ENVIRONMENT PLAN

Beehive Multi-Well Exploration Drilling

WA-488-P

28 June 2024

Rev 0

eog resources

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Front cover image: The cantilever deck of the Noble Tom Prosser jack-up mobile offshore drilling unit (Photo credit: G. Pinzone, Aventus Consulting).

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Acronyms

Acronym	Definition
2D	Two-dimensional
3D	Three-dimensional
AAR	Air to Air Refuelling
ACMA	Australian Communications and Media Authority
AEP	Australian Energy Producers (formerly APPEA)
AET	Australian External Territory
AEW&C	Airborne Early Warning and Control
AFANT	Amateur Fishermen's Association of the Northern Territory
AFE	Authority for Expenditure
AFMA	Australian Fisheries Management Authority
AFZ	Australian Fishing Zone
AHIS	Aboriginal Heritage Inquiry System
AHO	Australian Hydrographic Office
AIMS	Australian Institute of Marine Science

Acronym	Definition
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
AMOSC	Australian Marine Oil Spill Centre
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
APPEA	Australian Petroleum Production and Exploration Association
AS	Australian Standard
ASBTIA	Australian Southern Bluefin Tuna Industry Association
BAT	Best Available Techniques
BHA	Bottom Hole Assembly
BIA	Biologically Important Area
BOD	Basis of Design
BOM	Bureau of Meteorology
BOP	Blowout Preventor
BPEM	Best Practice Environmental Management
BRUVS	Baited Remote Underwater Video Systems
BWMC	Ballast Water Management Certificate
BWMP	Ballast Water Management Plan
BWR	Ballast Water Report
BWRS	Ballast Water Record System
CAMBA	People's Republic of China for the Protection of Migratory Birds and their Environment 1986
CASA	Civil Aviation Safety Authority (Cth)
CEFAS	Centres for Environment, Fisheries and Aquaculture Science (UK)
CFA	Commonwealth Fisheries Authority
CHARM	Chemical Hazard and Risk Management
CoEP	Code of Environmental Practice
CMID	Common Marine Inspection Document
CMP	Conservation Management Plan
CPUE	Catch Per Unit Effort
Cth	Commonwealth
DAFF	Department of Agriculture, Fisheries and Forestry (Cth)
DCCEW	Department of Climate Change, Energy, the Environment and Water (Cth)
DBCA	Department of Biodiversity, Conservation and Attractions (WA)
DDRs	Daily Drilling Reports
DEPWS	Department of Environment, Parks and Water Security (NT)
DIMT	Drilling Incident Management Team

Acronym	Definition
DITT	Department of Industry, Tourism and Trade (NT)
DMC	Drilling Management Contractor
DMIRS	Department of Mines, Industry Regulation and Safety (WA)
DNP	Director of National Parks (Cth)
DoD	Department of Defence
DoF	Department of Fisheries (WA)
DoT	Department of Transport (WA)
DP	Dynamic Positioning
DPIRD	Department of Primary Industries and Region Development (WA)
DPLH	Department of Planning, Lands and Heritage (WA)
DST	Drill Stem Test
EB	Environmental Benefit
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIAPP	Engine International Air Pollution Prevention
EMBA	Environment That May Be Affected
EMP	Emergency Marine Pest Plan
EOG	EOG Resources Australia Block WA-488-P Pty Ltd
EP	Environment Plan
ePAR	Electronic Pre-Arrival Report
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EPO	Environmental Performance Objective
EPS	Environmental Performance Standard
ERA	Environmental Risk Assessment
ERM	Environmental Resources Management Australia Pty Ltd
ERP	Emergency Response Plan
ERT	Emergency Response Team
ESD	Ecologically Sustainable Development
Ev	Evaluation
FOSC	Federal On-Scene Coordinator
G&G	Geophysical and Geotechnical (investigations)
GEP	Gas Export Pipeline
GHG	Greenhouse Gas
GMDSS	Global Maritime Distress and Safety System
GMP	Garbage Management Plan
HFC	High Frequency Cetacean

Acronym	Definition
HFO	Heavy Fuel Oil
HMCS	Harmonised Mandatory Control Scheme
HQ	Hazard Quotient
HSE	Health, Safety and Environment
HTB	High Temperature Blend
HVAC	Heating, Ventilation and Air Conditioning
IADC	International Association of Drilling Contractors
IAFS	International Anti-fouling System
IAPP	International Air Pollution Prevention
IAT	Integrated Acceptance Test
IAWC	International Alliance for Well Control
IEE	International Energy Efficiency
IMAS	Institute for Marine and Antarctic Studies
IMCA	International Marine Contractors Association
IMCRA	Integrated Marine and Coastal Regionalisation of Australia
IMDG	International Marine Dangerous Goods
IMO	International Maritime Organisation
IMP	Impact
IMS	Invasive Marine Species
IMT	Incident Management Team
IO	Internal Olefins
IOGP	International Association of Oil & Gas Producers
IOPP	International Oil Pollution Prevention
IPIECA	International Petroleum Industry Environmental Conservation Association
IPP	International Pollution Prevention
ISPP	International Sewage Pollution Prevention
ISPS	International Ship and Port Facility Security
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for the Conservation of Nature
IWCF	International Well Control Forum
JAMBA	Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment
JBG	Joseph Bonaparte Gulf
JSA	Job Safety Analysis
KCMF	Kimberley Crab Managed Fishery (also referred as the North Coast Crab Fishery).
KEF	Key Ecological Feature
KGBF	Kimberley Gillnet and Barramundi Fishery

Acronym	Definition
KLC	Kimberley Land Council
KPMF	Kimberley Prawn Managed Fishery
LAO	Linear Alpha Olefins
LAT	Lowest Astronomical Tide
LCM	Lost Circulation Material
LFC	Low Frequency Cetacean
LoWC	Loss of Well Control
Ltd	Limited
LWD	Logging While Drilling
MAA	Mutual Assistance Agreement
MARPOL	International Convention for the Prevention of Pollution from Ships
MBC	Maritime Border Command
MDO	Marine Diesel Oil
MFC	Mid Frequency Cetacean
MFO	Marine Fauna Observer
MMF	Mackerel Managed Fishery
MMO	Marine Mammal Observer
MNES	Matters of National Environmental Significance
MoC	Management of Change
MoU	Memorandum of Understanding
MODU	Mobile Offshore Drilling Unit
MP	Marine Park
MSA	Master Services Agreement
MSL	Mean Sea Level
MSS	Marine Seismic Survey
MWD	Measurement While Drilling
NATA	National Association of Testing Authorities
NatPlan	National Plan for Maritime Environmental Emergencies
NCVA	National Conservation Values Atlas
NDSMF	Northern Demersal Scalefish Managed Fishery
NEBA	Net Environmental Benefit Analysis
NIW	Nationally Important Wetland
NLC	Northern Land Council
NMFS	National Marine Fisheries Service
NMR	North Marine Region
NMSC	Australian National Marine Safety Committee

Acronym	Definition
NNTT	National Native Title Tribunal
NOEC	No Effect Concentration
NOPSEMA	National Offshore Petroleum Safety and Environment Management Authority
NPF	Northern Prawn Fishery
NPFI	Northern Prawn Fishing Industry Pty Ltd
NSW	New South Wales
NT	Northern Territory
NTM	Notice To Mariners
NTSC	Northern Territory Seafood Council
NWMR	Northwest Marine Region
NWSA	North Wildcatch Seafood Australia
NZS	New Zealand Standard
OCNS	Offshore Chemical Notification Scheme
OCTG	Oil Country Tubular Goods
ODS	Ozone Depleting Substances
OEM	Original Equipment Manufacturer
OIM	Offshore Installation Manager
OIW	Oil-in-Water
OOC	Offshore Operations Committee
OPEP	Oil Pollution Emergency Plan
OPGGS	Offshore Petroleum and Greenhouse Gas Storage Act 2006 (Cth)
OPGGS(E)	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
OSAT-2	Operational Science Advisory Team study
OSCA	Oil Spill Control Agent
OSMP	Operational and Scientific Monitoring Program
OSPAR	Oslo-Paris Convention 1992
OSRL	Oil Spill Response Ltd
OSTM	Oil Spill Trajectory Modelling
OVID	Offshore Vessel Inspection Database
OWR	Oiled Wildlife Response
OWS	Oily Water Separator
P&A	Plug and Abandon/Abandonment
P&ID	Piping and Instrumentation Diagrams
PAH	Polyaromatic Hydrocarbons
PBW	Pygmy Blue Whale
PCBs	Polychlorinated Biphenyls

Acronym	Definition
PDSA	Pre-Drill Seabed Assessment
PEC	Predicted effect concentration
PHG	Pre-hydrated gel
PLONOR	Pose Little or No Risk
PMS	Planned Maintenance System
PMST	Protected Matters Search Tool
POB	Persons On Board
POLREP	Pollution Report
PPA	Pearl Producers Association
PPE	Personal Protective Equipment
PSZ	Petroleum Safety Zone
PTS	Permanent Threshold Shift
PTW	Permit To Work
PVC	Polyvinyl Chlorides
RCC	Response Coordination Centre
REACH	Registration, Evaluation and Authorisation of Chemicals
RO	Reverse Osmosis
ROKAMBA	Republic of Korea Migratory Birds Agreement 2006
ROV	Remotely Operated Vehicle
RQ	Risk Quotient
RSK	Risk
RWP	Relief Well Plan
SBM	Synthetic-based Mud
SBTF	Southern Bluefin Tuna Fishery
SCAT	Shoreline clean-up and assessment
SCR	Safety Case Revision
SDS	Safety Data Sheet
SECE	Safety and Environmentally Critical Elements
SECP	Safety and Environmentally Critical Positions
SEEMP	Ship Energy Efficiency Management Plan
SEL	Sound Exposure Level
SEP	Stakeholder Engagement Plan
SIMAP	Spill Impact Mapping Analysis Program
SIMOPS	Simultaneous Operations
SITREP	Situation Report
SMPEP	Shipboard Marine Pollution Emergency Plan

Acronym	Definition
SPL	Sound Pressure Level
SPRAT	Species Profile and Threats
SSS	Side scan sonar
STCW	Standards of Training, Certification and Watchkeeping for Seafarers
STP	Sewage Treatment Plant
TAP	Threat Abatement Plan
TD	Total Depth
TECS	Threatened Ecological Communities
TOC	Total Organic Carbon
TOFS	Time Out for Safety
TRP	Tactical Response Plan
TSS	Total Suspended Solids
TTS	Temporary Threshold Shift
TVDSS	Total Vertical Depth Subsea
UK	United Kingdom
UNEP IE	United Nations Environment Programme Industry and Environment
USA	United States of America
USBL	Ultrashort Base Line
UXO	Unexploded Ordnance
VHF	Very High Frequency
VOC	Volatile Organic Compounds
VoO	Vessels of Opportunity
VSP	Vertical Seismic Profile/Profiling
WA	Western Australia
WAF	Water-Accommodated Fraction
WAFIC	Western Australian Fishing Industry Council
WBM	Water-based Mud
WEL	Woodside Energy Limited
WestPlan	Western Australian Oil Spill Contingency Plan 2015
WHP	Wellhead Platform
WOMP	Well Operations Management Plan
WSTF	Western Skipjack Tuna Fishery
WTBF	Western Tuna and Billfish Fishery
WWC	Wild Well Control

Units

Abbreviation	Definition
”	Inch
km	Kilometre
m	Metre
mm	Millimetre
MM	Million
nm	Nautical miles
m^2	Square metres/metres squared
km^2	Square kilometres/kilometres squared
ppb	Parts per billion
ppm	Parts per million

1. Introduction

1.1. Background

EOG Resources Australia Block WA-488 Pty Ltd (hereafter referred to as EOG) is the titleholder of exploration permit WA-488-P and proposes to drill up to three exploration and/or appraisal wells within the permit. The wells will be drilled within a polygon of 45 square kilometres (km^2) (the 'activity area') in Commonwealth marine waters, approximately 77 kilometres (km) off the Western Australian (WA) coastline at its closest point, located in the Joseph Bonaparte Gulf (JBG), WA (Figure 1.1). This is referred to as 'the activity' throughout this document.

1.2. Purpose

EOG proposes to undertake the activity using a jack-up mobile offshore drilling unit (MODU) with auxiliary activities including support vessels and helicopters. The activity will be conducted entirely within Commonwealth waters in accordance with the *Offshore Petroleum and Greenhouse Gas Storage Act* 2006 (Cth) (OPGGS Act 2006) and Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (herein referred to as the OPGGS(E)).

This Environment Plan (EP) covers all operations associated with the activity. It aims to secure acceptance of the activity from the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) by demonstrating that EOG will manage the environmental impacts and risks of the activity (as defined in Section 1.4.1 of this EP) to As Low as Reasonably Practicable (ALARP) and to an acceptable level.

