessel activities may result in impacts to the marine environment and fauna arising from chemical toxicity.	• Hazardous materials will be selected and managed in accordance with the Chevron Australia Hazardous Materials Management Procedure. • Vessels will meet the requirements of the Chevron Corporation Marine Standard, including the pre-mobilisation inspections of equipment, couplings and secondary containment availability. • Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to having an approved Ship Oil Pollution Emergency Plan in place.

1 | Proposed control measures are subject to change through consultation with relevant persons and the subsequent NOPSEMA assessment process.

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Aspect	Key impacts/risks	Key proposed control measures[1]
Unplanned release - vessel collision/dropped objects and interaction with subsea infrastructure	• Unplanned release of hydrocarbons from an accidental vessel collision or dropped object interacting with subsea infrastructure may result in marine pollution, smothering of subtidal and intertidal habitats, indirect impacts to fisheries, and reduction in amenity.	• Vessels will meet the crew competency, navigation equipment, and radar requirements of the Chevron Corporation Marine Standard. • Marine safety information to be issued via AUSCOAST and/or Notice to Mariners (where required) prior to commencing the activity. • Vessels will meet the requirements of the Chevron Australia Control of Work process, including safe lifting procedures. **Spill Response** • Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to having an approved Ship Oil Pollution Emergency Plan in place. • Emergency response will be implemented in accordance with the arrangements and strategies detailed in the Chevron Australia Oil Pollution Emergency Plan (OPEP). • Where required, operational and scientific monitoring will be undertaken in accordance with the Chevron Australia Operational and Scientific Monitoring Plan (OSMP).
Emergency response		
Ground disturbance – shoreline spill response	• In the event of an oil spill which impacts the shoreline, implementing shoreline clean-up techniques will involve people and equipment, which may disturb shoreline habitat with subsequent impacts to fauna.	• Where required, operational and scientific monitoring will be undertaken in accordance with the Chevron Australia OSMP. • Emergency response will be implemented in accordance with the arrangements and strategies detailed in the Chevron Australia OPEP.
Physical presence – oiled wildlife response	• In the event of an oil spill which impacts fauna, implementing wildlife response may require personnel to interact with fauna.	• Where required, operational and scientific monitoring will be undertaken in accordance with the Chevron Australia OSMP. • Emergency response will be implemented in accordance with the arrangements and strategies detailed in the Chevron Australia OPEP.

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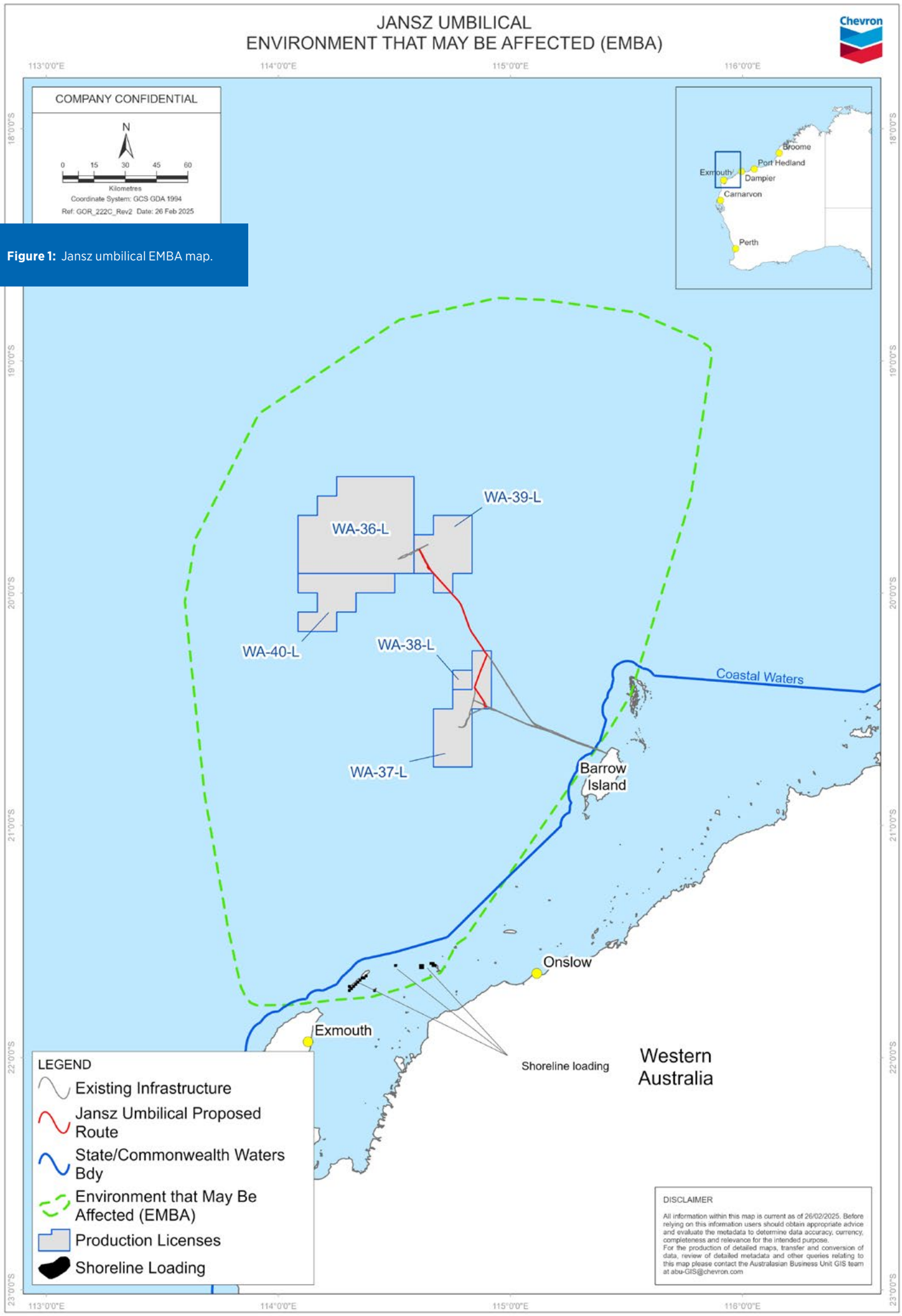

Figure 1: Jansz umbilical EMBA map.

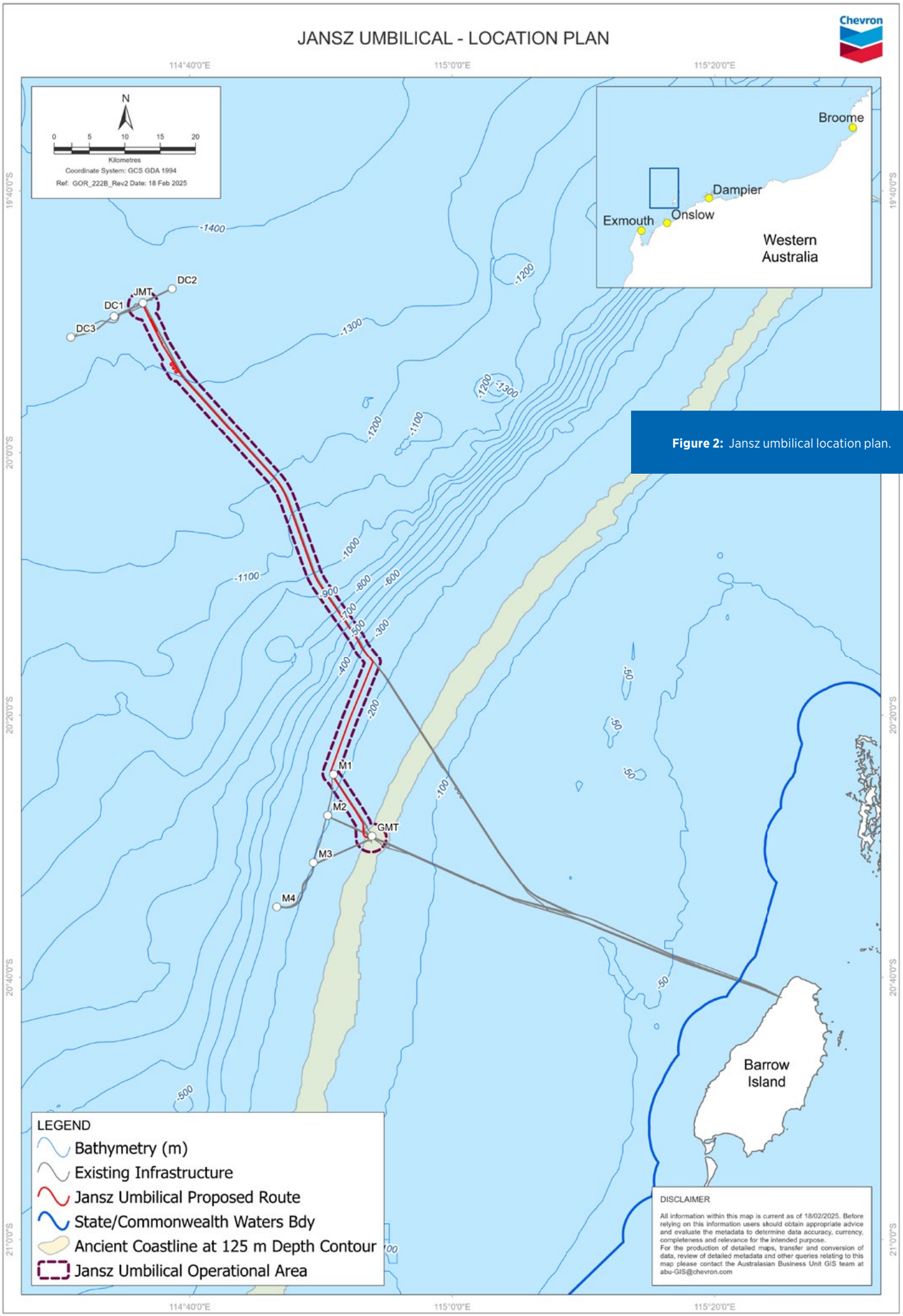

Figure 2: Jansz umbilical location plan.

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environment plans

seeking relevant persons' input

Chevron has been operating in Australia for more than 70 years – creating enduring benefits and delivering reliable, affordable energy. We welcome feedback to enhance our environmental management measures as we progress offshore activities to support the ongoing supply of natural gas to Western Australia and the Asia Pacific region.

our activities

To support the reliability of the Gorgon offshore gas gathering systems, Chevron Australia plans to install an electrical power and communications umbilical, approximately 135 to 200 kilometres off the northwest coast of WA. The umbilical lay route, between the Gorgon and Jansz-Io gas fields, is adjacent to existing infrastructure and areas previously disturbed as part of the Gorgon Gas Development.

The feedback we receive during consultation will inform and enhance the Gorgon Gas Development – Jansz Umbilical Environment Plan, which must be accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) before activities may commence.