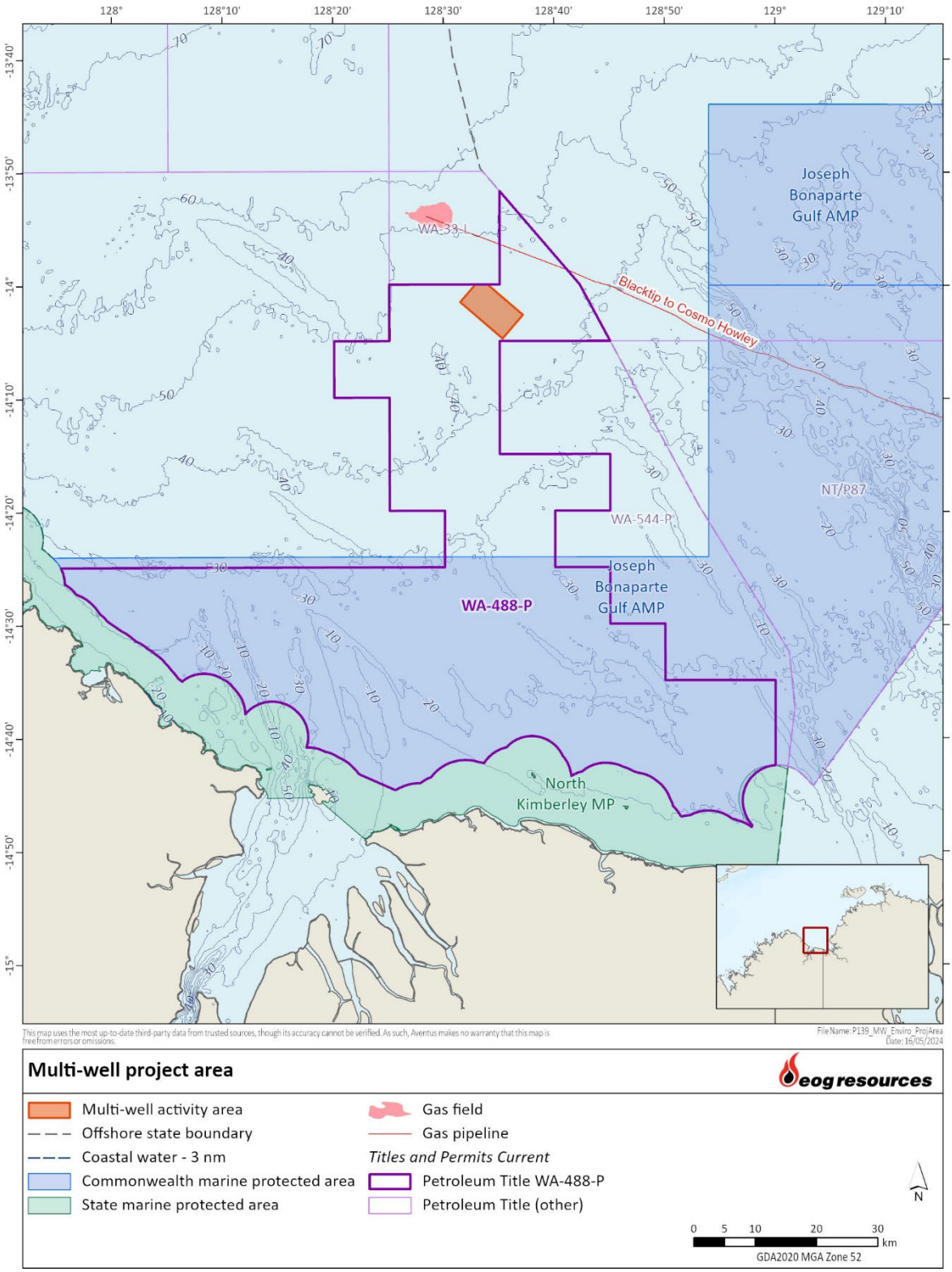


Figure 1.1. Location of the multi-well activity area in WA-488-P

1.3. Titleholder and Liaison Person

EOG Resources, Inc. (as the parent company of EOG) was established in 1985 and is listed on the New York Stock Exchange. It is one of the largest independent crude oil and natural gas exploration and production companies in the United States of America (USA) with hydrocarbon reserves in the USA and Trinidad & Tobago. The company has a market cap of approximately USD$68 billion (AUD$103 billion) as of the 14th of June 2024 and employs around 3,000 people.

EOG Resources, Inc. is the USA based parent company of EOG Resources Australia Block WA-488 Pty Ltd, the Australian entity responsible for the proposed development of permit area WA-488-P.

The Titleholder for this activity is:

EOG Resources Australia Block WA-488 Pty Ltd

Suite 406, Level 4, 20 Bond Street,

Sydney, NSW, 2000, Australia

The nominated liaison person for this EP is outlined in Table 1.1

Table 1.1. Titleholder nominated liaison details

Parameter	Details
Name	Jonathan Chung
Position	Director, Business Development International
Address	1111 Bagby Street, Sky Lobby 2, Houston, Texas 77007 USA
Telephone number	+1 713-651-7000
Email address	australia@eogresources.com

EOG will notify NOPSEMA of any change in titleholder, a change in the titleholder's nominated liaison person, or a change in the contact details for either the titleholder or the liaison person including changes to the activity or the EP in accordance with the details provided in Table 1.2.

Table 1.2. OPGGS notification requirements – change of contact details and end of activity

Regulation requirements	OPGGS(E)
A change of Titleholder, change in the Titleholder's nominated liaison person or a change in the contact details for either the Titleholder or the liaison person. Notification to be provided within 7 days of the change.	Regulation 23(3)
The end of operation of the EP (i.e., at completion of the activity). To be reported using proforma (FM1408) on the NOPSEMA website.	Regulation 46
The end of an activity (i.e., within 10 days of completion of the activity). To be reported using proforma (FM1405) on the NOPSEMA website.	Regulation 54(2)

1.4. Scope of this Plan

The activity (as defined in Regulation 17 of the OPGGS(E)) is defined as:

> *The physical process of drilling the wells, from the time that the drill rig first jacks down its legs in the activity area until the time it jacks up its legs and departs the activity area after the final well is drilled.*

This EP has been prepared in accordance with the OPGGS(E) for assessment and acceptance by NOPSEMA. In brief, this EP includes a description of:

- The nature of the activity (location, layout, operational details);
- Stakeholder consultation activities;
- The environment affected by the activity;
- Environmental impacts and risks (including emergency incidents);
- Mitigation and management measures;
- Environmental performance outcomes, standards and measurement criteria;
- How impacts and risks are demonstrated to be ALARP and acceptable;
- The implementation strategy to ensure that the environmental impacts and risks are managed in a systematic manner; and
- Reporting arrangements.

1.5. Environment Plan Summary

Table 1.3 provides a summary of this EP as required by Regulation 35(7) of the OPGGS(E).

Table 1.3. EP Summary of material requirements

EP Summary requirement	EP section
The location of the activity	Section 2.1
A description of the receiving environment	Chapter 5 & Appendix 11
A description of the activity	Chapter 2
Details of the environmental impacts and risks	Chapters 7 & 8
The control measures for the activity	Chapters 7 & 8
The arrangements for ongoing monitoring of the titleholder's environmental performance	Chapter 9
Response arrangements in the oil pollution emergency plan (OPEP)	OPEP
Consultation already undertaken and plans for ongoing consultation	Chapter 4
Details of the titleholder's nominated liaison person for the activity	Section 1.3

2. Activity Description

This chapter provides a description of the proposed Beehive multi-well exploration drilling program in accordance with Regulation 21(1) of the OPGGS(E).

2.1. Activity Location

The activity described in the EP is proposed to be conducted within Commonwealth petroleum exploration permit area WA-488-P, located in the Petrel Sub-basin (Bonaparte Basin) in the JBG, WA (Figure 2.1).

Two key terms are used throughout the EP to describe the activity location, these being:

- Activity area – the polygon within which up to three exploration/appraisal wells are proposed to be drilled, with the polygon coordinates provided in Table 2.1.
- Operational area – set as a 500-m radius around each Beehive well drilling location (which reflects the area of the Petroleum Safety Zone [PSZ] that will be gazetted around the MODU while it is on location). The drilling locations are not yet defined.

Table 2.1. Coordinates for the proposed activity area

Point	Latitude	Longitude
1	14° 01' 29" S	128° 31' 30" E
2	13° 59' 55" S	128° 32' 52" E
3	13° 59' 55" S	128° 33' 59" E
4	14° 02' 36" S	128° 37' 11" E
5	14° 04' 42" S	128° 35' 20" E

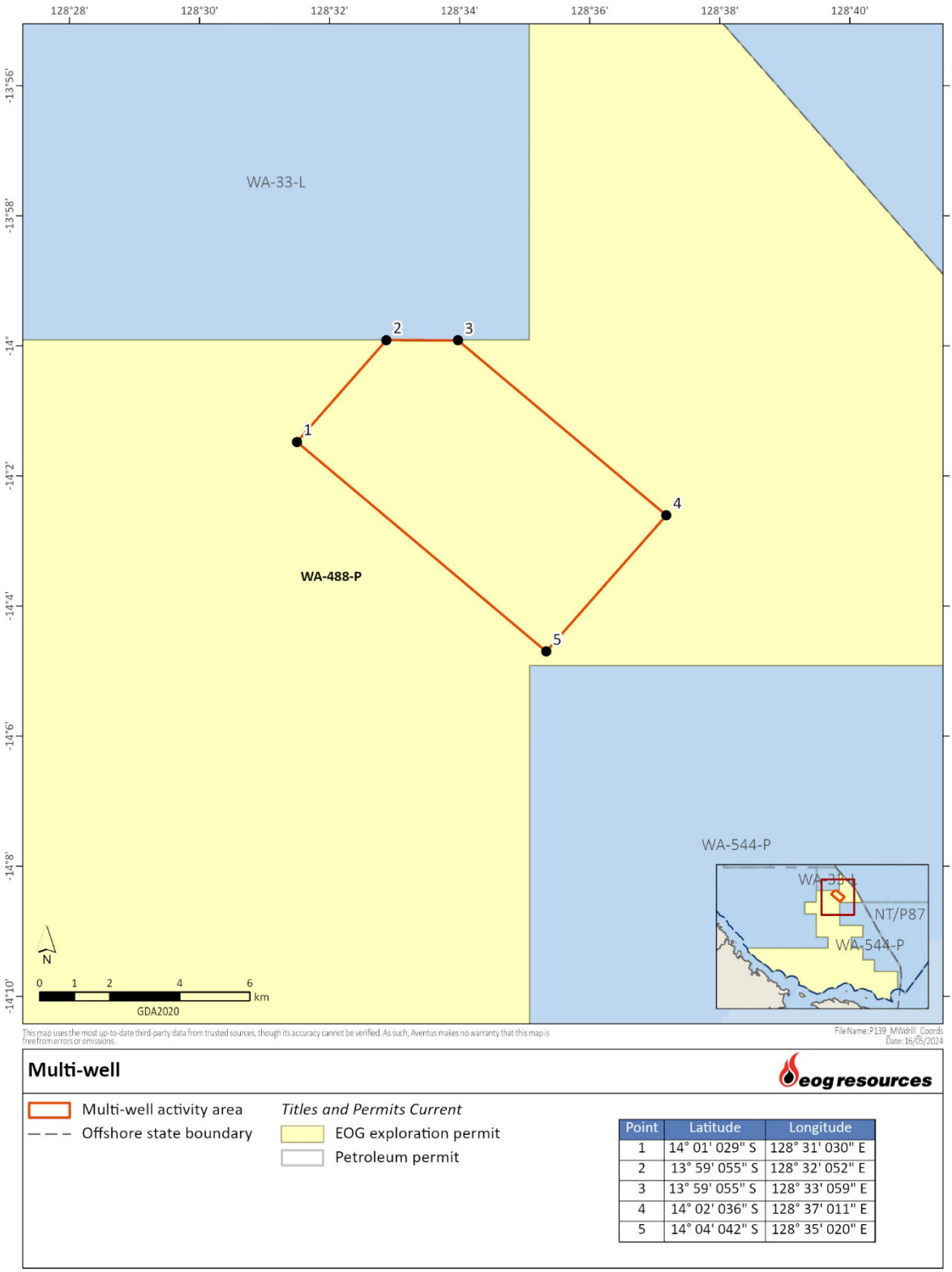
GDA2020, UTM 52S.

The distances of key natural and socio-economic features from the activity area well are listed in Table 2.2.

2.2. Timing

The activity is scheduled to occur any time within a 5-year window commencing no earlier than 1st of January 2025 and will be completed no later than 31st of December 2029 (a period of 5 years). The start of the activity depends primarily on EP acceptance and MODU availability. EOG proposes to drill up to three exploration or appraisal wells within the activity area under this EP that may be drilled via multiple drilling campaigns, with the drilling of each well subject to the success of the prior well. Figure 2.2 illustrates this process.

Each well is expected to take 55-150 days to drill, with the drilling duration subject to change based on geological conditions and potential for operational challenges. Operations will be conducted 24 hours per day, seven days per week.



Point	Latitude	Longitude
1	14° 01' 029" S	128° 31' 030" E
2	13° 59' 055" S	128° 32' 052" E
3	13° 59' 055" S	128° 33' 059" E
4	14° 02' 036" S	128° 37' 011" E
5	14° 04' 042" S	128° 35' 020" E

Figure 2.2. Location of the activity area

Table 2.2. Distance to key features from the activity area (at its nearest point to the feature)

Feature	Distance and direction from activity area
Natural features	
Closest mainland point	77 km south
Lacrosse Island (WA)	79 km south-southwest
Cape Domett (WA)	83 km south-southwest
Dorcherty Island (NT)	93 km east
Marine protected areas (nearest points)	
Joseph Bonaparte Gulf Australian Marine Park (AMP)	30 km east
North Kimberley Marine Park (WA)	66 km south
Oceanic Shoals AMP	151 km northwest
Petroleum infrastructure	
Blacktip gas export pipeline (nearest point)	7 km north-northeast
Blacktip unmanned wellhead platform	13 km northwest
Towns	
Port Keats (Wadeye), NT	99 km east-southeast
Wyndham (WA)	162 km south-southwest
Kununurra (WA)	188 km south
Darwin (NT)	297 km northeast

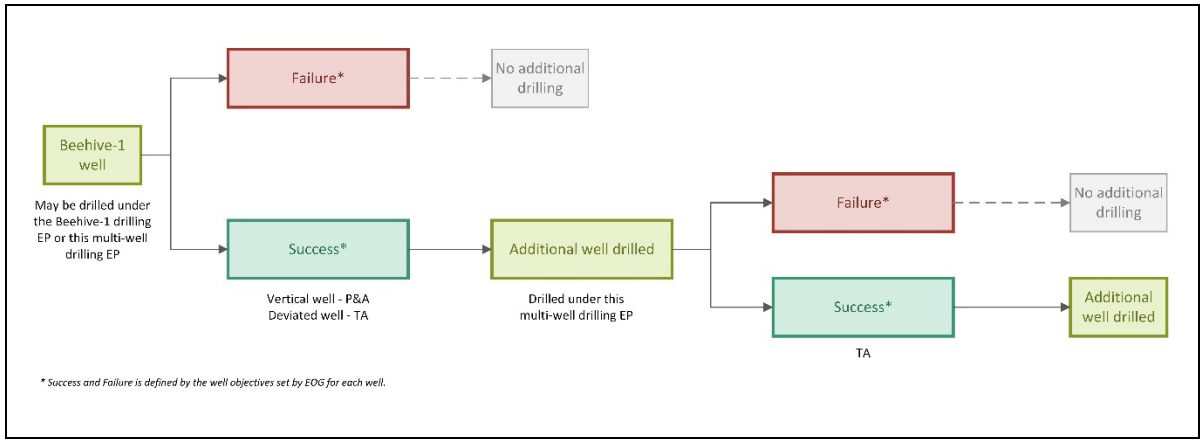


Figure 2.2. Multi-well drilling decision tree

2.3. Project Management

EOG will appoint a Drilling Management Contractor (DMC) to this activity to assist with project management and well delivery services.