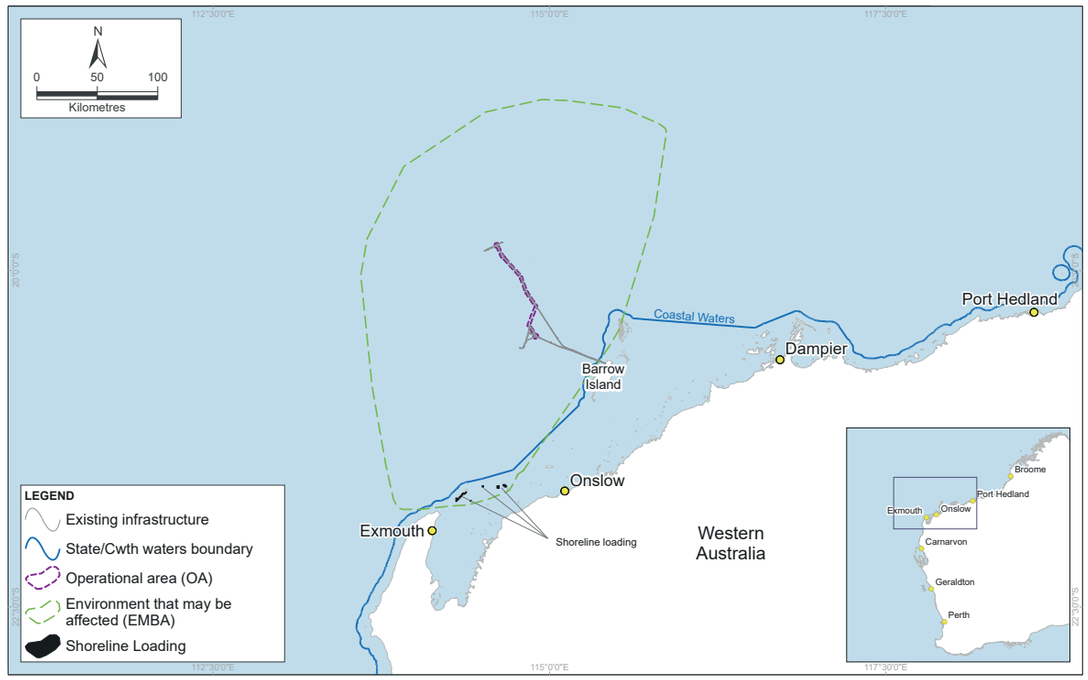
environment that may be affected (EMBA)

As part of our environmental assessment and consultation process, we create an EMBA map to provide geographical context for stakeholders to determine if their functions, interests or activities may be affected by an offshore activity during operations or in an emergency scenario.

The map shows the operational area (OA) and the EMBA, which is based on worst-case environmental scenarios — an unplanned release (oil spill) from a vessel collision and loss of containment from the hydrocarbon system. Shoreline loading refers to areas of the coast that may be impacted by hydrocarbons.

The EMBA has been defined through combining 300 simulations for each unplanned release scenario under different weather and ocean conditions. This means that in the highly unlikely event an unplanned release does occur, a much smaller geographical area would be affected.

The majority of the impacts and risks directly arising from installation activities would occur within close proximity of the OA.



Chevron Australia has systematic control measures to prevent and mitigate emergencies and to reduce the impact of planned activities on the environment, including ecological, social and cultural sensitivities.

we want to hear from you

We are now seeking feedback and input if you consider your functions, interests, or activities may be affected. This may include Traditional Owners with spiritual and cultural connections to land and sea Country, local community members, and those involved in commercial or recreational fishing and tourism.

Please contact us by **16 May 2025** to be included in consultations. Visit **australia.chevron.com/feedback**, call tollfree on **1800 225 195** or scan the **QR code** for more information.

3. Instagram post

4. LinkedIn post

Chevron
Australia

relevant persons information

jansz umbilical

Chevron Australia, on behalf of the Gorgon Joint Venture, operates the Gorgon Project (Gorgon) located off the northwest coast of Western Australia (WA).

Since 2015, offshore production wells and pipeline infrastructure have gathered natural gas from the Jansz-Io and Gorgon gas fields and transported it to the Gorgon Gas Facility on Barrow Island. From the Gorgon Gas Facility, gas is processed for export as liquefied natural gas (LNG) or piped to the mainland for WA domestic gas users.

To support the reliability of the Gorgon offshore gas gathering systems, Chevron Australia plans to install an electrical power and communications umbilical (cable) between the Gorgon and Jansz-Io fields, adjacent to existing infrastructure and areas previously disturbed as part of the Gorgon development. The existing Jansz umbilical, which provides chemical, hydraulic, electrical power and communications will remain in use.

The additional umbilical will provide safe and reliable electrical power and communications to Jansz-Io offshore infrastructure, which is critical to maintaining current production levels over the approved life of the Gorgon development and supporting the ongoing delivery of energy to customers in WA and the Asia Pacific region for decades to come.

Chevron Australia is currently developing the Gorgon Gas Development – Jansz Umbilical Environment Plan, which will be submitted for assessment by

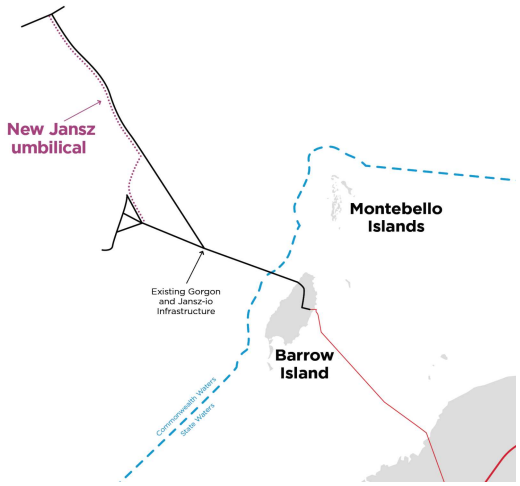
the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

This information is intended to assist ‘relevant persons’ to make an informed assessment of the environmental impact and risks of our activities and to provide input and feedback to enhance the EP. Relevant persons are those whose functions, interests or activities may be affected by our activities. This includes Traditional Owners and Custodians’ spiritual and cultural connection to Country, commercial and recreational fishing, tourism, individuals or groups in local communities.

Please note: in the context of an EP, each of the following is considered part of the ‘environment’:

- an ecosystem and their constituent parts, including people and communities
- natural and physical resources
- the qualities and characteristics of locations, places & areas
- the heritage value of places; and
- the social, economic and cultural features of the above.

location and water depth



Jump to detailed maps below

The Jansz-Io gas field is located within production licences WA-36-L, WA-39-L and WA-40-L, approximately 200 kilometres (km) off the northwest coast of WA in water depths of approximately 1,350 metres (m).

The Gorgon gas field is located within production licences WA-37-L and WA-38-L, ~130 km off the northwest coast of WA in water depths of ~1,350 m, and ~65 km northwest of Barrow Island in water depths of ~200 m.

The umbilical lay route, between the Gorgon and Jansz-Io fields, is adjacent to existing infrastructure and areas previously disturbed as part of the Gorgon development.

Table 1 provides infrastructure details and Figures 1 and 2 show the location and Operational Area (OA).

schedule and duration

Installation of the umbilical is planned to occur between mid-2026 to mid-2028 and is expected to be completed within a 3-month window.

This timing is indicative and subject to vessel availability, delays caused by weather events, and other unforeseen factors.

It is expected works will be undertaken 24 hours a day and 7 days a week for the duration of the activities.

activity overview

Chevron Australia plans to install the following:

- an additional umbilical to supplement power and communications to the Jansz-Io field
- a junction box at the Jansz end of the umbilical and umbilical termination assemblies and flying leads at both the Gorgon and Jansz ends of the umbilical to connect power and communications to existing subsea infrastructure; and
- pipeline crossings and stabilisation mattresses, as required.

Table 1 provides further infrastructure details.

Activities outlined in the EP will include:

- installation of the additional Jansz umbilical infrastructure undertaken by the primary installation vessel / inspection maintenance and repair (IMR) vessel
- non-invasive seabed feature surveys may be conducted before and after installation undertaken by Remotely Operated Vehicles (ROVs)
- pre-commissioning and commissioning undertaken by ROVs and the IMR vessel
- a helicopter may be used for supplies or crew change, where required.

environment that may be affected (EMBA)

As part of our environmental assessment and consultation process, we create an EMBA map to provide geographical context for stakeholders to determine if their functions, interests or activities may be affected by an offshore activity during operations or in an emergency condition.

Figure 1 shows the EMBA, which is based on worst-case environmental scenarios — an unplanned release (oil spill) from a vessel collision and loss of containment from the hydrocarbon system. Shoreline loading refers to areas of the coast that may be impacted by hydrocarbons.

The EMBA has been defined through combining 300 simulations for each unplanned release scenario under different weather and ocean conditions. This means that in the highly unlikely event an unplanned release does occur, a geographical area much smaller than the EMBA would be affected.

The majority of the impacts or risks directly arising from installation activities would occur within close proximity of the OA. Chevron Australia has systematic control measures to prevent and mitigate emergencies and to reduce the impact of planned activities on the environment, including ecological, social and cultural sensitivities.

Table 2 summarises the key impacts or risks and proposed control measures to manage these to levels that are as low as reasonably practicable (ALARP) and acceptable.

safe navigation area and marine exclusion zone

During installation of the infrastructure, notices to mariners will be sought, to advise vessels to navigate with caution.

A temporary 500-metre exclusion zone will be in place around vessels engaged in installation activities.

No new permanent exclusion zones will be sought for the additional umbilical.

first nations cultural values

We acknowledge that Traditional Owners and Custodians in the northwest region of WA have expressed a deep obligation to protect cultural values and features, including songlines, dreaming stories and the fauna connected to them.

Chevron Australia is committed to ongoing engagement and consultation with Traditional Owners and their representative bodies.

This process will continue to inform our understanding of cultural values and features, allow us to risk assess impacts and risks to those features, and help facilitate the co-design of appropriate controls to avoid, minimise and mitigate potential impacts and risks.

marine fauna and biologically important areas

Marine fauna that may be found at the Jansz umbilical location include pelagic and demersal fish species. Some threatened and/ or migratory fish species (e.g. whale sharks, other sharks and manta rays) may transit the area.

As with most offshore areas in WA, a range of marine mammal species are known to transit the Jansz umbilical area including Antarctic minke whales, Bryde's whales, fin whales, humpback whales, pygmy blue whales, sei whales, sperm whales, killer whales and spotted bottlenose dolphins.

Biologically Important Areas (BIAs) for several marine fauna species overlap the EMBA. Additionally, the pygmy blue whale migration BIA overlaps with the Jansz umbilical OA.

The closest turtle nesting habitats are Barrow, Montebello, and Lowendal islands, ~60 km away from the Gorgon end of the Jansz umbilical. Similarly, shallower internesting BIAs extend a maximum of 60 km from these nesting beaches.

approvals process

Petroleum activities in Commonwealth waters are regulated by NOPSEMA. Before petroleum activities can take place, Chevron Australia must develop an EP which will be assessed by NOPSEMA in accordance with the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (the Regulations).

The Regulations require us to consult with relevant persons whose functions, interests and activities may be affected by the petroleum activity.

Following consultation, we will submit the Gorgon Gas Development – Jansz Umbilical Environment Plan to NOPSEMA, which will:

- describe the environment in which installation activities are planned to take place;
- include an assessment of environmental impacts and risks arising from the activities;
- identify control measures to manage the potential impacts and risks to levels that are ALARP and acceptable; and
- outline how Chevron Australia has engaged with relevant persons and how their feedback has been considered and addressed.

NOPSEMA will assess whether the EP satisfies the Regulations, including whether the environmental impacts and risks of operations will be managed so that they are ALARP and acceptable before accepting the EP.

impacts, risks and proposed controls

A summary of impacts/risks and key proposed controls for Jansz umbilical installation activities can be viewed in Table 2.

your input

We are now seeking your feedback and input if you consider your functions, interests, or activities may be affected based on the information provided, including the summary of the key environmental impacts and risks identified to date in Table 2.

We encourage you to provide additional details about the environment, aspects, consequences of the activity or control measures or to ask for further information or consultation by **16 May 2025.**

You can contact us with any questions, requests for information, or to provide feedback by calling tollfree on **1800 225 195** or online below.

Relevant persons may request that the information they provide be treated as confidential. Chevron Australia will make this known to NOPSEMA and it will be identified as sensitive information and not published in the EP.

submit feedback here

what's next

The feedback we receive during consultation will be used to inform and enhance the EP before it is submitted to NOPSEMA for assessment.

We commit to keeping you informed and providing responses to any relevant person who so requests.

privacy notice

If you choose to provide feedback on this proposal, Chevron Australia will collect your name and contact details, in addition to your comments, for the purposes of maintaining contact with you and inclusion of your feedback in our submission to NOPSEMA. Provision of this information is purely voluntary, however if you choose not to provide it, we may not be able to contact you in the future regarding your submission. Chevron may transfer your information to NOPSEMA, if required and if you do not identify it as sensitive, and to other Chevron affiliates including our head office based in the United States. For further information regarding how we protect your personal information, and your rights, please refer to our privacy notice.

further information

detailed maps and tables

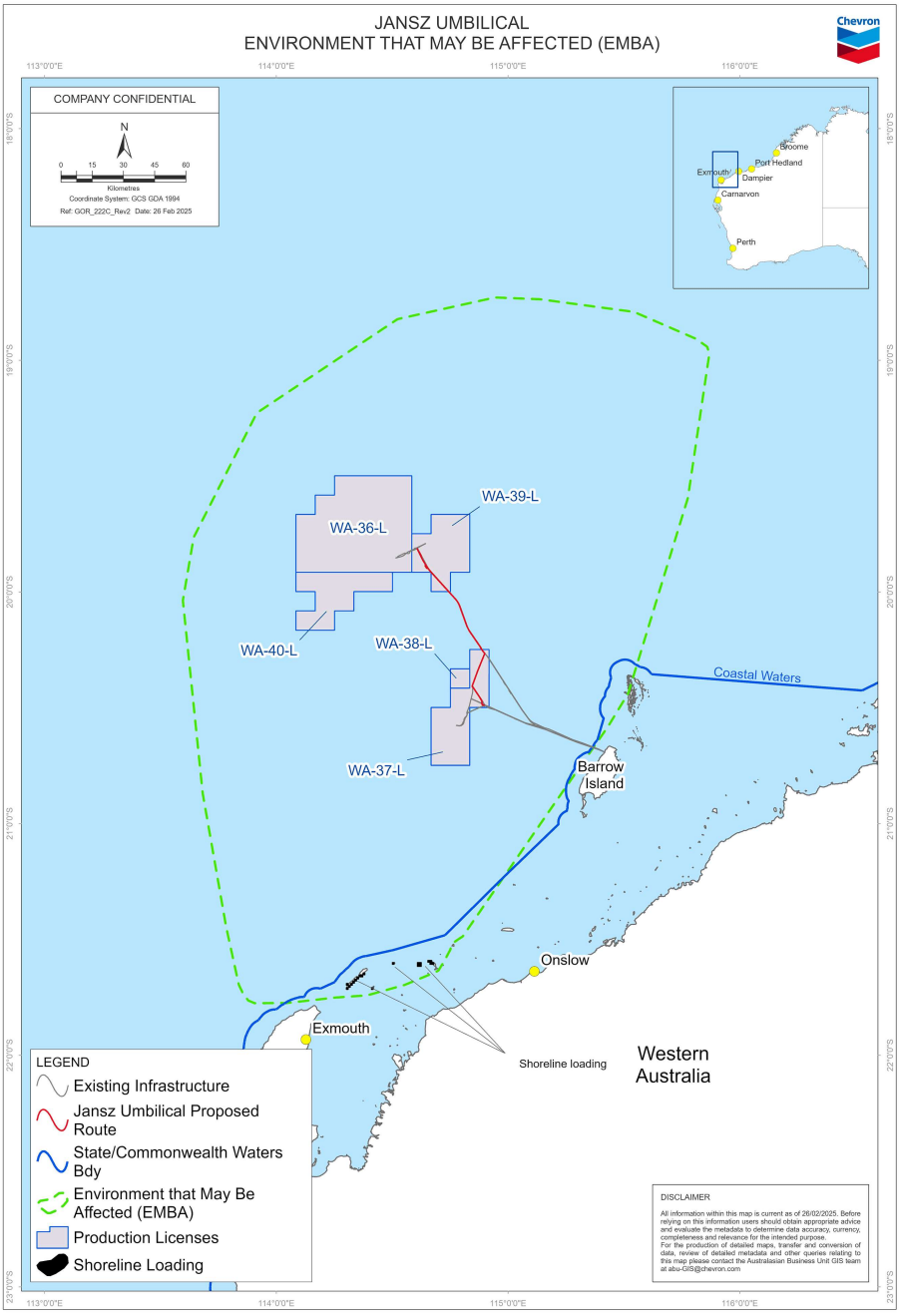


Figure 1: Jansz umbilical EMBA map.

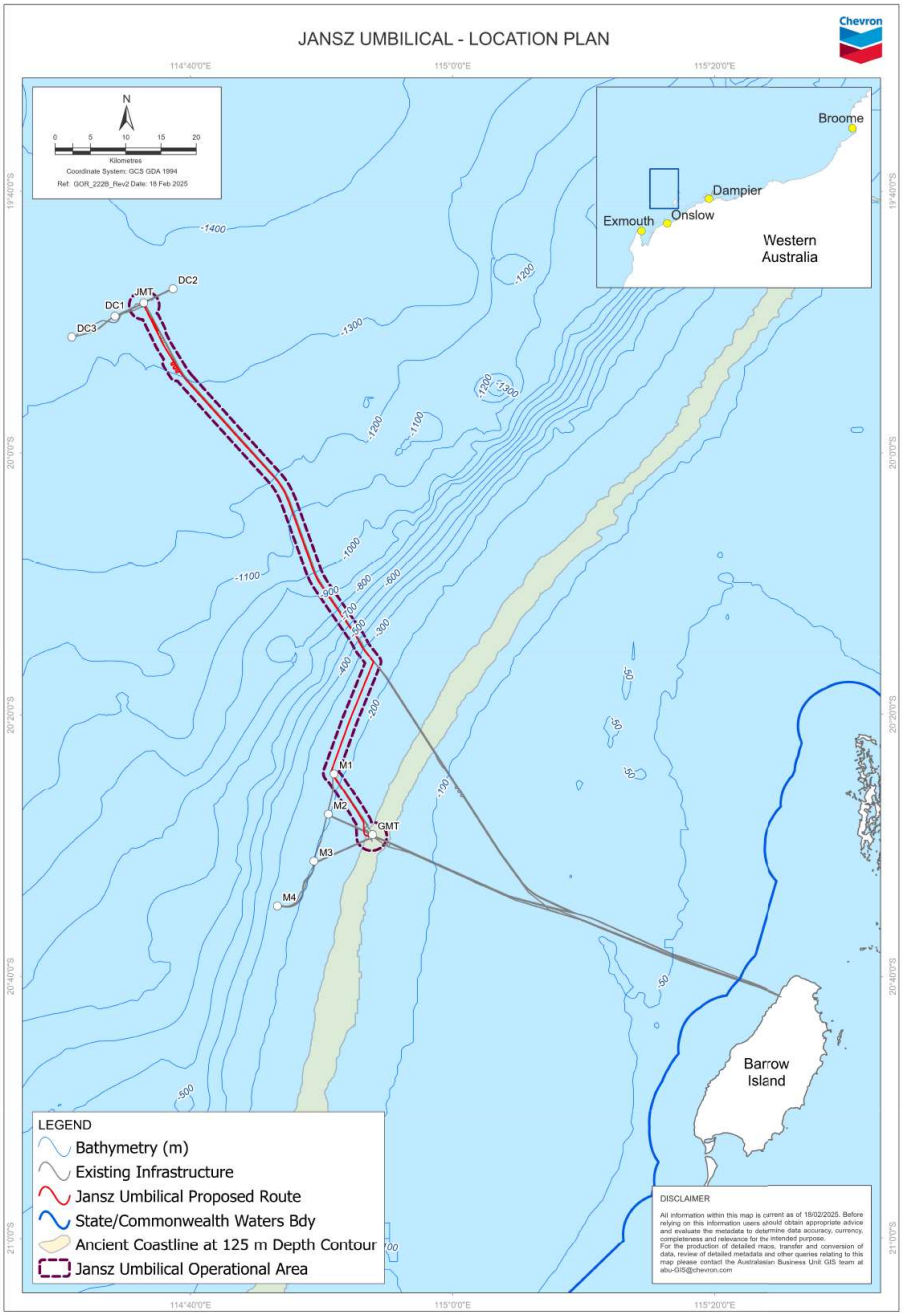


Figure 2: Jansz umbilical location plan.

Table 1: Jansz Umbilical Infrastructure Details – view here

Table 2: Summary of key potential impacts and risks and proposed controls for installation activities – view here

resources

- Consultation on Offshore Petroleum Environment Plans – NOPSEMA
- Environment plan content requirements – NOPSEMA
- Environmental requirements – NOPSEMA
- NOPSEMA Assessment Process Environment Plans
- Offshore Petroleum Greenhouse Gas Storage (Environment) Regulations
- Chevron Operational Excellence Management System (OEMS)
- Consultation in the course of preparing an environment plan – NOPSEMA
- Jansz Umbilical – relevant persons information sheet

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1.1 Regulation 25(1)(a)—each Commonwealth, State or Northern Territory agency or authority to which the activities to be carried out under the EP, or the revision of the EP, may be relevant

1.1.1 Commonwealth Departments or Agencies

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Australian Communications and Media Authority (ACMA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	02/04/2025	002311	Email	ACMA replied to CAPL, and recommended engagement with Telstra, Vocus, and the AHO. ACMA recommends CAPL investigate the requirements of the *Telecommunications Act 1997*, and whether or not it will have obligations under the carrier licensing framework. ACMA advised they will not require additional consultation on the Project.	ACMA raised Telstra, Vocus and the AHO as potentially Relevant Persons. ACMA recommends CAPL investigate the requirements of the *Telecommunications Act 1997*, and whether or not it will have obligations under the carrier licensing framework.	**Claims have merit:** Telstra, Vocus and the AHO were identified by CAPL as potentially Relevant Persons. **Claim does not have merit:** CAPL acknowledge the *Telecommunications Act 1997*, as raised by ACMA. The obligations raised are not relevant to the scope of this EP.	No change made to the EP. Telstra, Vocus and the AHO have been engaged with for this activity.
	12/06/2025	002321	Email	CAPL responded to ACMA and thanked them for their advice.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with ACMA on 31 March 2025 via formal written notification which provided			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				an overview of the activity, information sheet and link to the Consultation Hub on CAPL's website. • ACMA did not raised any objections or claims related to the activity. However, ACMA did provide feedback to CAPL and suggested engaging with operators of any submarine cables in the vicinity of its activities, and recommended contacting AHO. Telstra, Vocus and the AHO have been engaged with for this activity. • CAPL has provided a reasonable period and sufficient information to ACMA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Australian Fisheries Management Authority (AFMA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	08/04/2025	002197	Email	AFMA responded, and suggested engagement with Commonwealth Fisheries Association (CFA) and Tuna Australia. CAPL responded to AFMA's email confirming that CAPL had provided relevant information on the Jansz Umbilical EP consultation period to the	AFMA suggested engagement with CFA and Tuna Australia.	**Claim has merit:** CFA and Tuna Australia were already identified by CAPL as potentially Relevant Persons.	No change made to the EP. Engagement with the identified Relevant Persons was undertaken.