A reputable DMC with a well construction management process as part of their management system will be selected to ensure that the activity is planned and managed efficiently and with due consideration to good oilfield practice, local and international standards as they relate to well design, operations planning, construction and then subsequent suspension or abandonment operations. Given the length of validity of this EP, a DMC may be changed out during the 5-year period as long as these requirements are met.

2.4. Reservoir Characteristics

EOG is targeting the Sunbird (primary) and Tanmurra (secondary) formations. There are numerous large gas discoveries in the region close to the activity area. These are tied back to the Permian, gas-prone source rocks. Although the Lower Carboniferous oil-prone source rocks could be in the present-day gas window, filling the Beehive structure with gas, oil is the higher likelihood and therefore that is what EOG has selected as the basis for well blowout modelling.

EOG narrowed down oils in the region with a similar API to be Jabiru, Puffin, Mutineer-Exeter and Legendre crudes (all of which have APIs between 42° and 44°). Based on having an API closest to that expected at the Beehive wells' target formations, together with being the most conservative in terms of the residual components, EOG has determined that Jabiru crude is the most analogous oil. Nearby oil samples from the Turtle and Barnett fields would have been ideal since they are sourced from the same petroleum system, but no crude assay information is available from those discoveries as those oils were only tested, not produced.

Table 2.3 presents the properties of the oil based on the crude oil assay for Jabiru. Jabiru is from a different petroleum system but has comparable oil properties to what is expected at the Beehive wells. EOG has determined that the API gravity most likely for the Beehive wells oil target is 43° (light crude).

2.5. Drilling Operation

This section provides details on the drilling activity relating to the MODU, support vessels, helicopter and supply base for the activity.

2.5.1. MODU

The wells will be drilled using a jack-up MODU (drill rig) (such as that shown in Photo 2.1, the *Noble Tom Prosser*). Jack-up MODUs are typically used for drilling in water depths of less than 150 m. The characteristics of jack-up MODUs are generally similar, regardless of which rig is used, and the following points describe jack-up MODUs:

- The MODU will be towed into position by support vessels.
- Once in the desired location and with the MODU stationary, the legs are lowered to be in complete contact with the seabed, the rig hull is raised +/-3 m draft and then zero air gap when rig stabilisation activities are conducted (pre-loading).
- When pre-loading activities are completed, the MODU raises itself approximately 20 m above the sea surface. At this point, the drilling derrick is cantilevered over the edge of the MODU in readiness for drilling. Figure 2.3 provides a simplified overview of this process.

Table 2.3. Compositional analysis of Jabiru crude oil

Element	Unit of measurement	Measurement
API gravity	°API	42.3
Specific gravity	60°F	0.8143
Density @ 15°C	g/ml	0.8139
Total sulphur	wgt %	0.05
Flash point	°C	<15
Total nitrogen	ppm	170
Water content	Vol %	0.025
Pour point	°C	18
Wax content	wgt %	5.9
Wax melting point	°C	47
Viscosity @20°C	cST	3.694
Viscosity @40°C	cST	2.462
Asphaltenes	wgt %	0.45
Nickel	ppm	<0.5
Vanadium	ppm	<1.0
Mercury	ppm	<0.01

Photo 2.1. The *Noble Tom Prosser* jack-up MODU

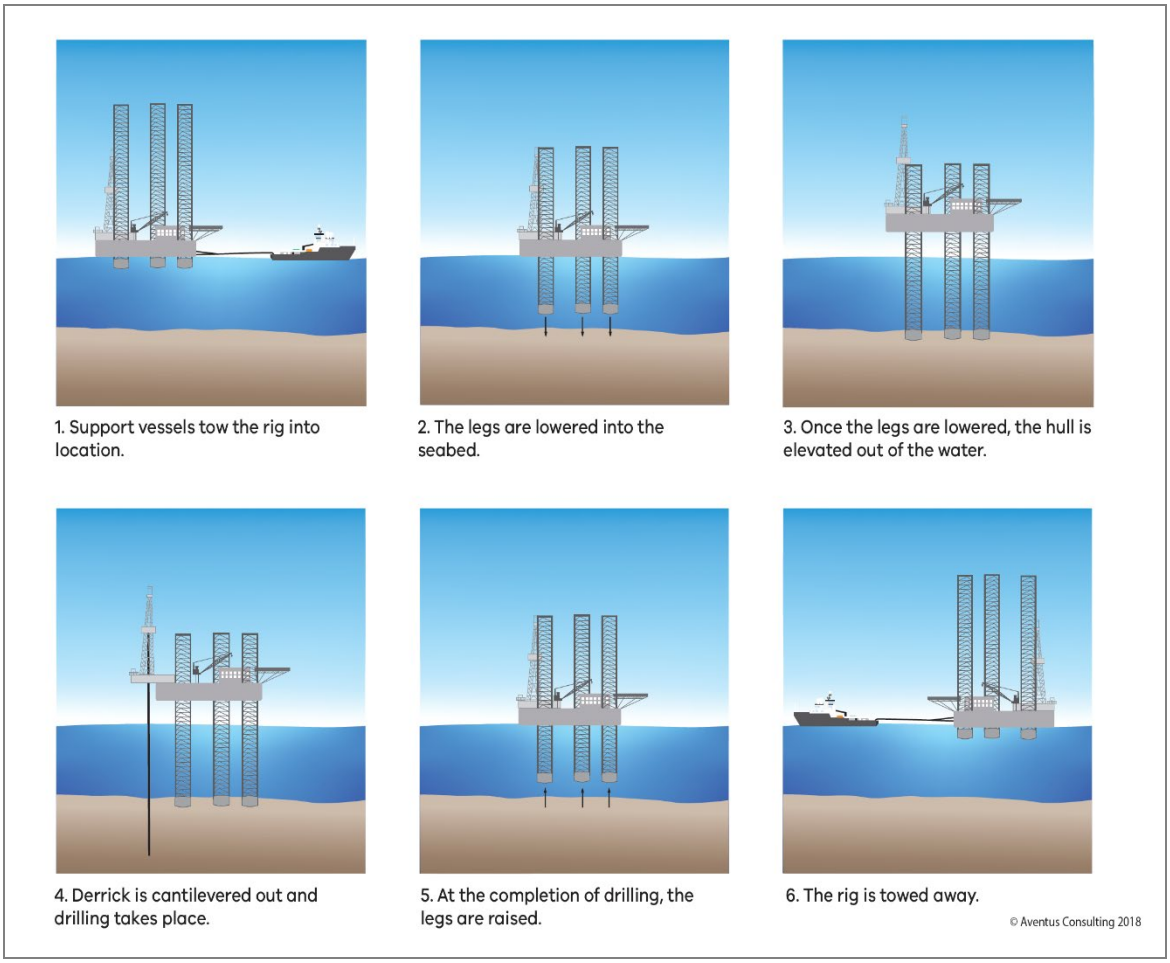


Figure 2.3. Simplified outline of the MODU positioning process

Environmental Credentials

EOG's screening of potential MODUs will involve ensuring that the MODU has, at a minimum, the following current and valid environmental credentials in place:

- International Oil Pollution Prevention (IOPP) certificate in accordance with International Convention for the Prevention of Pollution from ships (MARPOL) Annex I (enacted under the Australian Maritime Safety Authority (AMSA) Marine Orders Part 91, Marine Pollution Prevention – Oil);
- International Sewage Pollution Prevention (ISPP) certificate in accordance with MARPOL Annex IV (enacted under AMSA Marine Orders Part 96, Marine Pollution Prevention – Sewage);
- International Air Pollution Prevention (IAPP), Engine International Air Pollution Prevention (EIAPP) and International Energy Efficiency (IEE) certificates and Ship Energy Efficiency Management Plan (SEEMP) in accordance with MARPOL Annex VI (enacted under AMSA Marine Orders Part 97, Marine Pollution Prevention – Air Pollution);
- International Anti-fouling System certificate in accordance with the International Convention on the Control of Harmful Anti-fouling Systems on Ships 2008 (enacted under AMSA Marine Orders Part 98, Marine Pollution Prevention – Anti-fouling Systems);
- Shipboard Marine Pollution Emergency Plan (SMPEP) in accordance with MARPOL Annex I (enacted under AMSA Marine Orders Part 93, Marine Pollution Prevention – Noxious Liquid Substances); and

- Shipboard Garbage Management Plan (GMP) in accordance with MARPOL Annex V (enacted under AMSA Marine Orders Part 95, Marine Pollution Prevention – Garbage).

EOG will arrange for an inspection of the MODU (e.g., condition survey, hazardous area and equipment survey, Blowout Preventer (BOP) and control system acceptance) by an independent MODU inspection contractor to ensure that the MODU is in good operating order and fit for purpose. In addition, EOG will also conduct its own audit of the contractor's HSE management systems and pre-drilling inspection against the EP commitments to ensure that systems and processes meet legislative and activity requirements.

Regulatory Jurisdiction

The MODU is considered part of a 'petroleum activity' (as defined by Regulation 5 of the OPGGS(E)) while within the operational area and therefore subject to the OPGGS Act. While on location, hydrocarbon spills to sea from the MODU will be combatted in accordance with the MODU's SMPEP and the activity-specific OPEP (99616-2024-Beehive-MWD-OPEP).

An application for a temporary PSZ (an area encompassing a 500 m radius) around the MODU will be submitted to NOPSEMA to cover the duration of drilling of each well. When the MODU is outside the gazetted PSZ (e.g., on tow to or from location) but within Australian waters, it comes under the regulatory jurisdiction of the *Navigation Act* 2012 (Cth), which is administered by AMSA. Accordingly, this EP does not cover MODU activities while outside the PSZ.

2.5.2. Support Vessels

Two to three support vessels will be required to assist the MODU; however, this EP accounts for up to four (used for towing, equipment and material transfers, standby operations and emergency response). The support vessels are yet to be contracted but are usually offshore multiple purpose or anchor handling vessels.

Equipment and material transfers may include, but are not limited to, crew supplies, hydrocarbons (diesel, engine oil, hydraulic fluids, grease, etc.), bulk drilling products, MODU and drilling equipment and parts, and waste. MODU cranes will be used for transfers between the MODU and support vessels.

Bulk products will also be transferred via hose from the support vessels and the MODU. Such products include drilling fluids and solids, brine, drilling water, cement and fuel oil (diesel).

At least one support vessel will remain on standby within a short distance of the MODU. This is to ensure that the 500 m PSZ around the MODU is maintained, and to provide support in the event of an emergency or unplanned event (e.g., person overboard, spills to the marine environment).

Support vessels will not anchor within 500 m of the MODU but may anchor in the permit area during the activity. No at-sea refuelling of support vessels will take place within the operational area.

Environmental Credentials

As part of the Invitation to Tender process, an initial screening of potential vessels will be conducted to ensure they have, at a minimum, current and valid environmental credentials that are the same as for the MODU described previously.

Regulatory Jurisdiction

The support vessels are considered part of the 'petroleum activity' while they are within a 500-m radius of the MODU (the PSZ). While a support vessel is located within this area, hydrocarbon spills

to sea from the support vessels will be combatted in accordance with the vessel SMPEP and/or the activity-specific OPEP (depending on the size of the spill).

When the support vessels are outside the PSZ (e.g., steaming to or from location, or holding position outside the PSZ) and remain within Australian waters, they come under the regulatory jurisdiction of the *Navigation Act* 2012 (Cth), which is administered by AMSA. Accordingly, this EP does not cover activities performed by the support vessels while outside the PSZ.

The 500-m radius PSZ limit has been selected because within this zone, the support vessels must comply with the MODU operating procedures as detailed in the MODU's Facility Safety Case. Outside of this zone, the support vessels operate as trading ships as defined in Section 6(1) of the *Navigation Act* 2012 (Cth), and the combat of hydrocarbon spills is the responsibility of the vessel operator and AMSA in line with the National Plan for Maritime Environmental Emergencies (NatPlan) (AMSA, 2020).

2.5.3. Aviation Support

Helicopters will be used primarily for crew change and medical evacuation, and occasionally equipment and material transfers. Helicopter flights will occur several times a week dependent on the progress of the drilling program and logistical constraints. Refuelling of helicopters may take place on the MODU.

Regulatory Jurisdiction

As with the support vessel, a helicopter is considered part of the 'petroleum activity' while it is within the 500 m radius PSZ around the MODU. This EP does not cover activities performed by the helicopters while outside the PSZ.

At all times, helicopter operations come under the regulatory jurisdiction of the *Air Navigation Act* 1920 (Cth), Civil Aviation Safety Regulations 1998 (Cth) and the Federal Aviation Regulations, which are managed by the Civil Aviation Safety Authority (CASA).

2.6. Pre-drilling Geophysical Activities

It is highly likely that a side-scan sonar (SSS) survey will need to be undertaken at each drill site prior to drilling (and no earlier than the start date outlined in Section 2.2). This would involve the use of a small vessel and take no more than 1-2 days (subject to weather and technical issues). EOG undertook a range of geophysical surveys in mid-2022 in the activity area, including a SSS survey. The purpose of the additional SSS survey is to confirm that additional seabed hazards (such as shipping containers, boulders, debris, wrecks, reefs and craters) have not been created between the 2022 survey and immediately prior to the arrival of the MODU (this is a routine requirement of meeting the warranty requirements of MODU owners).

Alternatively, a Remotely Operated Vehicle (ROV) may be deployed from one of the support vessels or from the MODU prior to jacking up to undertake the site clearance survey to meet the MODU owner's warranty requirements.

In accordance with Regulation 56 of the OPGGS(E), EOG refers the reader to following sections of the accepted PDSA EP (available here) to describe the possible investigations that may take place ahead of drilling:

- Table 2.3 (pp 11-12) – description of SSS investigations ; and
- Section 2.7 (pp 27-29) – description of typical geophysical vessel.

Any geophysical activities required immediately prior to the MODU mobilisation will occur within the same activity area as that outlined in Section 2.1 of the PDSA EP, which includes this activity's operational area.

2.7. Drilling Program

The Beehive wells could be either vertically drilled (Figure 2.4) or directionally drilled (Figure 2.5) to target the Sunbird (primary) and Tanmurra (secondary) formations.