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				contacts that AFMA has recommended and confirmed receipt that AFMA has no further comments on proposed activity at this stage.			
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with AFMA on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • AFMA did not raise any objections or claims relating to the activity. However, AFMA did provide feedback to CAPL and suggested engaging with CFA and Tuna Australia. CAPL emailed AFMA to confirm it was consulting with the identified Relevant Persons. • CAPL has provided a reasonable period and sufficient information to AFMA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Australian Hydrographic Office (AHO)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	01/04/2025	002289	Email	AHO emailed CAPL to confirm they have received the data CAPL has supplied. AHO advise the data will be registered, assessed, prioritised, and validated as we prepare to update our Navigational Charting products.	No objection or claim raised		
	02/04/2025	002279	Email	AHO emailed CAPL to confirm they did not have any concerns with the feedback proposed. AHO raised the requirement to update AHO once activity is due to commence. AHO confirmed that further consultation was not required, only notification of commencement.	AHO raised the requirement to update AHO once activity is due to commence.	**Claim has merit:** The requirement to notify AHO on activity commencement is relevant and applicable to this activity.	No change made to the EP. The requirement to notify AHO is captured in Table 8-5 of the EP.
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with AHO on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				activity, including the activity description, EMBA, potential impacts and risks and control measures. • AHO did not raise any objections or claims related to the activity. AHO raised the requirement to notify AHO on activity commencement. This requirement is captured within Table 8-5 of the EP. • CAPL has provided a reasonable period and sufficient information to AHO to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1)			
Australian Maritime Safety Authority (AMSA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	08/04/2025	002195	Email	AMSA replied and requested GIS data. CAPL responded to AMSA's email providing the requested shapefiles of the Jansz Umbilical EP operational area.	AMSA requested GIS data for the activity.	**Claim has merit:** The request for GIS data relevant to the activity by AMSA was deemed appropriate.	No change made to the EP. CAPL provided the requested GIS data.
	11/04/2025	002290	Email	AMSA responded and raised vessel traffic in the region, notification requirements (including notification to AHO) and the need for anti-collision measures.	AMSA raised notification requirements and the need for anti-collision measures.	**Claims have merit:** Notification requirements and vessel collision controls are relevant and	Section 7.1 ALARP decision context justification' revised to include

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
						applicable to this activity.	statement regarding receipt of one claim. No change to previous decision context (i.e. still Decision Context A). 'External context' (within 'Determination of acceptability') for Section 7.1 has been updated with a summary of claim and response." Notification requirements to AMSA and AHO are included in Table 8-5 of the EP. Vessel collision controls are standard within CAPL EPs, are already included within the EP.
	12/06/2025	002322	Email	CAPL responded to AMSA and thanked them for their advice, which will be considered and included within the EP.			
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.			
				Summary: • CAPL commenced consultation with AMSA on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. CAPL also provided AMSA with shapefiles for the activity. • AMSA did not raise any objections or claims relating to the activity. AMSA requested further information on the activity, to which CAPL responded and provided requested shapefiles. AMSA provided feedback regarding notification requirements, vessel traffic, control measures and the risk of vessel collision. These requirements are captured within the EP in Table 8-5 and Section 7.1. • CAPL has provided a reasonable period and sufficient information to AMSA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities,			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Clean Energy Regulator (CER)	14/05/2025	002271	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	12/06/2025	002324	Email	CAPL sent follow up email requesting feedback on the EP information, and asked whether CER would like to be consulted with for this EP. CAPL advised our public consultation period for this environment plan will be closing on Friday 27 June 2025.	No objection or claim raised		
	13/06/2025	002329	Email	CAPL received an email from CER regarding another CAPL EP (outside the scope of this activity) that offered their standard advice that any emissions, energy consumption and energy production of any facilities must be reported. No response was received in regards to the request for feedback on the Jansz Umbilical EP.	CER advised that that any emissions, energy consumption and energy production of any facilities must be reported.	**Claim has merit:** CAPL acknowledge the advice from CER. The 'Gorgon Operations Facility' is registered with the CER as a facility under both the NGER and Safeguard Mechanism schemes and is subject to the reporting requirements of these regulatory frameworks.	No changes made to the EP.
	01/07/2025	002387	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with CER via a formal written notification sent on 14 May 2025 which provided an overview of the activity, information sheet and link to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • CER did not raise any objections or claims relating to the activity. CER provided advice, notifying CAP that any emissions, energy consumption and energy production of any facilities must be reported. • CAPL has provided a reasonable period and sufficient information to DERF to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1)			
Department of Agriculture, Fisheries and Forestry (DAFF)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with DAFF via sent a formal written notification on 31 March 2025 which provided an overview of the activity, information sheet and link to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • DAFF did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to DAFF to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1)			
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with DCCEEW on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• DCCEEW did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to DCCEEW to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
DCCEEW - Director of National Parks (DNP)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	08/05/2025	002278	Email	DNP responded and requested clarification regarding the location of the Operational Area and marine parks. CAPL emailed DNP with the requested correspondence and the Jansz Umbilical EP Marine Parks map.	DNP requested clarification regarding the location of the Operational Area and marine parks.	**Claim has merit:** As a Relevant Person, the request for clarification is considered fair and reasonable.	No change made to the EP. CAPL provided a response and provided the requested information.
	12/05/2025	002277	Email	DNP provided a response, and suggested the consideration of: • NOPSEMA and DNP 'Petroleum activities and Australian Marine Parks' guidance note • Australian marine park values, as identified in North-west Marine	DNP raised information for consideration.	**Claims have merit:** The information raised by DNP is relevant to the EP development.	No change made to the EP. The raised guidance note and management plan have been

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Parks Network Management Plan 2018 • Notification requirements • Emergency response requirements. CAPL acknowledged the email received from DNP. CAPL noted their advice.			considered during EP development. The relevant marine parks and their values are already included and considered as a receptor within the EP. The notification requirements in a spill event are included in Section 8.4.2. CAPL provided a response to DNP and thanked them for their advice (Record ID 002277).
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with DNP on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and link to the Consultation Hub on CAPL's website.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • DNP did not raise any objections or claims relating to the activity. DNP requested clarification regarding activity location, which was provided by CAPL. DNP raised information for consideration during EP development, including relevant guidance notes, management plans, notification requirements and emergency response requirements. This information has been included within the EP. • CAPL has provided a reasonable period and sufficient information to DNP to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Department of Defence (DoD)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with DoD on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and link to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • DoD did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to DoD to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.1.2 State Departments or Agencies

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Department of Biodiversity, Conservation and Attractions (DBCA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	15/05/2025	002270	Email	DBCA responded, noting the presence of the Montebello Island Marine Park and the Muiron Islands Marine Management Area within the EMBA. DBCA has advised the need for comprehensive baseline monitoring and robust oil spill response preparedness. DBCA suggested consideration be given to potential impacts on pelagic and migratory species from noise emissions. DBCA advised CAPL the access to reserves managed under the CALM Act, or involving threatened fauna in State waters, may require additional approvals. DBCA advised CAPL early consultation is recommended.	DBCA raised several factors for consideration, including potential receptors, oil spill response preparedness and noise emission impacts on pelagic and migratory species.	**Claims have merit:** The factors raised for consideration are relevant to the activity.	No change made to the EP. CAPL provided a response to DBCA (Record ID 002267). The State Marine Parks within the EMBA are identified within Section 4.5.2 of the EP. Noise emissions are risk assessed in Section 7.6 and 7.7 of the EP. Oil spill preparedness and response is covered in the ABU Consolidated OPEP

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
							and operational and scientific monitoring is covered in the OSMP.
	22/05/2025	002267	Email	CAPL acknowledged the email received by DBCA and the information received regarding Jansz Umbilical Environment Plan. CAPL advised that the full details and the potential impacts to pelagic and migratory species will be detailed in the Environmental Plan.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with DBCA on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • DBCA did not raise any objections or claims relating to the activity. DBCA raised several factors for consideration, including potential receptors, oil spill response preparedness and noise emission			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				impacts on pelagic and migratory species. These factors are addressed within the EP. • CAPL has provided a reasonable period and sufficient information to DBCA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Department of Primary Industries and Regional Development (WA DPIRD): Fisheries	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002319	Email	DPIRD provided advice on the following aspects: 1. Presence of commercial, customary, recreational and charter fishing in the region 2. Recommended consultation with peak fishing bodies (including WAFIC, Recfishwest, Aquaculture Council of WA, and Marine Tourism WA), Traditional Owners and DBCA 3. Spill contingency and notification requirements 4. Biosecurity and notification requirements 5. Threatened and migratory species	DPIRD provided advice on the following aspects: 1. Presence of commercial, customary, recreational and charter fishing in the region 2. Recommended consultation with peak fishing bodies (including WAFIC, Recfishwest, Aquaculture Council of WA, and Marine Tourism WA),	**Claims have merit:** All aspects raised by DPIRD are relevant and applicable to the EP.	No change made to the EP. The presence of commercial, customary, recreational and charter fishing are included in Section 4. WAFIC, Refishwest, Aquaculture Council of WA, Traditional Owners and DBCA have been consulted with for this EP. CAPL

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				6. Implementation and impact to fisheries included in the EP 7. Recommendations for future consultation CAPL responded to DPIRD, thanking them for the advice provided. CAPL confirmed that the aspects raised have been considered and included within the EP.	Traditional Owners and DBCA 3. Spill contingency and notification requirements 4. Biosecurity and notification requirements 5. Threatened and migratory species 6. Implementation and impact to fisheries included in the EP 7. Recommendations for future consultation		reached out to Marine Tourism WA to enquire if they would like to be included in consultation (Record ID 002330). CAPL has developed a NOPSEMA-accepted OPEP to support all spill response activities across all its assets. Spill notification requirements are included in Table 8-12. Invasive marine pests are risk assessed in Section 7.8, and the biosecurity notification requirements included in Table 8-12. Threatened and migratory species relevant to the EP are included in Section 4. Fisheries are described within Section 4 of the EP and considered within the Risk Assessment in Section 7. CAPL note DPIRDs recommendations

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
							for future engagement.
	20/06/2025	002376	Email	DPIRD has acknowledged CAPL's confirmation regarding the incorporation of their advice within the EP. DPIRD have requested that CAPL send a link to the NOPSEMA website once it becomes available.	DPIRD have requested that CAPL send a link to the NOPSEMA website once it becomes available.	**Claim has merit:** As a Relevant Person, this request is considered fair and reasonable.	No change made to the EP. DPIRD will be provided with a link to the EP once it becomes available.
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with WA DPIRD on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity, information sheet and link to the to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • WA DPIRD did not raise any objections or claims relating to the activity. DPIRD provided advice on multiple aspects (Record ID 002319) including raising multiple potentially			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Relevant Persons, potential receptors, and notification requirements to include within the EP. All suggested Relevant Persons were engaged with, and all points raised are addressed within the EP. • CAPL has provided a reasonable period and sufficient information to WA DPIRD to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with DoT on 31 March 2025 via formal written notification advising they had			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity, information sheet and link to the to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • DoT did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to DoT to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Department of Water & Environmental Regulation (DWER)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	31/03/2025	002207	Email	Automatic generated email from DWER confirming that the Department of Water and Environmental Regulation has received CAPL's email.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	02/04/2025	002205	Email	CAPL received confirmation email from DWER that they do not any comments or feedback on the EP.	No objection or claim raised		
	02/04/2025	002204	Email	CAPL responded to DWER's email which confirmed that they did not have any comments or feedback on CAPL's EP.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	01/05/2025	002186	Email	Email from the DWER confirming that further consultation on Jansz Umbilical EP was not required.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with DWER on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity, information sheet and link to the to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • DWER did not raise any objections or claims relating to the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has provided a reasonable period and sufficient information to DWER to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Environmental Protection Authority (EPA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with EPA on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity, information sheet and link to the to the Consultation Hub on CAPL's website.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • EPA did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to EPA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Pilbara Ports Authority	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with Pilbara Ports Authority on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity, information sheet and link to the to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Pilbara Ports Authority did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Pilbara Ports Authority to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.2 Regulation 25(1)(b) - Department of the responsible State Minister

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Department of Energy, Mines, Industry Regulation and Safety (WA DEMIRS)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	21/05/2025	002263	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	18/06/2025	002345	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with WA DEMIRS on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity, information sheet and link to the to the Consultation Hub on CAPL's website. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • DEMIRS did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to DEMIRS to			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.3 Regulation 25(1)(d)— Person or organisation whose functions, interests, or activities may be affected by the petroleum activity

1.3.1 First Nations people and/or representative bodies

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	13/03/2025	002137	Phone	CAPL contacted BTAC to discuss upcoming consultation and left a voicemail	No objection or claim raised		
	24/03/2025	002280	Email	CAPL contacted BTAC to advise they had left a voice message earlier to follow up on the earlier voicemail dated, 13th March 2025 (Record ID 002137). CAPL advised BTAC a new offshore EP would be launched next week and that CAPL looked forward to a response from BTAC.	No objection or claim raised		
	31/03/2025	002139	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPL's consultation webpage.	No objection or claim raised		
	08/04/2025	002144	Face-to-face	CAPL met with BTAC to discuss EP Consultation and Cultural Heritage Survey planning.	No objection or claim raised		
	15/04/2025-16/04/2025	002192	Email	BTAC provided feedback on the Jansz Umbilical EP. BTAC reaffirmed the importance of sea country, and raised concerns about the following: • Impact of unplanned events on marine animals and coastal environments • Underwater sound • Seabed disturbance and habitat alteration • Impacts to Biologically Important Areas. CAPL responded to BTAC's written feedback regarding the Jansz Umbilical EP and suggested further engagement to discuss safeguards and mitigation measures for the EP, and the EMBA modelling.	BTAC reaffirmed the importance of sea country, and raised concerns about the following: • Impact of unplanned events on marine animals and coastal environments • Underwater sound • Seabed disturbance and habitat alteration	**Claims have merit:** All sensitivities and concerns raised are relevant to the activity.	No change made to the EP. The EP includes Table 4-16, which includes specific responses from First Nations consultation in regard to cultural values or features. The aspects and sensitivities raised are addressed within the risk assessment of the EP (Section 7).

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL also provided a schedule of upcoming environmental plans and requested that BTAC advise CAPL on how they would like to be consulted.	• Impacts to Biologically Important Areas.		Further engagement with BTAC was offered to discuss concerns raised and mitigation measures in place (Record ID 002192, 002185).
	02/05/2025	002185	Email	CAPL contacted BTAC via email to follow up on request to scheduling a meeting to present on the Jansz Umbilical EP.	No objection or claim raised		
	27/05/2025	002282	Email	CAPL emailed BTAC to request the potential opportunity to meet with their board in June to discuss the Jansz Umbilical Environment Plan. CAPL noted the 3-month consultation window is ending soon. CAPL attached a schedule of other EPs requiring consultation this year. CAPL indicated it was keen to also engage with BTAC on Protection Priority Areas.	No objection or claim raised		
	05/06/2025	002294	Email	CAPL emailed BTAC in regard to Jansz Umbilical EP consultation and consultation for other EPs (outside of the scope of this EP) and raised potential Board meeting (which occurred on 17/06/2025, Record ID 002340).	No objection or claim raised		
	11/06/2025	002365	Email	CAPL followed up via email regarding invite for upcoming capacity building opportunities.	No objection or claim raised		
	12/06/2025	002326	Phone	CAPL messaged BTAC to request confirmation that CAPL can present at the board meeting.	No objection or claim raised		
	12/06/2025	002327	Phone	BTAC responded to CAPL, regarding CAPL request to present at the BTAC board meeting. BTAC advised they had to reduce the number of days for the board meeting and won't have time this month.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	12/06/2025	002328	Email	CAPL emailed BTAC and requested to reschedule the meeting on 17th June 2025 to 11am. CAPL requested BTAC to confirm if the new time is suitable. CAPL requested confirmation on discussing the Jansz Umbilical EP with the heritage team during the meeting.	No objection or claim raised		
	17/06/2025	002340	Face to Face	CAPL met with BTAC to consult on the EP. CAPL provided BTAC with: • A presentation and information sheets on the activity • A copy of NOPSEMA consultation guideline.	No objection or claim raised		
	17/06/2025	002339	Email	CAPL emailed BTAC to request further feedback on Jansz Umbilical EP. CAPL advised BTAC their feedback is required by the 3-month consultation period ending on 27th June 2025. CAPL confirmed the slide deck including the 2025 EP schedule, indicating new activities and revisions, is revised and attached to email. CAPL confirmed interest in continuing to work with BTAC to co-design consultation with BTAC.	No objection or claim raised		
	18/06/2025	002343	Email	CAPL emailed BTAC to reshare this email that was sent to BTAC on 31 March 2025 in relation to the Jansz Umbilical EP which also includes the information sheet. CAPL mentioned copies of these packs were shared with BTAC and the meeting held on 17th June 2025. CAPL noted within the information sheet is a table outlining key aspects plus risks and control measures. CAPL indicated we were happy to engage further with BTAC or their board on the risk assessment process. No response was received.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation and discussions relating to the EP with BTAC on 13 March 2025. Written notification was provided via email on 31 March 2025. • CAPL has provided BTAC the opportunity to provide feedback and CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures to enable an informed assessment by BTAC. BTAC had a period of over three months for consultation, which CAPL assessed to be a reasonable period to allow BTAC to identify the effect of the proposed activity on their functions, interests or activities, and to provide any objections or claims as set out in Section 6.2.3 of the EP. • CAPL has met with BTAC on multiple occasions as well as maintaining contact through multiple calls and email exchanges. • CAPL has informed BTAC that they may request information provided during consultation not to be published (Regulation 25(4)) during consultation co-design, in opening consultation emails and activity information sheets. CAPL has also provided BTAC with a copy of NOPSEMA's consultation guideline, which further describes their right to request information not to be published. • CAPL and BTAC continue to engage separately to EP consultations in relation to			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				their Wheatstone Native Title Agreement and onshore Cultural Heritage activities at Wheatstone and Barrow Island. • CAPL executed an engagement plan / funding agreement in April 2024 which confirmed acceptance of cost recovery for BTAC to participate in consultation as well as other activities. CAPL will continue to engage BTAC as part of its ongoing consultation for environment plans, including progressing cultural mapping, as outlined in Section 8.3.4.1 of the EP.			
Mardathoonera Cultural Heritage Pty Ltd (MCH)	07/03/2025	002182	Email	CAPL contacted MCH via email to confirm the agenda of March monthly consultation meeting.	No objection or claim raised		
	11/03/2025	002332	Face-to-Face	CAPL presented on Jansz Umbilical EP ahead of formal EP consultation launch.	No objection or claim raised		
	18/03/2025	002149	Phone	MCH contacted CAPL via text to discuss CAPL event.	No objection or claim raised		
	28/03/2025-16/04/2025	002161	Phone	CAPL and MCH communication regarding payment of invoices.	No objection or claim raised		
	31/03/2025	002139	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	31/03/2025	002143	Phone	CAPL contacted MCH via telephone to discuss a Consultation Conference Meeting.	No objection or claim raised		
	31/03/2025	002291	Email	CAPL email MCH to provide an update on actions and also discuss the upcoming conference scheduled on 9th April 2025 (Record ID 002145).	No objection or claim raised		
	01/04/2025	002157	Email	CAPL contacted MCH in relation to EP consultation and to confirm meeting requirements.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	07/04/2025	002199	Email	CAPL sent MCH email confirming agenda for upcoming consultation meeting and provided Jansz Umbilical EP information sheet and NOPSEMA consultation brochure.	No objection or claim raised		
	09/04/2025	002145	Face-to-face	CAPL met with MCH to consult on the EP. CAPL provided MCH with: • A presentation and information sheets on the activity • A copy of NOPSEMA community consultation guideline MCH raised questions on the following: • Seabed cultural values (in regard to the ancient shoreline and activity location) • timing of activity with marine fauna migration • confirmation that activity had no impact on Whites Beach. • "MSIC" card. CAPL provided a response to questions raised during the meeting.	MCH raised questions on the following: • Seabed cultural values • timing of activity with marine fauna migration • confirmation that activity had no impact on Whites Beach. • "MSIC" card.	**Claims have merit:** The provision of clarification regarding activities and relevant information is considered fair and reasonable.	No change made to the EP. Clarification was provided on all raised points during the meeting.
	10/04/2025	002147	Face-to-face	Meeting between CAPL and MCH to discuss logistics and consultation conference	No objection or claim raised		
	11/04/2025	002334	Email	CAPL wrote to MCH requesting an in person meeting to discuss meeting held on April 9, 2025 (Record ID 002145).	No objection or claim raised		
	14/04/2025	002155	Email	Following the meeting (Record ID 002145) CAPL provided MCH with: • A presentation and information sheets on the activity and consultation schedule for 2025 • A copy of NOPSEMA consultation guideline.	No objection or claim raised		
	14/04/2025	002158	Email	CAPL attempted to contact MCH to request a meeting	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	16/04/2025	002333	Phone	CAPL attempted to contact MCH to request a meeting.	No objection or claim raised		
	22/04/2025	002159	Phone	CAPL attempted contact with MCH. CAPL unable to leave a voicemail on MCH service and then followed up with a text.	No objection or claim raised		
	22/04/2025	002160	Email	CAPL wrote to MCH in relation to outcomes following the meeting on April 9, 2025 (Record ID 002145).	No objection or claim raised		
	23/04/2025	002325	Email	CAPL received letter from MCH legal representative.	No objection or claim raised		
	28/04/2025	002162	Email	CAPL provided response to MCH legal representative.	No objection or claim raised		
	02/05/2025	002336	Phone	CAPL received a call from MCH.	No objection or claim raised		
	20/05/2025	002375	Face-to-Face	CAPL met with MCH legal representation in relation to the meeting held on April 9, 2025, and future consultation and cultural heritage management.	No objection or claim raised		
	06/06/2025	002296	Email	CAPL requested comments or feedback in relation to Jansz Umbilical EP and direction from MCH legal representative with respect to ongoing consultation. CAPL confirmed close of consultation on 27 June 2025.	No objection or claim raised		
	16/06/2025	002335	Email	MCH wrote to CAPL with request for meeting recording and invoice query.	No objection or claim raised		
	16/06/2025	002341	Email	CAPL received email from MCH legal representative confirming representation for environment plan consultation.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	16/06/2025 - 24/06/2025	002373	Email	MCH wrote to CAPL in relation to the meeting held on April 9, 2025. CAPL provided response to MCH.	No objection or claim raised		
	27/06/2025-29/06/2025	002383	Email	MCH legal representatives requested consultation extension to provide submission. CAPL provided extension to July 2, 2025, for Jansz Umbilical EP.	MCH requested extension of consultation period.	**Claim has merit:** CAPL acknowledge MCH's extension request.	No change made to the EP. CAPL replied and provided an extension.
	01/07/2025	002392	Email	MCH legal representatives thanked CAPL for their response and enquired about EPs outside the scope of this EP. CAPL provided a response to this query.	No objection or claim raised		
	07/07/2025	002437	Email	MCH representative contacted CAPL requesting extension to provide submission on EP. CAPL confirmed that an extension would not be granted for submission.	MCH requested extension of consultation period.	**Claim has merit:** CAPL acknowledge MCH's extension request. However, as indicated in previous engagement (Record ID 002383), the deadline for submission was extended to July 2, 2025 to reflect project timelines.	No change made to the EP. CAPL provided a response to MCH request.
	17/07/2025	002439	Email	MCH representative wrote to CAPL in relation to payment for invoices, changes to executed consultation and negotiation protocols and access to BWI.	No objection or claim raised		
	21/07/2025	002408	Phone	MCH representative contacted CAPL by phone.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	31/07/2025	002438	Email	CAPL provided response addressing matters raised in Record ID 002438.	No objection or claim raised		
				Summary: • CAPL commenced consultation and discussions relating to the EP with MCH on 11 March 2025. Formal written notification was provided via email on 31 March 2025, advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. • CAPL had a face-to-face meeting, in which MCH requested clarification regarding the activity (Record ID 002145). CAPL responded to MCH's comments during the meeting. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures to enable an informed assessment, both in the face-to-face meeting and in writing through provision of information sheets. • In relation to MCH interests regarding songlines, oceans and marine fauna that may be impacted by the activities subject of the EPs, MCH has previously communicated that they would like to inform CAPL of the following: – The sea is the source of energy for all life, it holds the codes that are encrypted in each person's body and the songlines and is the lifeforce for the world. – The places where the saltwater from the sea and the freshwater from the land connect are where the biggest energy lines are, and that connection is a force of creation relevant to a Dreaming story.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				– Songlines extend out from the land, through the sea and around the globe, connecting places, people and animals to each other, creating migratory patterns for animals and telling animals of the right time to birth and eat. – Marine fauna, such as whales, dugongs, dolphins and turtles hold cultural significance for Mardathoonera people. – There is a large energy line that exists off the coast of Murujuga and runs through the area that Chevron operates in and MCH is aware that this area is in the whales' migration line. Both whales that migrate north to south and south to north pass through this area. Whales may be disrupted by activities occurring along the songline and their migration pathway, including the activities the subject of the EPs. – MCH is connected to the songlines. If the songlines are disrupted, MCH and its people are disrupted – their widdart (heart) is disconnected – like the whales, their feet get lost and they don't know where to go anymore. • CAPL has informed MCH that they may request information provided during consultation not to be published (Regulation 25(4)) in opening consultation emails and activity information sheets. CAPL has also provided MCH with a copy of NOPSEMA's consultation guideline, which further describes their right to request information not to be published. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				control measures to enable an informed assessment by MCH. • CAPL has provided a reasonable period and sufficient information to allow MCH to identify the effect of the proposed activity on their functions, interests and activities, and to provide any objections or claims as set out in Section 6.2.3 of the EP. CAPL is continuing to engage with MCH representatives regarding future and ongoing consultation. In future, consultation will be conducted in writing (including ongoing consultation on this EP).			
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	31/03/2025	002139	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	29/04/2025	002249	Email	CAPL sent follow up email requesting feedback on the EP information	No objection or claim raised		
	2/05/2025-14/05/2025	002257	Email	CAPL emailed NTGAC via their representative to request a meeting and discuss areas of importance. NTGAC's representatives provided a response and discussed organising a meeting in June.	No objection or claim raised		
	29/05/2025	002349	Email	CAPL sent confirmation of consultation meeting with the board as well as a copy of the Launch email containing the information sheet.	No objection or claim raised		
	12/06/2025	002364	Face-to-Face	CAPL met with NTGAC to consult on the EP. CAPL provided NTGAC with: • A presentation and information sheets on the activity • A copy of NOPSEMA consultation guideline Within the meeting, the following areas were discussed between NTGAC and CAPL:	NTGAC raised the importance of Sea Country.	**Claim has merit:** CAPL note the importance of Sea Country.	No change made to the EP. Table 4-16 of the EP lists cultural values or features identified through consultation. This table includes NTGAC and the