The well design includes drilling a conductor hole (and run conductor) and surface hole section (and run surface casing). The surface wellhead and BOP will be installed and tested before the well is drilled to total depth (TD). The planned TD is approximately 5,090 m total vertical depth subsea (TVDSS), however, the TD may be less or more depending on the geology and operational issues. The Total Measured Depth of any well may be up to about 6,000 m depending on the exact bottom hole target location and seismic depth uncertainty. Note all depths are relative to mean sea level (MSL).

The following phases describe a single drilling campaign during the planned drilling activity:

- Move the MODU to location, position MODU, pre-load and jack-up to operational elevation;
- Drill conductor hole and run conductor;
- Drill surface hole section;
- Run and cement surface casing;
- Install surface wellhead and BOP;
- Perform pressure test;
- Drill intermediate hole section(s);
- Run and cement intermediate strings;
- Drill remaining sections to well TD;
- Run well evaluation program (wireline logging, sidewall cores, formation testing, vertical seismic profiling [VSP], possibly a DST);
- Plug and Abandon (P&A) in the case of no success, or temporarily abandon (TA) the wells in a success case;
- Move to the next location if additional wells are being drilled during the campaign, repeating the process listed above; and
- Demobilise the MODU at the completion of drilling the last well in the drilling campaign.

The drilling of the wells may not be limited to a single campaign due to MODU availability and data interpretation (the results at each well will dictate the following steps). As such, the MODU may not move from one Beehive well to the next in a sequential manner (i.e., the MODU may move to another project before returning to the activity area) and a different MODU may be used for each drilling campaign.

Table 2.4 describes the notional design of the Beehive wells.

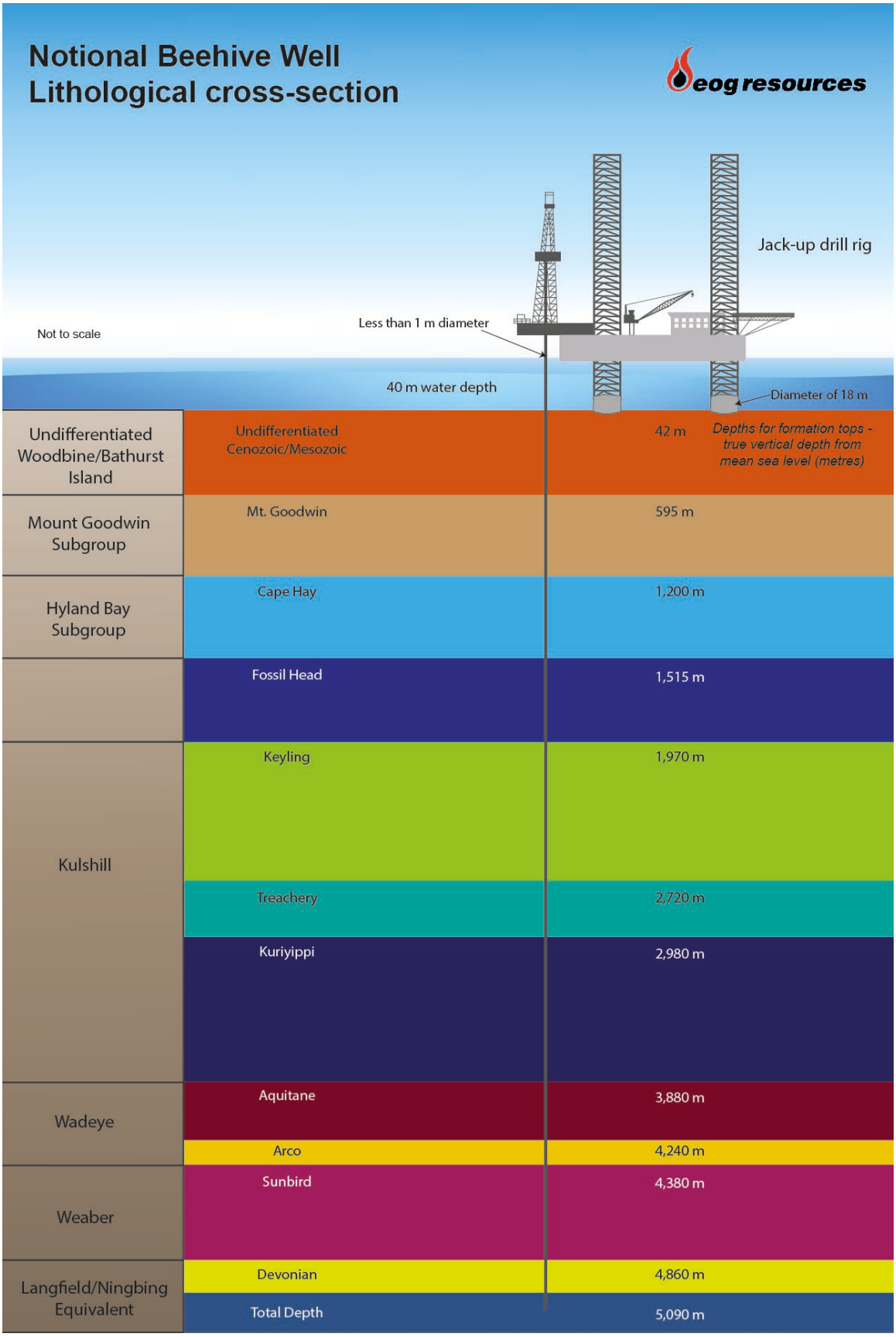


Figure 2.4. Beehive vertical wells notional design

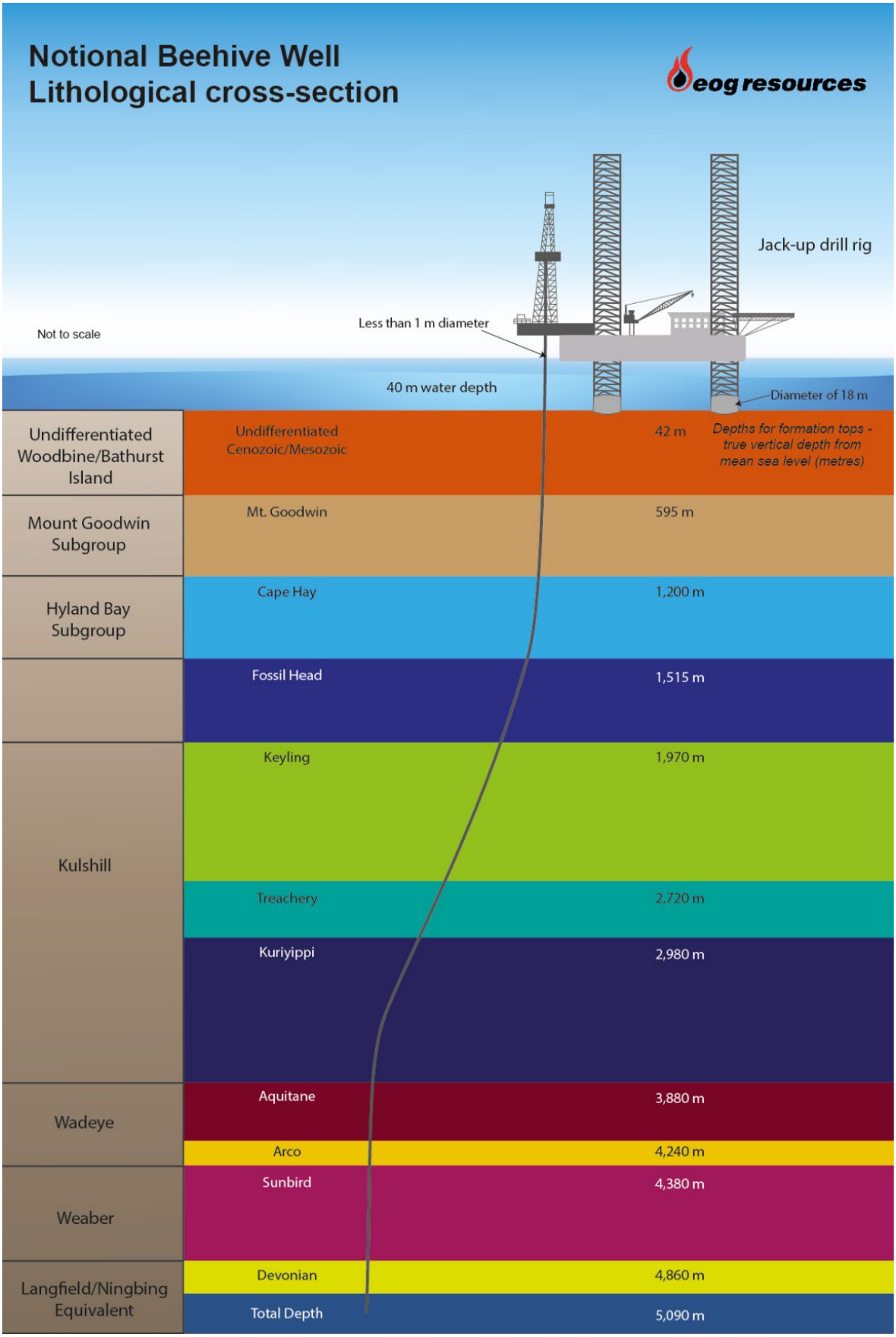


Figure 2.5. Beehive deviated wells notional design

Table 2.4. Notional design of the Beehive wells

Well section	Description
36” (914 mm) hole 30” (762 mm) conductor	A 36” hole will be drilled and 30” diameter, 1.0” wall thickness conductor will be set at approximately 125 m TVDSS in accordance with offset well designs. It is planned to cement the 30” conductor to the seabed using an inner drill pipe string.
26” (660 mm) hole 20” (508 mm) surface casing	Section TD in the 26” hole section is planned to be in the Mt Goodwin shale at approximately 850 m MSL. The shoe depth will also provide sufficient shoe strength for drilling to the next casing point. 20” casing will then be cemented in place with the BOPs installed thereafter. Based on the shallow hazards analysis commissioned by EOG, encountering shallow gas to this shoe depth has been assessed as low risk.
17½” (444 mm) hole 13⅜” (340 mm) intermediate casing	The 13⅜” shoe is planned to be set within the Keyling formation at approximately 2,300 m TVDSS. Section TD is based on pushing the 13⅜” shoe as deep as possible, maximising shoe strength to circulate out any overpressure kick in the 12¼” hole section with the next casing point planned to be within the anticipated overpressure. If the well is directional (and not vertical) the wellbore is expected to kick off directionally in this hole section building to approximately 40 degrees by approximately 1,600 m TVDSS. This inclination will be held until section TD.
12¼” (311 mm) hole 9⅝” (244 mm) intermediate/ production casing	The 12¼” hole section will be drilled from the 13⅜” casing shoe to the 9⅝” casing point towards the base of the Aquitaine formation at approximately 4,200 m TVDSS. The depth of this shoe may be adjusted in the detailed design subject to wellbore stability modelling. This string may also be set shallower as a contingency for any losses that may be encountered. For a directional well, the hole will be maintained at approximately 40 degrees until approximately 3,600 m TVDSS at which point the inclination will commence dropping to approximately vertical by section TD.
8½” (216 mm) hole to TD 7” (178 mm) production liner	The 8½” hole section will be drilled from the 9⅝” casing shoe to planned well TD of approximately 5,090 m TVDSS with a +/-200 m depth uncertainty. In a success case, a 7” production liner with a +/- 100 m liner lap is planned to facilitate DST operations. Pip tags may be included in the casing as a reference point for the TCP string. The 8½” section and 7” liner may be set shallower in the event the 9⅝” casing is set early. In this scenario a 6” (152 mm) hole may be drilled and a 4½” (114 mm) liner utilised to facilitate a DST.
Sidetrack: 8½” (216 mm) hole to TD 7” (178 mm) production liner	For contingency or geological purposes, the 8½” hole may be plugged back and sidetracked in 8½” hole with 7” liner set after. If a sidetrack is not successful or technically feasible, the well may be re-spudded. This is not considered a new well for the purposes of keeping the total number of wells to a maximum of three.
Contingency: *6” (154 mm) hole* *4½” (114 mm) production liner*	In the event the 9⅝” casing is set early and the 7” liner is set as a drilling liner above the target formation, the well will then be drilled to TD in 6” hole. In a success case, a 4½” production liner may be run to facilitate later DST opportunities. A 6” contingency will also enable drilling to planned TD to evaluate the secondary target if it evidently becomes beneficial to set the 7” liner shallower.

Note: Details above are subject to adjustments pending further detailed design. All depths are vertical depths relative to sea surface (TVDSS).

2.7.1. Drilling Contingencies

Should drilling difficulties be experienced meaning the well cannot progress, a contingency option exists to cement up the existing hole above the trouble zone and side-track drill the well around the problem. Contingent side-track drilling (geologic side-tracks are considered separately) would only be exercised should drilling difficulties be experienced; this is not considered a new stage of the petroleum activity. A contingency liner is planned to mitigate some possible downhole problems should the need arise. Should a side-track not be successful or technically feasible, the well may be re-spudded.

These activities may require an increase in the excavated rock volume (i.e., cuttings), drilling fluids and cement consumed.

2.7.2. Drilling Fluids and Cuttings

Drilling fluids (also referred to as drill muds) will be used during the drilling program to provide a range of functions, including:

- Control of formation pressures (i.e., providing hydrostatic head to prevent influxes and providing wellbore stability);
- Transport of drill cuttings out of the hole;
- Maintenance of drill bit and assembly (i.e., lubrication, cooling and support); and
- Sealing of permeable formations to prevent fluid invasion into the formation.

Drilling Fluid Program

The wells may be drilled using a combination of water-based muds (WBM) and synthetic oil-based muds (SBM). The selection of drilling fluids to be used during the drilling program is undertaken through an evaluation of the technical, safety and environmental attributes. A well-specific Drilling Fluid Program will be prepared by the drilling fluids contractor and endorsed by EOG prior to spud.

The Drilling Fluid Program will contain details of the well data, drilling fluid-related risk assessment, load out list, logistics plan, execution plan and procedures. This Drilling Fluid Program will be implemented by the wellsite mud engineers (24 hr coverage) and compliment the EOG-approved Drilling Program.

The calculated volumes of drill cuttings to be generated and drilling and completion fluid solids discharged are outlined in Table 2.5.

WBM Fluids and Cuttings Management

Seawater or drill water is the primary constituent of WBM. Inert drilling fluid additives are added to the seawater or drill water to form a WBM. The WBM additives (by name/brand and volume) likely to be used in the drilling program, and their toxicity ratings, are not available at this stage. However, the key additives used in WBM are xanthum gum (viscosifier), bentonite (viscosifier) and barite (weighting agent), which are all inert substances (they have no toxicity, see 'Drill Fluid Toxicity' section).

The conductor hole section will be drilled using seawater and pre-hydrated gel (PHG) sweeps to clean the hole, and hole displaced to PHG to provide stability for running the conductor. This fluid will exit the well at the seabed while drilling the hole and installing the conductor casing. As with the drilling fluids, cuttings for the conductor hole section will exit the wellbore at the seabed.

Table 2.5. Estimated drilling cuttings and mud solids discharge volumes for the Beehive wells

Bore diameter (inches)	Well interval	Cuttings	Mud volumes discharged (m^3)			Discharge duration (days)
		Volume discharged (m^3)[1, 2]	Fluid type	Mud[2, 3]	Mud solids[2, 4]	
36”	Conductor hole	88.4	Seawater with sweeps	272.5	30.0	0.42
26”	Surface hole	393.4	Gel/polymer WBM	380.4	41.8	1.33
17½”	Intermediate hole	424.9	WBM	906.8	99.8	3.25
12¼”	Production hole	248.2	Low-toxicity SBM	941.4	103.6	14.92
8½”	Production liner	43.1		663.7	73.0	6.96
8½”	Sidetrack	42.8	Low-toxicity SBM	168.8	18.6	7.21
	Mud solids discharged at sea surface at well completion			550.6	60.6	0.17
	Total	**1,240.8**		**3,884.3**	**427.3**	**34.25**

[1] Hole washout included; 20% over-gauge for hole sizes >12.25", 5% for hole sizes 12.25" and lower.
[2] Additional margin of 10% included for trajectory/design changes during detailed design.
[3] Seawater is not included in the estimated drilling fluid volume discharged for conductor hole.
[4] Solids determined as 10% of total mud system.

Once the conductor casing is installed, and a closed circulating system is established, the 26”and 17½” sections will be drilled with WBM systems, as outlined in Table 2.5. WBM will be discharged from the MODU at the sea surface.

Cuttings for the remaining hole sections drilled with WBM will be discharged at sea level after being removed through the solids control system. The solids control system comprises shale shakers, and if required to remove ultra-fine solids in the recovered drilling fluid, centrifuges. Based on the data in Table 2.5, cuttings with adhered WBM will account for about 73% of the cuttings discharge per well (exact volumes will depend on specific depths and mud system choices).

Aqueous-based lost circulation material (LCM) will be available to pump should downhole losses occur. In severe or total downhole loss situations, the placement of cement across the loss zone may be utilised.

Where applicable, the WBM drilling fluids will be recycled between sections.

At the end of the drilling program, any WBM drilling fluid (mud and brine) remaining in the mud tanks will be discharged overboard. This volume will be minimised through careful mud management. Any dry, unopened sacks of chemicals left over at the end of drilling will be left on board for the next operator to use or returned to shore. The decision on the end fate of leftover materials will be documented to ensure the final decision is environmentally acceptable. The decision list in order of preference is provided in Table 2.6.

Table 2.6. End fate of unused brines, powders and bulks

Order of preference	End Fate	Justification
1	**Retain for use by EOG** The stock may be transferred to a vessel for storage until it can be used by DMC/EOG on a subsequent well as the MODU is planned to go to another operator at the end of this activity.	This will depend on the ability to transfer the material(s) to a vessel. For example, piping may not be adequate for transferring of some materials and powder may be difficult to transfer if it has been dispensed into holding tanks on board to MODU already.
2	**Sell to next operator** If the stock cannot be used by EOG, then it may remain on board the MODU for use by the next operator.	The implementation of this option is dependent on demand and commercial agreements.
3	**Transfer to another MODU** If the stock cannot be used by the next operator on the MODU, then it may be transferred to another operator for use on a different MODU.	The implementation of this option is dependent on demand and commercial agreements, and the feasibility of transfer of the materials into a suitable transfer vessel for transport elsewhere.
4	**Transfer to shore for use by supplier or onshore disposal** Stock may be returned to shore for use by the supplier or for disposal.	This will depend on the ability to transfer the material(s) to a vessel. For example, piping may not be adequate for transferring of some materials and powder may be difficult to transfer if it has been dispensed into holding tanks on board to MODU already.
5	**Overboard disposal** Powder would be discharged as a slurry, brines would be discharged as is.	Under normal circumstances, the remaining materials will be minimal (<100 m^3 of cement/barite/bentonite). The toxicity of the chemicals over boarded is low due to the chemical selection process adopted. Transport and transfers of dry bulks back to shore introduce costly technical requirements and significant additional HSE concerns and risks. The costs and risks are considered grossly disproportionate to the environmental benefit.

SBM Fluids and Cuttings Management

Synthetic-based muds (SBM) will be used in the 12¼", 8½"and 8½" sidetrack (geological or contingent) sections of the wells. The use of SBM is required for these sections because it provides significant improvement in wellbore stability, in addition to providing better lubrication and fluid stability across large temperature variations. SBM has much lower levels of reactivity with shales and as such, is much less likely to cause destabilisation in directional wells during drilling, tripping and running casing. Based on the data in Table 2.5, cuttings with adhered SBM will account for 27% of the cuttings discharge per well (exact volumes will depend on specific depths and mud system choices).

SBM is manufactured from a synthetic base oil, consisting of a base of non-aqueous fluid to which other ingredients such as emulsifiers, wetting agents, rheology modifiers, clay, lime and barite are

added. The base non-aqueous fluid typically represents about 50 to 65% of the total volume of the complete mud.

The majority of SBM will be removed from cuttings prior to discharge. A cuttings dryer package will be used to minimise the volume of SBM drilling fluids on cuttings discharged overboard.

At the end of a well section, the SBM will be retained and used on the next hole section and/or future wells. At the end of drilling, all the recaptured SBM will be returned to the vendor for reuse.

Table 2.5 summarises the estimated drill cuttings discharge for a single well. Actual volumes will be dependent on the final well designs, however the base case well design represents a good estimate of any of the potential wells to be drilled.

Tests will be conducted to determine the Retention on Cutting (ROC) for SBM to ensure that no more than 10% by weight on wet cuttings is discharged overboard. Samples of SBM being discharged from the cuttings dryer (when in use) will be taken by the Sample Catcher and tested by the Mud Engineer so the quality of overboard discharges is known. If there is an issue with the operational dryer, the dryer may be bypassed for limited period of time (e.g., when material is unable to be processed). In these situations, a further retort will be performed to provide an accurate reading of what is being discharged from the shale shakers. This will be added to the total averaged ROC value and the 10% limit will still be enforced.

The retorts that will be conducted on cutting samples taken from the cuttings dryer (or centrifuge) will take approximately 1.5 hours to perform. This will be conducted at least once per 12-hour shift. These ROC% recordings will be reported in the daily mud report. The intent is that the average weight over the SBM hole sections for each well will be lower than the 10% target (i.e., some values may exceed the target for limited time periods).

No bulk SBM discharges (e.g., tank dumps) will be permitted, with dump valves being locked while SBM is in use. Any unused or recovered SBM will be stored onboard for the next Beehive well, or shipped back to the mud plant in Darwin and inspected by the mud systems contractor. Once offloaded, the mud pits and pipework will be cleaned. If it is subsequently determined that the properties of the recovered back-loaded SBM cannot be reconditioned at the onshore treatment facility, the SBM will be disposed of at an authorised waste management site.

Drill Fluid Toxicity

In the absence of Australian Standards regarding the suitability of drilling mud chemical additives, the Offshore Chemical Notification Scheme (OCNS) is used as a basis for selecting environmentally acceptable chemicals in the Australian offshore petroleum industry. The OCNS manages chemical use and discharge by the United Kingdom (UK) and Netherlands offshore petroleum industries. The scheme is regulated in the UK by the Department of Energy and Climate Change using scientific and environmental advice from the UK's Centres for Environment, Fisheries and Aquaculture Science (CEFAS) and Marine Scotland.

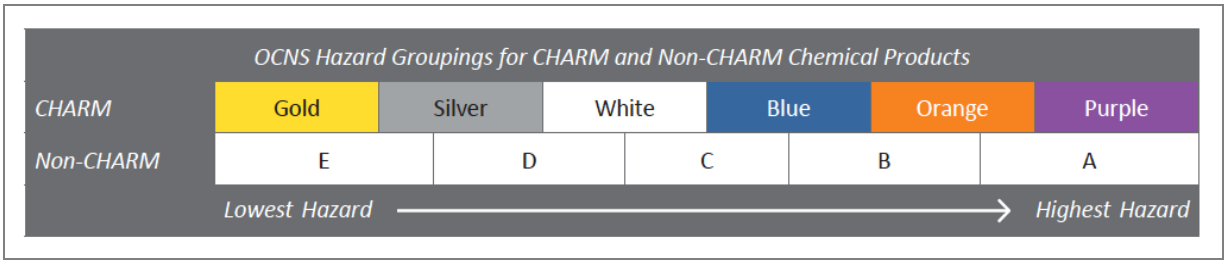
The OCNS uses the Harmonised Mandatory Control Scheme (HMCS) developed through the Oslo-Paris (OSPAR) Convention 1992. This ranks chemical products according to Hazard Quotient (HQ), calculated using the Chemical Hazard and Risk Management (CHARM) model. The CHARM model requires the biodegradation, bioaccumulation and toxicity data of the product to be provided.

Under the OSPAR Convention, organic-based compounds used in production, completion and workovers, drilling and cementing are subject to the CHARM model. The CHARM model calculates the ratio of the 'Predicted Effect Concentration' (PEC) against the 'No Effect Concentration' (NOEC) expressed as a Hazard Quotient (HQ), which is then used to rank the product. The HQ is converted to a colour banding to denote its environmental hazard, which is then published on the Definitive

Ranked Lists of Approved Products (by the OCNS on its website). Gold has the lowest hazard, followed by silver, white, blue, orange and purple (having the highest hazard).

Products not applicable to the CHARM model (i.e., inorganic substances, SBM, hydraulic fluids or chemicals used only in pipelines) are assigned an OCNS grouping A – E, with 'A' having the greatest potential environmental hazard and 'E' having the least. Products that only contain substances termed PLONORs (Pose Little or No Risk to the environment) are given the OCNS 'E' grouping (Figure 2.6). Data used for the assessment includes toxicity, biodegradation and bioaccumulation.

EOG will specify in the drilling fluid tender that only chemicals highly ranked under the OCNS rating system (i.e., 'Gold' or 'Silver' [CHARM] and 'E' or 'D' [non-CHARM], or equivalent) may be used in both the WBM and SBM systems. Where a chemical has not been ranked under OCNS, the drilling fluids contractor will conduct a 'pseudo rating' using toxicity and environmental data for the individual substances of a product. The rating is conducted following the hazard assessment process outlined by CEFAS for the OCNS scheme (link). This will aim to understand the potential environmental impacts that may occur from discharge of the chemical. EOG will provide final approval for use of chemicals with those that have been risk assessed by the contractor.



Source: NOPSEMA (2015)

Figure 2.6. Illustration of hazard ranking bands for chemical products classified under the OCNS

Chemical Substitution

Chemicals that are hazardous to the marine environment are subject to substitution warnings under the HMCS. The UK follows and applies the OSPAR harmonised pre-screening scheme and complies with registration, evaluation and authorisation of chemicals (REACH) recommendation to replace chemical substances identified as candidates for substitution. These substances are flagged with a substitution warning on the product template.

CEFAS recommends that during the selection of chemical products, operators consider the magnitude of their Risk Quotient (RQ) and the presence of hazardous substances and encourages operators to select products without a substitution warning. Chemicals that have a substitution warning will only be used if a justification for their use is provided, along with an assessment of the environmental impact from the chemical. EOG will provide final approval for use of chemicals with a substitution warning.

Chemical review process

EOG will review all chemicals nominated by the drilling fluids contractor against the Definitive Ranked Lists of Approved Products (current at the time) to ensure that only 'Gold' or 'Silver' [CHARM] and 'E' or 'D' [non-CHARM] rated chemicals are nominated and that none of the chemicals nominated have a substitution warning.

Where for technical reasons a chemical does not meet the requirements regarding its hazard rating or has a substitution warning in place, EOG will review and assess the chemical proposed to ensure environmental risks are reduced to ALARP and acceptable levels. This will be managed using the

DMC's Management of Change (MoC) Process that will be reviewed and approved by EOG (see Section 10.8). The risk assessment will consider the chemical's end fate, volumes, concentrations and environmental impacts.

2.7.3. Cement Program

Cementing operations will be undertaken to provide zonal isolation between different formations as required, maintain well integrity, provide structural support of the casing and to set a temporary suspension plug or P&A plugs to abandon the wells. Cement will provide the main barrier for isolation of the wellbore from reservoir conditions whether the well is P&A or TA. The final cement plan will be confirmed once a cement service provider has been selected, though it is currently planned that the first three sections of the wells will use Class G or high-temperature blend (HTB) cement, while the lower two sections will use a HTB cement.

The notional cement program is outlined below:

- 30" conductor – the conductor will be cemented to the seabed with any returns discharged directly to the seabed. It is planned to pump 100-200% excess while cementing the conductor in place, however efforts will be made to reduce this by stopping the cement pumping operations once cement returns are observed at the seabed.
- 20" surface casing – the surface casing is planned to be cemented at least 300 m above the casing shoe, with returns monitored at surface. It is planned that 50-100% excess cement will be pumped during this cement job to account for hole washout and losses that may occur during the cementation job.
- 13⅜" intermediate casing – the 13⅜" casing is planned to be cemented to approximately 150-300 m above the previous show, with returns monitored at surface. It is planned that 50% excess cement will be pumped during this cement job to account for hole washout and losses that may occur during the cementation job. The planned top of cement may be optimised for abandonment purposes.
- 9⅝" intermediate/production casing – the 9⅝" casing is planned to be cemented back to approximately 150 m above the previous show, however the height may be optimised for abandonment purposes during the detailed design. Returns will be monitored at surface. It is planned that 10-25% excess cement will be pumped during this cement job to account for hole washout and losses that may occur during the cementation job.
- 7" production liner – if run, the production liner will be cemented to the top of the liner for zonal isolation for the DST. Although a caliper log will be run, it is planned that 10-25% excess cement will be pumped during this cement job to account for losses that may occur during the cementation job. During the detailed design stage, the top of cement may be adjusted.