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• How the umbilical is installed and sits on the seabed. • The possibility of the removal of existing umbilical. • The location of umbilical termination assembly (UTA) units. • Examples of where things have gone wrong. • Marine Fauna Observer training converting to employment • NTGAC provided information on their Healthy Sea Country Plan that provides guidance on the areas of importance to them for Sea Country. No concerns were shared and there was no further information required on any of the points discussed.			cultural importance of Sea Country.
	16/06/2025	002358	Email	CAPL confirmed close of consultation with NTGAC and provided the agreed upon summary of consultation to be included in the Appendix D of the Environment Plan.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL sent a formal written notification on 31 March 2025 advising NTGAC that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. • CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL notified that NTGAC that they are committed to ongoing consultation			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				communication and welcome meaningful feedback. • NTGAC and CAPL met on 12 June 2025 in Carnarvon to consult on Jansz Umbilical EP. • CAPL provided the NTGAC with: – A presentation by project and environment subject matter experts (SME) and information sheets on the activity – A copy of NOPSEMA community consultation guideline • Within the meeting, the following areas were discussed: – How the umbilical is installed and sits on the seabed. – The possibility of the removal of existing umbilical. – The location of umbilical termination assembly (UTA) units. – Examples of where things have gone wrong. – Marine Fauna Observer training converting to employment. • NTGAC provided information on their Healthy Sea Country Plan that provides guidance on the areas of importance to them for Sea Country. • CAPL have committed to a continued discussion on the identification of Priority Protection Area's that align with the Health Sea Country Plan. • CAPL has informed NTGAC that they may request information provided during consultation not to be published (Regulation 25(4)) in opening consultation emails and activity information sheets. CAPL has also provided NTGAC with a copy of NOPSEMA's consultation guideline, which further			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				describes their right to request information not to be published. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures to enable an informed assessment by NTGAC. • CAPL has provided a reasonable period and sufficient information to allow NTGAC to identify the effect of the proposed activity on their functions, interests and activities, and to provide any objections or claims as set out in Section 6.2.3 of the EP. CAPL will continue to engage NTGAC as part of its ongoing consultation for environment plans, as outlined in Section 8.3.4.1 of the EP.			
Nhuwala Claimant Group	17/01/2025-14/03/2025	002213	Email	CAPL email Nhuwala Claimant Group representative regarding upcoming meeting and consultation meeting protocols. CAPL provided a draft consultation agreement for Nhuwala Claimant Group.	No objection or claim raised		
	27/03/2025-28/03/2025	002210	Email	CAPL emailed Nhuwala Claimant Group representative regarding the agenda for the upcoming meeting, including: • introduction to understanding areas of interest • EP consultation • Consultation agreement.	No objection or claim raised		
	31/03/2025	002209	Email	Nhuwala Claimant Group representative engaged via email regarding upcoming meeting with Nhuwala Claimants.	No objection or claim raised		
	08/04/2025	002196	Email	CAPL responded to Nhuwala Claimant Group representative confirming that CAPL would provide printed copies of the Jansz Umbilical EP information sheet, PowerPoint presentation and the NOPSEMA community consultation brochure (see Record ID 002153).	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	10/04/2025	002153	Face-to-face and email	Nhuwala Claimant Group and CAPL met on 10 April 2025 in Perth to consult on Jansz Umbilical EP. CAPL provided the Nhuwala Claimant Group with: • A presentation by project and environment subject matter experts (SME) and information sheets on the activity • A copy of NOPSEMA community consultation guideline Within the meeting, the following areas were discussed: • Materials used in manufacture of umbilical • Source of energy for the umbilical and offshore fields • Understanding of whale migration and biologically important areas • Consultation with other marine users including fishers • Chevrons understanding of the marine and subsea environment • Risks associated with drilling Nhuwala Claimant Group asked about the privacy of the information captured through consultation and requested information be stored securely with controlled access. CAPL have committed to a follow up meeting to discuss access to BWI and opportunities to be involved in training that would support the Nhuwala Claimant Group's involvement in the offshore environment.	Clarification was provided around: • Materials used in manufacture of umbilical • Source of energy for the umbilical and offshore fields • Understanding of whale migration and biologically important areas • Consultation with other marine users including fishers • Chevrons understanding of the marine and subsea environment • Risks associated with drilling. Nhuwala Claimant Group requested information shared with CAPL be stored securely with controlled access.	**Claims have merit**: The provision of clarification regarding activities and relevant information is considered fair and reasonable. CAPL recognise the requirement to store information securely and with controlled access.	No change made to the EP. Clarification was provided on the raised points during the meeting. CAPL confirmed the requirement to store information securely and with controlled access.
	21/05/2025	002264	Email	CAPL confirmed close of consultation with Nhuwala Claimant Group and provided the agreed upon summary of consultation to be included in the Appendix D of the Environment Plan.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL sent a formal written notification on 31 March 2025 advising the Nhuwala Claimant Group that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. • CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL notified that Nhuwala Claimant Group that they are committed to ongoing consultation communication and welcome meaningful feedback. • Nhuwala Claimant Group and CAPL met on 10 April 2025 in Perth to consult on Jansz Umbilical EP. • CAPL provided the Nhuwala Claimant Group with: – A presentation by project and environment subject matter experts (SME) and information sheets on the activity – A copy of NOPSEMA community consultation guideline • Within the meeting, the following areas were discussed: – Materials used in manufacture of umbilical – Source of energy for the umbilical and offshore fields – Understanding of whale migration and biologically important areas			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				– Consultation with other marine users including fishers – Chevrons understanding of the marine and subsea environment – Risks associated with drilling. • Nhuwala Claimant Group asked about the privacy of the information captured through consultation and requested information be stored securely with controlled access. • CAPL have committed to a follow up meeting to discuss access to BWI and opportunities to be involved in training that would support the Nhuwala Claimant Group's involvement in the offshore environment. • CAPL has informed Nhuwala Claimant Group that they may request information provided during consultation not to be published (Regulation 25(4)) in opening consultation emails and activity information sheets. CAPL has also provided Nhuwala Claimant Group with a copy of NOPSEMA's consultation guideline, which further describes their right to request information not to be published. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures to enable an informed assessment by Nhuwala Claimant Group. • CAPL has provided a reasonable period and sufficient information to allow Nhuwala Claimant Group to identify the effect of the proposed activity on their functions, interests and activities, and to provide any objections or claims as set out in Section 6.2.3 of the EP. CAPL will continue to engage Nhuwala Claimant Group as part of its ongoing consultation for			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				environment plans, as outlined in Section 8.3.4.1 of the EP.			
Wirrawandi Aboriginal Corporation RNTBC (WAC)	31/03/2025	002139	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002272	Email	CAPL sent a follow-up email to WAC. CAPL has asked whether the WAC board would like CAPL to present on the ongoing activities.	No objection or claim raised		
	20/05/2025-21/05/2025	002268	Email	WAC provided a response requesting to be consulted on the Jansz Umbilical Environment Plan and discussed Barrow Island surveys and potential next steps. CAPL has acknowledged the email from WAC inviting them to present on the Jansz Umbilical Environment Plan at their board meeting on 28 May. CAPL has confirmed their availability for the presentation on the 28th of May and mentioned they are flexible and can accommodate any time that works for WAC.	WAC raised the requirement for meaningful consultation and questioned CAPL's approach.	**Claim has merit:** As a Relevant Person, WAC is entitled to meaningful consultation.	No change made to the EP. Engagement with WAC is ongoing. Further clarification on claims raised were provided in Record ID 002266.
	27/05/2025	002266	Email	CAPL responded to an email received from WAC on 20 May 2025 (Record ID 002268) confirming that CAPL aims to maintain a collaborative partnership with WAC, actively participating in consultations and engagements. CAPL has requested to be present on 28th May 2025, regarding the Jansz Umbilical Environment Plan. CAPL advised WAC they are available over the phone or via Teams for further discussion. No response was received.	No objection or claim raised		
	04/06/2025-05/06/2025	002293	Email	CAPL emailed WAC to provide notification regarding another activity (outside the scope of this EP), follow up on Jansz Umbilical consultation, and requested opportunity to present to WAC.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL confirmed close of consultation on the 27th of June 2025.			
	18/06/2025	002342	Email	CAPL emailed WAC to follow up on previous email sent on the 27th of May 2025 (Record ID 002266).	No objection or claim raised		
	23/06/2025	002369	Email	WAC confirmed opportunity to consult at an upcoming board meeting.	No objection or claim raised		
	25/06/2025	002380	Email	CAPL emailed to confirm agenda for upcoming Board meeting scheduled for the 27th of June 2025.	No objection or claim raised		
	27/06/2025	002381	Virtual meeting	CAPL met with WAC to consult on the EP. Chevron confirmed that it had sent information on Jansz Umbilical EP to WAC on the 31st of March. CAPL provided WAC with: • A presentation and information sheets on the activity • A copy of NOPSEMA consultation guideline WAC requested information on: • The vessel and crew involved in the activity. • Location of the activity in regard to potential impacts to Mardathoonera country and ongoing protection of sea country. • Training opportunities for members • Ongoing consultation and engagement Chevron SME's provided responses to questions in the meeting and confirmed invitations for WAC to participate in offshore industry training in 2025 had been sent previously. Chevron confirmed willingness to enter into a consultation protocol with WAC.	No objection or claim raised		
	27/06/2025	002393	Email	CAPL emailed WAC to thank them for the opportunity to present to their board on 27th June 2025.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL attached in the email a copy of: • Presentation on EP • Information relating to other EPs • NOPSEMA's community guideline, • Draft Consultation protocol previously sent to WAC on 11/11/2024 CAPL welcome the opportunity to engage further with WAC, with respect to consultation and enhancing Priority Protection Plans.			
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation and discussions relating to the EP with WAC on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. • CAPL has met with WAC representatives in a face-to-face meeting and maintained contact through email correspondence • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures to enable an informed assessment by WAC. • CAPL has informed WAC that they may request information provided during consultation not to be published (Regulation 25(4)) during consultation co-design, in opening consultation emails and activity information sheets. CAPL has also provided WAC with a copy of NOPSEMA's			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				consultation guideline, which further describes their right to request information not to be published. • WAC did not raise any objections or claims relating to the activity. WAC raised the requirement for meaningful consultation. CAPL provided a response, including a summary of engagement, previous surveys, and participation in future surveys (Record ID 002266). During the board meeting (Record ID 002381) WAC raised clarifying questions, all of which were answered by CAPL during the meeting. • CAPL emailed WAC following the board meeting on 27 June 2025 (Record ID 002393). CAPL attached an email to WAC from 11/11/2024, in which the Draft Consultation protocol was previously provided. • CAPL has provided a reasonable period and sufficient information to allow WAC to identify the effect of the proposed activity on their functions, interests or activities, and to provide any objections or claims as set out in Section 6.2.3 of the EP. CAPL will continue to engage WAC as part of its ongoing consultation for environment plans, as outlined in Section 8.3.4.1 of the EP.			