Abandonment cement plugs will be set as required to safely TA or P&A the well. The final abandonment program will ensure moveable hydrocarbons (if identified while drilling) are isolated in line with a NOPSEMA-accepted Well Operations Management Plan (WOMP).

During cementing operations, surface cementing equipment and lines will need to be flushed, washed and cleaned with water to prevent hard setting. The residual cement and wash water will be discharged to sea after each cement job (see Section 7.7).

Cement spacer in well returns and residual surface tank volumes will also be discharged to sea during cementing operations.

Cement Disposal

Cement will be discharged overboard as part of the cement program, with only required cement mixed to ensure minimal wastage. There will be some excess cement discharged directly at the seabed during the cementing of the conductor casing string. Although cementing details are yet to be finalised, planning 100-200% excess is common for the conductor casing cement job to account for losses and over-gauge hole conditions. Once quality cement returns are detected at the seabed, cement mixing will cease and displacement will commence, with a minimal quantity of cement being deposited at the seabed during the displacement. Table 2.7 presents the estimated discharge volumes associated with the cement program for each well.

At the end of drilling each well, remaining dry cement will be retained on board for the next well. At the end of the drilling campaign (for all wells), and assuming the MODU moves directly to another operator, remaining dry cement will be retained on board for the next operator. Failing that, the cement will be discharged overboard as a slurry.

Table 2.7. Estimated cement discharge volumes for each well

Cementing activity	Discharge volume (m^3)	Discharge location
Discharge of cement slurry during cement unit testing (as wet cement)	8	Surface
Discharge during planned cementing operations (as wet cement)	34	Seabed
Discharge during cleaning of surface cementing equipment	24	Surface
Discharge due to mixed cement contamination (as wet cement and spacer)	574	Mostly at surface
Total	**640**	

2.7.4. Well Evaluation

Well evaluation involves the collection of data on the well and surrounding formation. Downhole formation evaluation will be carried out via Logging While Drilling (LWD)/Measurement While Drilling (MWD) and wireline logging, which may include VSP. Coring operations are likely. Formation evaluation involving DST operations will include flaring at surface for each well.

Radioactive sources used in downhole tools for logging purposes will be managed in accordance with the MODU Safety Case so that occupational health and safety risks to people are managed to an acceptable and ALARP level.

Further details on these well evaluation activities are provided herein.

Measure/Logging While Drilling

As part of the drilling operation, the drilling bottom hole assembly (BHA) will incorporate MWD and LWD sensors. The MWD tools will provide a directional survey log of the wellbore, plus key drilling dynamics parameters while drilling.

The LWD tools will be utilised to gather key geological parameters while drilling to inform progress and anticipate upcoming intervals for logging operations.

MWD/LWD logs may include, but are not limited to:

- Direction survey;
- Pressure, temperature and vibration;
- Resistivity, gamma ray;
- Neutron and density; and
- Sonic response.

Wireline Logging

Conventional wireline logging operations will be conducted in both the 12¼" and 8½" holes if feasible. The objective of the wireline logging is to gather more detailed reservoir information than is available via LWD, carry out sampling of the reservoir targets, improve depth control of seismic and prove up rates of various lithologies for the drilling of subsequent wells. A well test program will be prepared. Wireline logs may include, but are not limited to:

- Quad combo (resistivity, gamma ray, neutron, density);
- Image Log and Dipole sonic;
- Formation pressure testing and fluid sampling;
- Nuclear magnetic resonance;
- Rotary and percussion sidewall cores; and
- Cased hole - cement evaluation.

The primary objective of the cased hole logging program will be to acquire cement bond logs to confirm wellbore isolation and cement integrity. As a contingency, further logs may be conducted in the cased hole sections resulting from tool failures in the open hole logging operations.

Vertical Seismic Profiling

As a subset of the wireline logging operation, EOG may conduct zero offset VSP for each well. The VSP will enable a high-resolution 2D image of the well and surrounding area to be obtained and improve tie-in to seismic survey data for the area. The sound source will be held over the side of the MODU by the crane. The notional VSP details are as outlined in Table 2.8.

Table 2.8. Notional VSP details

Parameter	Details
Number of airguns	4
Sound source volume	150 cubic inches (cui) (for a total of 600 cui)
Pressure	2,000 psi
Number of shots	150
Source effort	13.8 Bar-m
Duration	4 hours active acquisition time within the total VSP program
Depth below sea level	4 m

Coring

Conventional cores may be taken within any target reservoir(s), or the formation(s) immediately above and/or below, via the original hole or geological sidetrack of any well drilled under this EP.

The core sample will be preserved on surface and subsequently transported to a core analysis laboratory for a detailed range of experiments and analysis. In-situ formation fluids within the recovered cores may be analysed as part of studies.

The core samples may be utilised to calibrate other formation data recovered from MWD/LWD/Wireline/DST programs.

Details of coring activities will be presented in the well-specific WOMP.

DST Operations

In a success case, a well clean up flow and well production test(s) will be conducted after running the DST string. Each well test is expected to take approximately 3-5 days, with all flaring operations via high efficiency well effluent burner heads. Multiple zones may be tested, but the decision on which zones to test cannot be made until after logs are evaluated.

The well clean up flow will not be continuous during this period, as there will be shut-ins between the flows. An example of a single zone DST schedule would be less than one day of flaring, followed by a half-day shut-in. This would then be followed by the longest period of flaring (approximately 1.5 days), and a longer shut-in, with another short (<0.25 day) period at the end. These periods may be adjusted as the data is analysed in real time.

Due to the carbonate formation, it may be necessary to perform a matrix acid stimulation of the perforated intervals. The acid stimulation treatments include acid, solvent and chemical treatments to improve the permeability of the near-wellbore formation, enhancing the productivity of a well. Acid stimulation is a process of injecting a fluid into the formation, either an acid or solvent at pressures below the fracturing pressure, to improve the production or injection flow capacity of a well. In carbonates, acid stimulation creates new, highly conductive channels (wormholes) that bypass damage.

2.8. Well Completion

At the completion of drilling, each well may be P&A in the case of no success or in a success case, TA for further evaluation.

2.8.1. Plug and Abandonment

The P&A process isolates the well and mitigates the risk of a potential release of hydrocarbons (assuming a success case) to the environment. The P&A operations involve setting a series of cement plugs within the well, including above and between any hydrocarbon bearing intervals. EOG will ensure that the standards for P&A align with the *Well Decommissioning Guidelines* (Oil & Gas UK, 2018).

The possible final P&A condition of the well is as per the schematic in Figure 2.7 (in the case of a dry hole, where a production liner is not run).

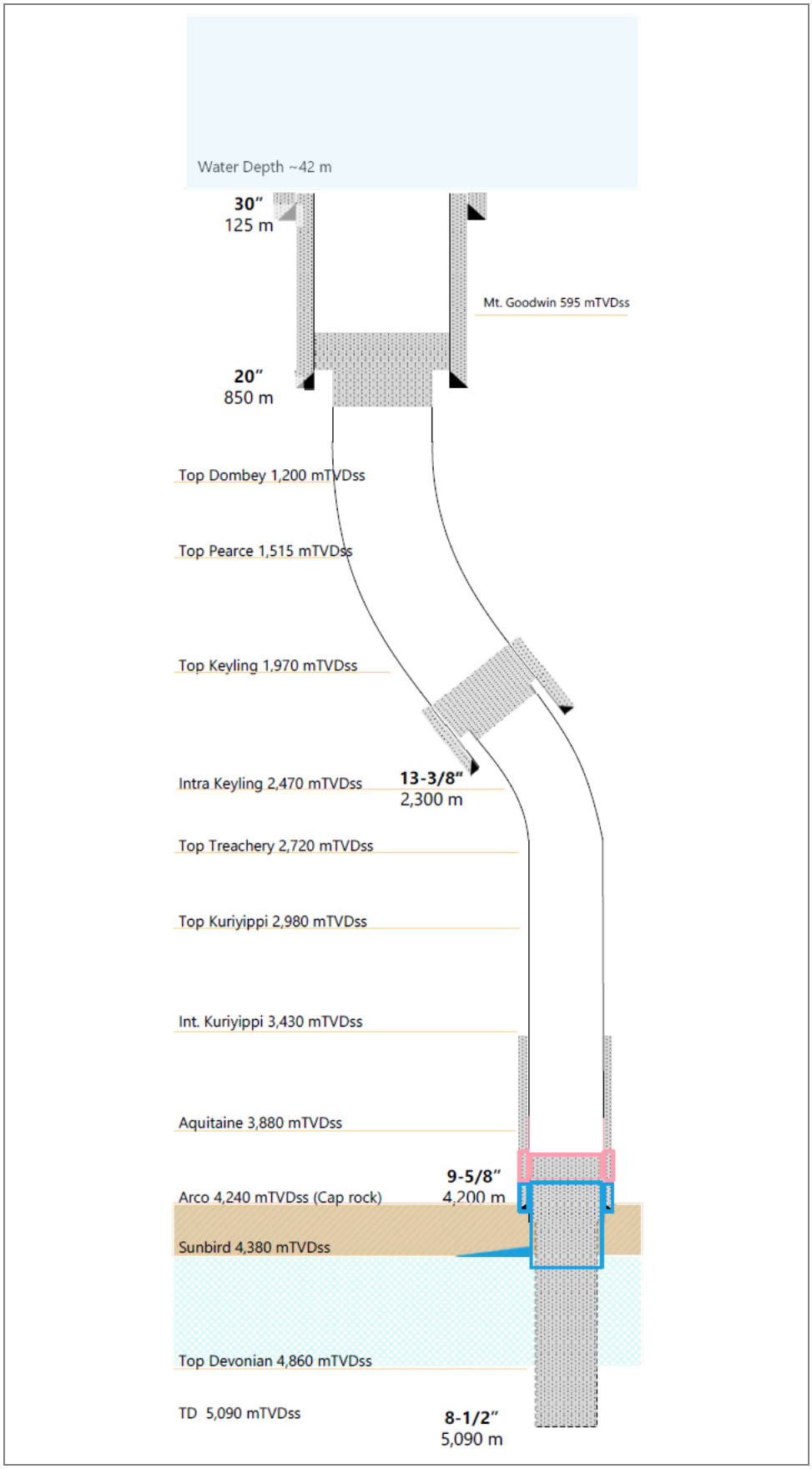


Figure 2.7. Conceptual P&A schematic (dry hole case)

The final abandonment plan will be confirmed once the wells have been drilled and logged to ensure that the barriers are located at the necessary depths. The casing strings will be cut 1-3 m below the mudline and pulled back to surface and the depth of the cut will be measured. In so doing, all infrastructure and equipment will be removed from the seabed such that nothing is left behind when the MODU departs the location. This meets the requirements of Section 572 ('Maintenance and removal of property etc. by titleholder') of the OPGGS Act.

2.8.2. Temporary Abandonment

In wells that are TA, well integrity will be monitored by general visual inspection (GVI). These surveys are expected to be conducted on an annual basis, but not more infrequently than every two years.

The GVI are conducted to detect or observe damage, distortion or deformation or significant debris, and report any evidence of well fluid leaks. Monitoring of the TA wells is integral in ensuring that the wells remain in a suitable condition to allow for successful future conversion to production wells (i.e., ensuring the TA caps remain in place and corrosion is kept to a minimum).

The GVI inspections will be undertaken using a remotely operated vehicle (ROV) operated from a vessel using qualified contractors. Contractors are subject to EOG pre-qualification to ensure that their HSE Management System is adequate for meeting their legal obligations and has identified the significant risks and control measures related to the scope of work being undertaken for EOG.

In wells that are TA, EOG is investigating options for continuous well integrity monitoring using devices placed on the wellheads or by using satellite monitoring to detect any leaks.

In wells that are TA, EOG will install trawl protection over the wellheads if trawling has occurred in the activity area in the five years prior to drilling and is requested by relevant commercial fishing stakeholders.

Vessel-based activities

Activities outside of the activity area (e.g., vessel transiting to/from port and the activity area) are not managed under this EP and are subject to relevant maritime regulations and associated requirements. The activity will be undertaken using an inspection support vessel (ISV) sourced locally or from a foreign port.

The exact type, origin and size of vessel is expected to be similar to a drilling support vessel (see Section 2.5.2). The ISV is not likely to anchor on location during the activity; rather it will use dynamic positioning (DP) or similar station keeping systems to maintain position while undertaking the activities.

The ISV will be fuelled by MDO with refuelling to take place from its home port or suitable port near the activity area (e.g., Port of Darwin). No vessel refuelling will take place in the activity area.

A subsea ROV will be deployed from the ISV to perform GVI activities. The type of ROV will be a light work class ROV. Specialist ROV contractors will operate the ROV during the inspections. These inspections are undertaken in accordance with ROV contractor procedures, supplemented by project-specific procedures, as required. The ROV will not 'park' on the seabed during the survey.

2.9. Well Control

Well control is the process implemented to prevent a blowout from occurring. Primary well control is provided by the hydrostatic pressure of the drilling fluid having sufficient density to overcome any bottom hole pressure. Many steps are taken to ensure proper density of the drilling fluid is always

maintained. Constant monitoring of the mud returns and pit levels help ensure that in the event the bottom hole pressure ever exceeds the hydrostatic pressure of the mud and the well tries to flow formation fluids (kick) into the wellbore, the drilling crew will shut in the BOPs (the secondary control). By shutting in the BOPs, the well flow stops and steps are taken to increase the mud density to overcome the bottom hole pressure.

In addition to well control procedures implemented by the drilling crew, front end engineering design with input from EOG's geological team will design the well such that sufficient kick tolerance is managed from top to bottom of the hole while drilling. This is to ensure maximum anticipated surface pressure is known ahead of time and that properly designed surface equipment is used for the well construction.

2.9.1. Blowout Preventer

A BOP is a mechanical device designed to seal off a well at surface when required. The system is made up of a number of different types of closing mechanisms consisting of:

- Rams (opposing pistons that move horizontally across the top of the well, creating a seal around the drill string, casing or completion tubing);
- Blind shear rams that are capable of shearing drill pipe and sealing the wellbore; and
- Annular preventers (which deploy an elastomer donut-like device) can also be used to close off the well around various sizes of pipe.

A BOP rated to the maximum anticipated wellhead pressure will be installed, and pressure tested prior to deployment and upon initial latch-up with the wellhead.

Response to the Loss of Well Control

The following outlines the steps that would initially be taken in response to a well kick:

- If secondary controls are required, an annular preventer or pipe ram is closed to prevent any further influx from the reservoir into the well if there is pipe in the hole (otherwise blind/shear rams are closed if there is no pipe in the hole).
- If there is pipe in the hole, the pipe rams will be closed (there are three for redundancy).
- Lastly, the blind shear rams can shear the drill pipe (if required) and seal the well completely.

The BOP will only be removed once suitable barriers are in place and are tested. This will occur:

- After setting the cements plugs in the well, if the well is abandoned; and
- For any unplanned BOP maintenance or weather suspension reasons.

The BOP design is based on API standards, best practice and anticipated formation pressures. This is discussed in detail in the WOMP.

2.10. Response to a Loss of Well Control

The nature of the Loss of Well Control (LoWC) leading to a hydrocarbon release will determine the type of source control activities required and the duration of the response. Source control activities evaluated for the Beehive wells include:

- Containment; and
- Relief well drilling.

In the event of a blowout during drilling, reservoir modelling indicates that the worst-case discharge would be released through the 8½" (216 mm) open hole (no obstruction in the well) from a net pay zone of 330 m with zero mechanical skin factor for a period of 77 days (the time required to source a MODU, drill a relief well and kill the well). The oil and gas flow rates are provided in Table 2.9. The flow rates and volumes have been calculated by EOG based on the following guidance:

- SPE Technical Report Calculation of Worst-Case Discharge (WCD) (SPE-174705-TR, 2016);
- NOPSEMA Information Paper Source control planning and procedures (N-04750-IP1979, June 2021c); and
- NOPSEMA Guidance Note Oil Pollution Risk Management (N-04750-GN1488, July 2021b).

The global upstream petroleum industry has developed and continues to advance innovative technologies to respond to a well blowout.

EOG has a contract in place with a well control service provider (Wild Well Control) that allows it to access personnel and equipment to respond to a well control response anywhere in the world. EOG has also a contract in place with Oil Spill Response Limited (OSRL) (which will include coverage for Australia) and is an associate member of the Australian Marine Oil Spill Centre (AMOSC) for hydrocarbon spill response resources that allows EOG to access personnel and equipment to respond to a hydrocarbon spill.

Table 2.9. Predicted worst-case flow rates and volumes

Flow rates and release volumes	Release volume
Oil	
Initial oil flow rate (bbl/day) (m^3/day)	72,572 (11,539)
77-day oil average oil flow rate (bbl/day) (m^3/day)	64,270 (10,219)
77-day oil cumulative release volume (MMbbl) (m^3)	4.9 (786,858)
Gas	
Initial gas flow rate (mmcf/day)	131
77-day average gas flow rate (mmcf/day)	116
77-day gas cumulative release volume (Bcf)	8.9
Water	
Initial water flow rate	N/A
77-day average water flow rate (bbl/day)	N/A

2.10.1. Capping and Containment

A capping stack is a piece of equipment that can be placed over a blown out well and act as a cap. The purpose is to prevent the flow of hydrocarbons to the environment and thus establish a barrier to the flow of hydrocarbons to the ocean.

For this activity, a capping and containment approach is not feasible because these systems are designed for subsea wellhead applications and therefore not suitable for jack-up MODU surface stack systems (which will be used for these wells).

2.10.2. Relief Well

A relief well is a longer-term response option to stop uncontrolled flow from a well (i.e., 'kill' a well) and to permanently abandon the well. A relief well is drilled to intersect the well that is flowing out of control to provide a conduit to pump high density fluid into the well, and thus stop well flow. EOG will execute its Relief Well Plan (RWP).

Relief Well Planning

A relief well requires the mobilisation of a suitable MODU and the drilling of an interception well through which the failed well can be killed and made safe.

The scope of activities involved with drilling a relief well is the same as drilling a standard well, though it would be a highly deviated well due to the need to drill from outside a safety zone. A RWP will be prepared as part of the Source Control Emergency Response Plan (SCERP) for the Beehive wells. This plan will:

- Describe industry guidelines relevant to relief well drilling;
- Describe the process in place to monitor for and rapidly source a suitable MODU; and
- Provide a relief well drilling program and schedule.

Further details on the RWP are provided herein.

Rig Specification & Provision for Procurement

The selection of a suitable MODU to undertake relief well activities will be based on the closest available unit that meets the criteria listed in Table 2.10. Given the water depth in the vicinity of the wells (~40 m), it is assumed only jack-up MODUs would be capable of undertaking the activities. Suitable jack-up MODUs working within the region (primarily in Australian waters) will be identified prior to the planned drilling window for the activity.

Any relief well schedule will be driven largely by the rig mobilisation period. It is assumed that the most likely location of the jack-up MODU not contracted to drill the Beehive wells would be from the North West Shelf area, which is approximately 10-14 days mobilisation time away from the activity area. It is expected that any ongoing operations can be safely suspended and the relief well MODU can be mobilised to the activity area within the timeframe for the Safety Case Revision to be developed and accepted by NOPSEMA, assumed to be 24 days. The availability of suitable MODUs will continue to be monitored and their status updated within the RWP on a monthly basis to ensure any assumptions on the timely execution of relief well remain valid.

Table 2.10. Relief well rig specification

Parameter	Details
MODU type	Jack-up
Water depth	~40 m
Drilling depth rating	Minimum 6,000 m
Well control equipment rating	10,000 psi (rams)
Pumping capability	7,500 psi circulating system
Regulatory requirements	Australian Safety Case in place

Relief Well Construction and Long-lead Requirements

A minimum 10,000 psi rating surface wellhead system configured for a 30" x 20" x 13⅜" x 9⅝" casing program and standard Oil Country Tubular Goods (OCTG) weights and grades (well loads expected to be very similar to the planned wells) would be required for the purposes of executing a relief well. The relief well design is consistent with the original well design setting 30" conductor, 20" surface casing and 13⅜" intermediate casing at the same TVDs. The final 9⅝" casing string will be set as deep as possible (~30 m above the intercept point) to provide the maximum formation fracture gradient for containing the dynamic kill whilst still also facilitating a positive alignment for penetrating into the target well.

The availability of standard long-lead equipment for the construction of the relief well has been identified as likely from local operator and/or vendor inventory and will be confirmed closer to the planned drilling window as planning for the Beehive multi-well campaign progresses. High-level specification and means of provision of long lead and drilling equipment for executing a relief well is outlined in the RWP. Prior to spudding of the multi-well campaign, EOG will have in place access agreements to other operators' relief well contingency equipment (e.g., OCTG and wellheads) as required to ensure any assumptions on the timely execution of a relief well remain valid.

Relief Well Location and Trajectory

The relief well design assumes the surface location for a relief well would be approximately 1 km northeast/east/southeast from the primary Beehive-1 well location as shallow hazards appear to be present to the west based on data collected from the geophysical survey in 2022. The preferred relief well location will be confirmed/adjusted based on the information that will be obtained from the geotechnical investigations performed prior to the start of Beehive well drilling.

For the most likely scenario of a well blowout (i.e., in the 8½" hole) for the worst-case scenario (drill pipe above deepest casing shoe), the relief well is designed to set 9⅝" casing ~30 m prior to intersecting the wellbore at the 9⅝" casing shoe at 4,250 m TVDRT. Once the relief well is within ~50 m (centre to centre) from the target wellbore ~670 m (MD) above the planned interception point (start of locating phase), active ranging can begin to detect the target wellbore. After initial ranging, the tool will then be pulled out of the hole and directional drilling will continue until the next planned proximity ranging point, where again the ranging tool would measure the distance and direction to the original well. This process would continue with separation maintained so as to avoid intercepting the target well shallower than planned. Once the relief well and the target wellbores are aligned ~30 m above the desired intercept point at the 9⅝" casing shoe, 9⅝" casing would be set before the relief well intercepts the blowout well with a closure angle of ~4.6°. More detail about the relief well will be available in the SCERP.

Relief Well Project Schedule

The RWP indicates it would take 77 days (11 weeks) to perform the well kill (including MODU mobilisation), as detailed in Table 2.11. The time estimate for drilling the relief well and well kill is 53 days.

AEP Mutual Assistance Agreement

The Australian Energy Producers (AEP) developed the Memorandum of Understanding for Mutual Assistance (known as the Mutual Assistance Agreement, MAA) that facilitates the transfer of a MODU between operations in the event of a drilling emergency that requires a relief well to be drilled.

EOG has signed up to the MAA.

Table 2.11. Relief well schedule

Activity	Duration (days)	Comments
Planning (prior to Beehive-1 drilling)		
Initial relief well planning	>3 months prior to spud	Relief well complexity assessment. Relief well location identification and initial design. MODU and long-lead equipment specification and identification. Signatory to AEP MAA and Operators equipment access agreements in place as required. Prepare RWP. Regional rig status update (monthly).
Execution (post-blowout)		
Suitable MODU identified	0-1	Provision for relief well aid is confirmed. Detailed relief well design is initiated.
Develop SCR	1-2	Meet NOPSEMA to discuss imminent SCR.
SCR submitted to NOPSEMA	2-16	
SCR review process	16-23	Dialogue with NOPSEMA to optimise assessment process.
MODU mobilised	20-23	Spud equipment loaded onto MODU. Specialised equipment mobilised.
SCR accepted by NOPSEMA	24	
Relief well drilling	24-77	Blowout is killed.
Total	**77**	

2.11. Drilling Summary

The key drilling activity parameters are summarised in Table 2.12.

Table 2.12. Key drilling parameters

Parameter	Details
Location and timing	
Exploration permit	WA-488-P
Operational area	500 m radius PSZ around the MODU
Water depth	40 m
Start date (earliest)	1st of January 2025 (earliest), completed no later than 31st of December 2029
Number of wells	Up to three
Duration of activity	Approximately 55-150 days for each well
MODU and support services	
MODU	Jack-up, yet to be contracted
Support vessels	Two (possibly up to four), yet to be contracted
Marine base	Darwin
Aviation support	Yet to be contracted
Drilling details	
Well depth	5,090 (+/- 200 m) MD/TVD-MSL
Drill cuttings volume (est)	1,240 m^3 each well
Drilling fluid	WBM and SBM
Mud discharge volume (est)	6,884 m^3 each well
Mud solids discharge volume (est)	427 m^3 each well
Cement discharge volume (est)	640 m^3 each well
Well evaluation	LWD, mud logging, electric line logging (including VSP), potential well test

3. Environmental Regulatory Framework

In accordance with Regulation 21(4) of the OPGGS(E), this chapter describes the legislative requirements that apply to the activities described in this EP.

The environmental regulatory framework for this activity does not differ from that described in the Beehive-1 drilling EP. As such, in line with OPGGS(E) Regulation 56 and Section 2.6 of NOPSEMA's *Environment Plan content requirement guidance note*, EOG refers the reader to Chapter 3 of the NOPSEMA-accepted Beehive-1 drilling EP (996161-2022-Beehive#1-Drilling-EP-Rev6, available here) for a description of the environmental regulatory framework.

4. Consultation

EOG is required to consult with relevant persons in preparation of this EP. As defined by NOPSEMA, consultation is a two-way process where information is shared between titleholders and relevant persons that provides an opportunity for relevant persons who may be affected by an offshore petroleum activity to raise concerns, seek information about how they will be affected and how the titleholder intends to manage the activity so that impacts and risks are ALARP and acceptable.

This chapter documents the process that was followed to undertake consultation for the multi-well drilling with relevant persons in accordance with OPGGS(E), along with a summary of the outcomes of that process. This chapter demonstrates that EOG has carried out consultation as required by applicable law and that the measures adopted because of the consultations are reasonable and appropriate.

EOG has previously consulted on the following proposed phases of the Beehive project, and the EPs for these activities should be viewed for a complete history of consultation on the Beehive project:

- Beehive-1 Exploration Drilling – the EP was accepted by NOPSEMA on the 10th of June 2024 (see NOPSEMA website here).
- Beehive Geotechnical Assessment – the EP was accepted by NOPSEMA on the 29th of January 2024 (see NOPSEMA website here).
- Beehive Pre-Drill Seabed Assessment (PDSA) – the EP was accepted by NOPSEMA on the 2nd of March 2022 (see NOPSEMA website here).

Because the spill EMBA (environment that may be affected) for this activity is the same as that for the Beehive-1 Exploration Drilling program (which also encompasses the smaller spill EMBAs for the geotechnical and PSDA EPs), relevant persons consultation for this activity is linked closely to the consultation undertaken for the previous activities, such that those relevant persons consulted with under the previous efforts have been re-engaged to ensure that all relevant persons have the opportunity to consult on this multi-well drilling activity.

To provide the complete history of consultation efforts to date, this chapter describes consultation undertaken by EOG between February 2024 and June 2024 for the proposed activity. This includes exhibiting a draft of this EP on the EOG website from the 17th of April 2024], which has been followed by exhibition on the NOPSEMA website prior to formal submission to NOPSEMA for assessment.

4.1. Relevant Persons Consultation – Background and Legislative Requirements

The Federal Court of Australia's appeal decision in December 2022 (*Santos NA Barossa Pty Ltd v Tipakalippa* [2022]) (the Decision), sets forth the requirements for consultation in accordance with OPGGS(E). At the time of the Decision, this EP was under assessment by NOPSEMA; following which, EOG revised its methodology to reflect the intent of the Decision. The regulatory environment continues to evolve and further court decisions have been rendered, including *Cooper v NOPSEMA (No 2)* [2023] FCA 1158 and *Munkara v Santos NA Barossa Pty Ltd (No 3)* [2024] FCA 9. In addition, NOPSEMA has moved to update the regulations and guidelines in respect of the preparation of an EP with the most recent update being Document N-04750-GL2086 A900179 published on 20 May 2024 titled "Consultation in the course of preparing an environment plan". To guide the consultation process, EOG developed a Relevant Persons Consultation and Engagement Plan (RPCEP) (**Appendix 2**) that outlines EOG's revised consultation and engagement activities. The RPCEP lists the requirements for consultation in accordance with relevant NOPSEMA regulations, policies, guidance

and information papers and was informed by the guiding principles of the International Association for Public Participation (IAP2).