1.3.2 Commercial fishery licence holders and/or representative bodies

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Australian Council of Prawn Fisheries (ACPF) Ltd.	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with ACPF on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • ACPF did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to ACPF to make an informed assessment of the			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Aquaculture Council of WA (ACWA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	18/06/2025	002345	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with ACWA on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				description, EMBA, potential impacts and risks and control measures. • ACWA did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to ACWA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Commonwealth Fisheries Association (CFA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with CFA on 31 March 2025 via formal written notification advising they had been identified as a relevant person with			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • CFA did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to CFA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Marine Tourism WA	12/06/2025	002330	Email	CAPL contacted Marine Tourism WA, following a suggestion from DPIRD (Record ID 002319), and enquired as to whether they would like to be included in consultation for this EP. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage. No response was received.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with Marine Tourism WA on 12 June 2025, following the suggestion from DPIRD (Record ID 002319). CAPL provided an overview of the activity and information sheet. • Marine Tourism WA did not raise any objections or claims relating to the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • CAPL has provided a reasonable period and sufficient information to Marine Tourism WA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Tuna Australia	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	07/05/2025-12/05/2025	002276	Email	Tuna Australia responded and enquired about the existing consultation agreement.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL confirmed with Tuna Australia they believe they can continue using the existing arrangement without any issues. CAPL asked whether they can continue to provide information on new activities in this area, as they are doing, with Tuna Australia. No response was received.			
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Tuna Australia on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Tuna Australia did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Tuna Australia to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			
Western Australian Fishing Industry Council (WAFIC)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	18/06/2025	002345	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	19/06/2025	002370	Email	WAFIC emailed CAPL to confirm the notification and attachment sent by CAPL on 19th June 2025 was distributed to the following fisheries: • Mackerel Managed Fishery (Area 2) • Pilbara Crab Managed Fishery • Pilbara Line Fishery • Pilbara Trap Managed Fishery • West Australian Sea Cucumber Fishery (Beche-De-Mer) Fishery • Northwest Slope Trawl WAFIC confirmed they would relay any feedback received by 27 June 2025.	No objection or claim raised		
	27/06/2025	002391	Email	WAFIC confirmed that no feedback was received from industry in regard to the activity. WAFIC requested clarification regarding the source of materials and biosecurity, and unplanned event preparations and notifications. CAPL replied and confirmed that materials used for the Jansz Umbilical are globally sourced from specialist manufacturers. These	WAFIC requested clarification regarding the source of materials and biosecurity, and unplanned event	**Claims have merit:** All questions raised for clarification are relevant to the activity.	No change made to the EP. CAPL provided a response to all queries raised, and WAFIC confirmed they

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				materials are thoroughly cleaned at various stages before entering Australian waters to meet biosecurity requirements. CAPL confirmed that all actions raised by WAFIC in regard to an unplanned event are in place. WAFIC thanked CAPL for their reply and confirmed they had no further concerns.	preparations and notifications.		had no further concerns.
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with WAFIC on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • WAFIC did not raise any objections or claims relating to the activity. WAFIC requested clarification regarding biosecurity and unplanned events, to which CAPL provided a response and answered all questions raised. • CAPL has provided a reasonable period and sufficient information to WAFIC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities,			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.3.3 Tourism and recreation operators

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Apache Fishing Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Apache on 31 March 2025 via formal written notification advising they had been identified as a relevant person with			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Apache did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Apache to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Archipelago Adventures	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	18/06/2025	002345	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.			
				Summary: • CAPL commenced consultation with Archipelago Adventures on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Archipelago Adventures did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Archipelago Adventures to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ashburton Anglers	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ashburton Anglers on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ashburton Anglers did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ashburton Anglers to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			
Blue Juice Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Blue Juice Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Blue Juice Charters did not raise any objections or claims relating to the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has provided a reasonable period and sufficient information to Blue Juice Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Blue Lightning Fishing Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Blue Lightning Fishing Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Blue Lightning Fishing Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Blue Lightning Fishing Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Bluesun2 Boat Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with Bluesun2 Boat Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Bluesun2 Boat Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Bluesun2 Boat Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Boating Industry Association WA	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Boating Industry Association WA on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Boating Industry Association WA did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Boating Industry Association WA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Cape Immersion Tours	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Cape Immersion Tours on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Cape Immersion Tours did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Cape Immersion Tours to make an informed assessment of the possible consequences of the activity on its functions, interests			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Exmouth Dive & Whalesharks Ningaloo	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Exmouth Dive & Whalesharks Ningaloo on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				description, EMBA, potential impacts and risks and control measures. • Exmouth Dive & Whalesharks Ningaloo did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Exmouth Dive & Whalesharks Ningaloo to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Exmouth Dive Centre	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Exmouth Dive Centre on 31 March 2025			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Exmouth Dive Centre did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Exmouth Dive Centre to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Exmouth Game Fishing Club	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Exmouth Game Fishing Club on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Exmouth Game Fishing Club did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Exmouth Game Fishing Club to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Image Dive and Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Image Dive and Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• Image Dive and Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Image Dive and Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Innkeeper Sport Fishing Charter	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with Innkeeper Sport Fishing Charter on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Innkeeper Sport Fishing Charter did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Innkeeper Sport Fishing Charter to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Kings Ningaloo Reef Tours	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Kings Ningaloo Reef Tours on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Kings Ningaloo Reef Tours did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Kings Ningaloo Reef Tours to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Live Ningaloo	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Innkeeper Live Ningaloo on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• Live Ningaloo did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Live Ningaloo to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Mackerel Islands & Onslow Beach Resort	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with Mackerel Islands & Onslow Beach Resort on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Mackerel Islands & Onslow Beach Resort did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Mackerel Islands & Onslow Beach Resort to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Mahi Mahi Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Mahi Mahi Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Mahi Mahi Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Mahi Mahi Charters to make an informed assessment of the possible consequences of the activity on its functions, interests			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Montebello Island Safaris	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Montebello Island Safaris on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Montebello Island Safaris did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Montebello Island Safaris to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Blue Dive	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Blue Dive on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Blue Dive did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Blue Dive to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Coral Bay Boats	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Coral Bay Boats on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Coral Bay Boats did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Coral Bay Boats to make an informed assessment of the possible consequences			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Discovery	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Discovery on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Discovery did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Discovery to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Fly Fishing	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Fly Fishing on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Fly Fishing did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Fly Fishing to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Glass Bottom Boat	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Glass Bottom Boat on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Glass Bottom Boat did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Glass Bottom Boat to make an informed assessment of the possible consequences			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Marine Interaction	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Marine Interaction on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Marine Interaction did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Marine Interaction to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Reef Dive	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Reef Dive on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Reef Dive did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Reef Dive to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Reef to Range Tours	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Reef to Range Tours on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Reef to Range Tours did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Reef to Range Tours to make an informed assessment of the possible consequences			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Safari Tours	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Safari Tours on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Safari Tours did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Safari Tours to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Sportfishing Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Sportfishing Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Sportfishing Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Sportfishing Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Visitor Centre	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				information sheet and a link to CAPLs consultation webpage.			
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Visitor Centre on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Visitor Centre did not raise any objections or claims relating to the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has provided a reasonable period and sufficient information to Ningaloo Visitor Centre to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Whaleshark n Dive	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Whaleshark n Dive on 31 March 2025 via formal written notification			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Whaleshark n Dive did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Whaleshark n Dive to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ningaloo Whaleshark Swim	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ningaloo Whaleshark Swim on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ningaloo Whaleshark Swim did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ningaloo Whaleshark Swim to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			
Ocean Eco Adventures	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ocean Eco Adventures on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				description, EMBA, potential impacts and risks and control measures. • Ocean Eco Adventures did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ocean Eco Adventures to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
On Strike Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with On Strike Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • On Strike Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to On Strike Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Peak Sportfishing Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Peak Sportfishing Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Peak Sportfishing Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Peak Sportfishing Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			
Recfishwest (WA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	28/04/2025	002283	Email	Recfishwest confirmed that they did not have any concerns regarding the activity and requested ongoing engagement. CAPL replied and thanked them for their response.	Recfishwest requested ongoing engagement.	**Claim has merit:** As a Relevant Person, the request for ongoing engagement is considered fair and reasonable.	No change made to the EP. Table 8-5 of the EP lists the notifications and ongoing consultation commitments for the activity, including ongoing engagement with Recfishwest.
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Recfishwest on 31 March 2025 via formal			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Recfishwest did not raise any objections or claims relating to the activity. However, Recfishwest did requested ongoing engagement. This requirement is captured within Table 8-5 of the EP. • CAPL has provided a reasonable period and sufficient information to Recfishwest to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Sail Ningaloo	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Sail Ningaloo on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Sail Ningaloo did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Sail Ningaloo to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			
Three Islands Whale Shark Tours	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Three Islands Whale Shark Tours on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				description, EMBA, potential impacts and risks and control measures. • Three Islands Whale Shark Tours did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Three Islands Whale Shark Tours to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Top Gun Charters	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.			
				Summary: • CAPL commenced consultation with Top Gun Charters on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Top Gun Charters did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Top Gun Charters to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Ultimate WaterSports	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Ultimate WaterSports on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Ultimate WaterSports did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Ultimate WaterSports to make an informed assessment of the possible consequences of the activity on its functions, interests			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
View Ningaloo	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with View Ningaloo on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • View Ningaloo did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to View Ningaloo to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Wilderness Island	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary:			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL commenced consultation with Wilderness Island on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Wilderness Island did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Wilderness Island to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Yardi Creek Boat Tours	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002318	Phone	CAPL sent a text messaged to follow up on consultation.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Yardi Creek Boat Tours on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Yardi Creek Boat Tours did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Yardi Creek Boat Tours to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			

1.3.4 Local government departments or agencies

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Shire of Ashburton (Pilbara)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	29/04/2025	002188	Email	The Shire of Ashburton responded to CAPL Jansz Umbilical EP launch email, confirming receipt of email and advised that they've forwarded the email to responsible person with organisation.	No objection or claim raised		
	01/05/2025-05/05/2025	002183	Email	The Shire of Ashburton provided a response, and raised/requested clarification on: • Environmental Management and Risk Mitigation • Consultation with Traditional Owners and Community Engagement • Monitoring and reporting • Decommissioning. CAPL responded to the Shire of Ashburton's email providing further information regarding the issues raised.	The Shire of Ashburton requested clarification on the activity.	**Claim has merit:** As a Relevant Person, requesting clarification is considered fair and reasonable.	No change made to the EP. CAPL provided a response and provided clarification.
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.			
				Summary: • CAPL commenced consultation with Shire of Ashburton on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Shire of Ashburton did not raise any objections or claims relating to the activity. The Shire requested clarification on risk mitigation, consultation with Traditional Owners, monitoring and reporting and decommissioning. CAPL provided a response addressing these queries (Record ID 002183). • CAPL has provided a reasonable period and sufficient information to Shire of Ashburton to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Shire of Exmouth (Gascoyne)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Shire of Exmouth on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Shire of Exmouth did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Shire of Exmouth to make an informed assessment of the possible consequences of the activity on its functions, interests			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.3.5 WA World Heritage advisory committees

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Ningaloo Coast World Heritage Advisory Committee (NCWHAC)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with NCWHAC on 31 March 2025 via formal written notification advising they had been identified as a relevant person with			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • NCWHAC did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to NCWHAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.3.6 Other Petroleum Titleholders

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Carnarvon Energy	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	04/04/2025	002200	Email	CAPL received confirmation from Carnarvon Energy that they no comments or feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Carnarvon Energy on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Carnarvon Energy did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Carnarvon Energy to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Eni Australia	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002320	Email	Eni Australia emailed CAPL to advise they have no concerns regarding the activity.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Eni Australia on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Eni Australia did not raise any objections or claims relating to the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has provided a reasonable period and sufficient information to Eni Australia to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Exxon Mobil	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Exxon Mobil on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Exxon Mobil did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Exxon Mobil to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Jadestone Energy	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary:			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL commenced consultation with Jadestone Energy on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Jadestone Energy did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Jadestone Energy to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Kato Energy / Kato NWS Pty Ltd	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Kato Energy on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Kato Energy did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Kato Energy to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Kufpec	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	17/04/2025	002191	Email	Kufpec responded and confirmed they had no objections to the proposed activities.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Kufpec on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Kufpec did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Kufpec to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Santos	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	16/05/2025	002269	Email	Santos replied and confirmed that they have no objections or claims regarding the planned activity.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Santos on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Santos did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Santos to make an informed assessment of the possible consequences of the activity on its functions, interests and activities,			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Shell	31/03/2025	002138	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	31/03/2025	002206	Email	Notification of consultation launch sent via email (to an alternate email address). CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Shell on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Shell did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Shell to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Western Gas	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary:			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL commenced consultation with Western Gas on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Western Gas did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Western Gas to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Woodside	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Woodside on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Woodside did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Woodside to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.3.7 ENGOs

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Australian Marine Conservation Society (AMCS)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with AMCS on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • AMCS did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to AMCS to			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Cape Conservation Group (CCG)	03/04/2025	002331	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	18/06/2025	002345	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with CCG on 2 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity,			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				including the activity description, EMBA, potential impacts and risks and control measures. • CCG did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to CCG to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Protect Ningaloo	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Protect Ningaloo on 31 March 2025 via formal written notification advising they			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Protect Ningaloo did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Protect Ningaloo to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.3.8 Other

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Australian Institute of Marine Science (AIMS)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with AIMS on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • AIMS did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to AIMS to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			
Australian Marine Oil Spill Response Centre (AMOSC)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with AMOSC on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • AMOSC did not raise any objections or claims relating to the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has provided a reasonable period and sufficient information to AMOSC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Care For Hedland Environmental Association	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	18/06/2025	002345	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Care For Hedland on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Care For Hedland did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Care For Hedland to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Exmouth Chamber of Commerce and Industry (ECCI)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary:			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL commenced consultation with ECCI on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • ECCI did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to ECCI to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Onslow Chamber of Commerce and Industry (CCI)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with CCI on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • CCI did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to CCI to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Oil Spill Response Limited (OSRL)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with OSRL on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • OSRL did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to OSRL to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				will consider any feedback provided in the future (Section 8.3.4.1).			
Telstra	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	23/06/2025	002362	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Telstra on 31 March 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Telstra did not raise any objections or claims relating to the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has provided a reasonable period and sufficient information to Telstra to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Vocus Communications	03/04/2025	002141	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	04/04/2025-07/04/2025	002198	Email	CAPL received confirmation from Vocus that they do not have any comments on EP. CAPL responded to Vocus acknowledging their response.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Vocus Communications on 3 April 2025 via formal written notification advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and information sheet. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				description, EMBA, potential impacts and risks and control measures. • Vocus Communications did not raise any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Vocus Communications to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.4 Regulation 25(1)(e) - Any other person or organisation that the titleholder considers relevant

1.4.1 Commercial fishery licence holders and/or representative bodies

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Pearl Producers Association (PPA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with PPA on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • PPA has not raised any objections or claims relating to the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has provided a reasonable period and sufficient information to PPA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Western Rock Lobster Council	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Western Rock Lobster Council on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Western Rock Lobster Council has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Western Rock Lobster Council to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.4.2 Tourism and recreation operators

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Tourism Western Australia	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Tourism Western Australia on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Tourism Western Australia has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Tourism Western Australia to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Karratha Tourism and Visitor Centre	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	03/04/2025	002142	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Karratha Tourism and Visitor Centre on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Karratha Tourism and Visitor Centre has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Karratha Tourism and Visitor Centre to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

1.4.3 Other

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Australian Conservation Foundation (ACF)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with ACF on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • ACF has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to ACF to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Centre for Whale Research Western Australia (CWR)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with CWR on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • CWR has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to CWR to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Conservation Council of WA (CCWA)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with CCWA on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• CCWA has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to CCWA to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Exmouth Gulf Task Force - DWER	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Exmouth Gulf Task Force on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Exmouth Gulf Task Force has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Exmouth Gulf Task Force to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Greenpeace	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	18/06/2025	002345	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with Greenpeace on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Greenpeace has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Greenpeace to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
International Fund for Animal Welfare (IFAW) - Oceania	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with IFAW on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • IFAW has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to IFAW to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Pilbara Development Commission (PDC)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with PDC on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • PDC has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to PDC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
WA Coastal and Marine Community Network (WACMCN)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with WACMCN on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures.			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				• WACMCN has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to WACMCN to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
WA Marine Science Institute (WAMSI)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with WAMSI on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • WAMSI has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to WAMSI to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Western Australian Museum (WAM)	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				Summary: • CAPL commenced consultation with WAM on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • WAM has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to WAM to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			
Whale and Dolphin Conservation Society	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Whale and Dolphin Conservation Society on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Whale and Dolphin Conservation Society has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Whale and Dolphin Conservation Society to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Wilderness Society	31/03/2025	002140	Email	Notification of consultation launch sent via email. CAPL provided a written notification of the proposed activities and provided an information sheet and a link to CAPLs consultation webpage.	No objection or claim raised		
	28/04/2025	002233	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	12/06/2025	002317	Email	CAPL sent a follow up email requesting feedback on the EP.	No objection or claim raised		
	27/06/2025	002386	Email	CAPL advised the consultation period for the EP has closed. CAPL noted it would welcome engagement for upcoming activities and feedback for future environmental plans.	No objection or claim raised		
				Summary: • CAPL commenced consultation with Wilderness Society on 31 March 2025 via email advising they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. • CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity, including the activity description, EMBA, potential impacts and risks and control measures. • Wilderness Society has not raised any objections or claims relating to the activity. • CAPL has provided a reasonable period and sufficient information to Wilderness Society to make an informed assessment of the possible consequences of the			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 25. CAPL notes that further feedback may be received as part of ongoing consultation. CAPL will consider any feedback provided in the future (Section 8.3.4.1).			