The consultation process was informed by the following regulations, policies and guidance:

- OPGGS(E):
    - Regulation 25 – defines 'Relevant Persons', requires that the titleholder must give each relevant person sufficient information and time to make an informed decision of the possible consequences of the activity on their functions, interests or activities.
    - Regulation 22(15) – requires that ongoing consultation be incorporated into the Implementation Strategy of the EP.
    - Regulation 24(b) – requires that the EP contain a summary and full text of stakeholder consultation.
- NOPSEMA policies, guidance, and information papers, including:
    - PL1347 - Environment plan assessment policy (January 2024).
    - GL1721 - Environment plan decision making (January 2024).
    - GL1887 - Consultation with Commonwealth agencies with responsibilities in the marine area (January 2024).
    - GL2086 - Consultation in the course of preparing an environment plan (May 2024).
    - GN1344 - Environment plan content requirements (January 2024).
    - GN1488 - Oil pollution risk management (July 2021).
    - GN1785 - Petroleum activities and Australian Marine Parks (January 2024).
    - GN1847 - Responding to public comment on environment plans (January 2024).
    - Brochure - Consultation on offshore petroleum environment plans: Information for the community (May 2023).
- Other relevant guidance, including:
    - Australian Fisheries Management Authority: Petroleum industry consultation with the commercial fishing industry (available at https://www.afma.gov.au/sustainability-environment/petroleum-industry-consultation).
    - Western Australian Department of Primary Industries and Region Development (DPIRD): Guidance statement for oil and gas industry consultation with the Department of Fisheries (July 2013).
    - Western Australian Department of Transport (DoT): Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020).
    - Petroleum activities and Australian Marine Parks (Guidance note - Petroleum Activities and Australian Marine Parks.pdf (nopsema.gov.au).
    - Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) Engaging with Traditional Owners Guidance (December 2020).
    - Interim Engaging with First Nations People and Communities on Assessments and Approvals Under the *Environment Protection and Biodiversity Conservation Act 1999* (DCCEEW 2023a).
    - Guidelines for working in the near and offshore environment to protect Underwater

Cultural Heritage (DCCEEW 2023b).

4.2. Relevant Persons Consultation – Key Duties

EOG identified seven key legislative duties it must discharge in carrying out consultation with relevant persons in preparation of this EP. This chapter and EOG's RPCEP (**Appendix 2**) summarise these duties by describing what EOG committed to do and what EOG did to fulfil these commitments. References are made throughout this chapter to demonstrate these commitments were achieved.

The key legislative duties required of titleholders under the OPGGS(E) are to:

1. Consult with relevant persons (Regulation 25(1));
2. Provide sufficient information to relevant persons (Regulation 25(2));
3. Describe the relevant values and sensitivities of the environment that may be affected by the activity (Regulation 21(2)(b));
4. Allow a reasonable period for relevant persons to assess the sufficient information (Regulation 25(3));
5. Assess the merit of each objection or claim (Regulation 24(b)(ii));
6. Respond to each objection or claim (Regulation 24(b)(iii); and
7. Ensure consultation is ongoing if appropriate.

4.2.1. Duty 1: Consult with Relevant Persons

The OPGGS(E) create a distinction between the public at large and relevant persons (authorities, organisations, and persons), and require consultation with all relevant persons in the preparation of an EP. The OPGGS(E) further specify that relevant persons include people and organisations whose functions, interests, and activities may be affected by the petroleum activity. Titleholders are required to consult with relevant persons as defined by the OPGGS(E).

Regulation 25(1) of the OPGGS(E) defines a 'relevant person' as:

A. Each Commonwealth, State or NT agency or authority to which the activities to be carried out under the EP may be relevant;

B. If the EP relates to activities in the offshore area of a State-the Department of the responsible State Minister;

C. If the EP relates to activities in the Principal NT offshore area-the Department of the responsible NT Minister;

D. A person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP; and

E. Any other person or organisation that the titleholder considers relevant.

Identification of potentially affected persons is the first step in being able to manage and address the concerns and issues of groups, organisations, or individuals who may impact or be impacted by the activity. When EOG prepares an EP, it seeks to proactively identify relevant persons and provide them opportunity to be consulted consistent with the regulated process and will continue identification activities throughout the activity.

EOG recognises that a community can be disaggregated, and that a member of a community may identify differently from the community at large. EOG undertook a comprehensive multi-level approach to identify, invite and consult with relevant persons whose functions, interests, or activities

may be affected by the proposed activities. These methodologies are open-ended approaches that cast a broad net. The result is that a large pool is created from both general and targeted searches from which relevant persons can be located so that it is reasonable to conclude that all relevant persons have been identified.

EOG used the following methods to find relevant persons (authorities, organisations and persons) who may be affected:

- **Geographic searches -** geospatial focused and location-based search of maps and public GIS data to help form an understanding of the persons and organisations within the environment planning area.
- **Healthy Country Plans -** review of Aboriginal Corporation public Healthy Country Plans (HCP) to understand the values and sensitivities for those groups within the Work Plan area.
- **Government agencies and organisations -** relevant government agencies may have information about individuals and organisations that may be affected by the Work Plan
- **Review of EPs accepted and under assessment within the same region -** previous petroleum activities within a bioregion show who has previously engaged in consultation with petroleum titleholders. It is a broad search method with large coverage.
- **Online internet research -** a search for news articles and press releases about similar activities in the environment planning area and identify individuals and groups that were mentioned.
- **Notices in print media -** EOG utilised the *NT News*, *The Australian*, *The West Australian*, *Koori Mail* and *The Kimberley Echo* to provide notice of the activity and seek input and feedback.
- **Social media searches -** the use of social media to find relevant persons by following local groups and searching for pages, hashtags and key words related to the activity.
- **Dedicated activity-specific EOG website -** making activity information available to the public and allowing persons or organizations to self-identify.
- **Referrals from others -** asking relevant persons if they know of other relevant persons.
- **Self-identification -** through the outreach methods and actions listed above, EOG provides several avenues for relevant persons to self-identify and engage in the consultation process.

Once a relevant person was identified, under the OPGGS(E), EOG must tell any authority, person, or organisation that:

- They have been identified as a relevant person;
- The subsequent consultation effort is being undertaken as per the prescribed process; and
- EOG is obligated to expressly advise them of titleholder obligations for consultation.

Consultation for this multi-well drilling activity has been tiered to the relevant persons consultation undertaken for previous Beehive activites (as outlined at the start of this chapter). In September 2021, EOG commenced consultation with relevant persons for the Beehive PSDA EP. This identified 62 relevant persons with whom EOG consulted. In July 2022, to continue to improve and enhance its consultation processes, EOG began to update its consultation methodology and identification of relevant persons. This process was informed by feedback from NOPSEMA as well as an understanding of evolving best practices, which in part emanated from the *Santos NA Baross Pty Ltd v Tipakalippa*

[2022] FCAFC 193 decision (see Schedule C of the RPCEP at **Appendix 2** for EOG's summary of key implications from this case). This included re-evaluating the functions, interests and activities of those parties within the spill EMBA (see Section 5.1 for definition of the spill EMBA) and how they could be impacted by the proposed activity. Since the revised approach, and at the time the Beehive-1 drilling EP was re-submitted to NOPSEMA for assessment in early March 2024, 529 relevant persons were identified and consulted, with one organisation (the Durduga Tree Point Aboriginal Association Incorporated, DTPAAI) being assessed as non-relevant.

For the Beehive multi-well drilling activity, 454 relevant persons have been consulted. This lower number than that for the Beehive-1 drilling consultation is due to changes in government agencies, the aggregation of some groups and the removal of some relevant persons (i.e., fishing licence holders that had continuous returned mail).

Identifying Relevant Persons for Regulation 25(1)(a), (b) and (c)

Identifying the relevant persons in these categories is a reasonably straightforward exercise due to the publicly available information about Government departments, the consultation that has occurred by other titleholders in the past that is publicly available, and some specific guidance notes prepared by Government departments and agencies.

Each government agency or authority has been identified through online searches, expert advice, review of legislation, and review of previous EPs adjacent to the title area. NOPSEMA guideline GL1887 identifies the government agencies as a relevant person as they have responsibilities within the Commonwealth marine area. The full list of relevant authorities is included in Table 4.1.

Table 4.1. Relevant Persons under Regulation 25(1)(a), (b) and (c)

Relevant Authorities	Role and Relevancy
Regulation 25(1)(a) Each Commonwealth, State or NT agency or authority to which the activities to be carried out under the EP may be relevant	
Commonwealth	
Australian Communications and Media Authority (ACMA)	Administrator of submarine cable protection zones. Relevant when the activity may impact on subsea cables.
Australian Fisheries Management Authority (AFMA)	Manager of fisheries in Commonwealth waters. Relevant when the activity has the potential to impact on fisheries resources in AFMA managed fisheries.
Australian Hydrographic Office (AHO)	Responsible for the publication and distribution of nautical charts and other information required for safe shipping and navigation in Australian waters. Relevant when the activity may impact operational requirements and where nautical products and other maritime safety information is required to be updated.
Australian Maritime Safety Authority (AMSA)	Responsible for maritime safety. Relevant when the activity may impact on the safe navigation of commercial shipping and to determine shipping traffic in the activity area.
Department of Agriculture, Fisheries and Forestry (DAFF)	Responsible for managing biosecurity for incoming goods and conveyances. Relevant due to the potential for the transfer of marine pests between MODU, vessels and the mainland.

Relevant Authorities	Role and Relevancy
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Administers *the Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the *Underwater Cultural Heritage Act 2018* and the *Environment Protection (Sea Dumping) Act 1981*. Relevant if underwater cultural heritage is directly or indirectly adversely affected by the activity.
Department of Defence (DoD)	Responsible for Australian defence activities. Relevant when the activity encroaches on known training areas and/or restricted airspace.
Department of Foreign Affairs and Trade (DFAT)	Promotes and protects Australia's interests internationally. Manages relationships with countries neighbouring Australia's north, including Indonesia, Timor Leste and Papua New Guinea. Relevant when the activity may impact on waters outside Australia's maritime jurisdiction (such as an oil spill).
Director of National Parks (DNP)	Manages the AMP network. Relevant when activities undertaken outside an AMP may impact on the values within an AMP.
Maritime Border Command (MBC)	Key agency for border protection. Relevant when the activity may impact on border protection activities (e.g., vessel patrols).
National Native Title Tribunal (NNTT)	Responsible for administration of the *Native Title Act 1993*. Relevant when the activity may impact on Native Title. Maintains registers (and associated mapping) of native title determinations, prescribed bodies corporate, and registered native title claims.
WA	
Department of Biodiversity, Conservation and Attractions (DBCA)	Manage State marine parks and reserves and protected marine fauna and flora. Relevant when activities undertaken outside a marine park may impact on the values within a marine park.
Department of Primary Industries and Regional Development (DPIRD)	Managed West Australian commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DPIRD.
Department of Fisheries (DoF)	Managed West Australian commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DPIRD.
Department of Planning, Lands and Heritage (DPLH)	Protect Aboriginal heritage, assist with compliance with the *Aboriginal Heritage Act 1972* and provide access to heritage information. Relevant if the activity results in impacts to Aboriginal heritage.
Department of Transport (DoT)	Manage oil pollution preparedness for response in WA state waters. Relevant if the activity results in impacts to a marine park.
Pilbara Ports Authority	Manage the Dampier Port under the *Port Authorities Act 1999 (WA).* Relevant if the activity results in impacts to port activities.
NT	

Relevant Authorities	Role and Relevancy
Department of Environment, Parks and Water Security (DEPWS)	Protect the environment and natural resources in the NT, including marine fauna management. Relevant when activities may impact on marine or coastal values.
Department of Transport (DoT)	Manage oil pollution preparedness and response in NT waters. Relevant if the activity results in impacts to the NT waters or coastlines.
Environmental Protection Authority (EPA)	Independent authority established under the *Northern Territory Environment Protection Authority Act 2012* to prevent and respond to pollution. Relevant if the activity results in pollution to NT waters or coastline.
Regulation 25(1)(b) The Department of the responsible State Minister	
WA Department of Mines, Industry Regulation and Safety (DMIRS)	Manages offshore petroleum approvals in WA State waters. Relevant if the activity results in impacts to WA state waters.
Regulation 25(1)(c) The Department of the responsible NT Minister	
NT Department of Industry, Tourism and Trade (DITT) - Fisheries	Responsible for managing NT fisheries and aquatic ecosystems. Relevant when the activity has the potential to impact on fisheries resources in DITT managed fisheries.

Identifying Relevant Persons for Regulation 25(1)(d) and (e)

Subject-centred groups

Subject-centred grouping allows for tailoring identification, communication and engagement strategies. People and organisations grouped into subject-centred categories can allow the search for one member of a group to lead to the discovery of additional members of that group. The identification of persons or organisations within subject-centred groups necessarily evolved as engagement with these groups was carried out. In all cases, each person contacted is asked to identify other relevant persons and encouraged to share information about the petroleum activity and how to connect us with others in the subject-centred group.

Table 4.2 identifies the subject-centred groups targeted in the preparation of this EP and a summary of strategies used by EOG to reveal persons or organisations within the groups. A person could be associated with more than one of these groups while an organisation is more likely to associate with just one.

Table 4.2. Tailored consultation approaches conducted for subject-centred groups

Subject-centred group	Tailored strategy to identify relevant persons
Marine users	• EOG posted notices at ports, boat launches, and ramps to connect with a wide variety of marine users (Table 4.5).
Tourism operators	• Online searches for cruise operators, marine tours and recreational experiences such as marine mammal observations, diving, recreational fishing and thrill-seeking experiences. • Online searches for marine-based community or sporting events.
First Nations Peoples	The following activities were undertaken to identify First Nations Peoples: • Visited local government authority websites (shire or municipal council) that

Subject-centred group	Tailored strategy to identify relevant persons

	often include acknowledgement of Traditional Owners.
	• Searched state and territory government websites that include information about Traditional Owners in their jurisdictions, especially in the context of information about local offices.
	• Searched online for states' and territories' Aboriginal and Torres Strait Islander consultative bodies.
	• Contacted land councils representing the local Aboriginal or Torres Strait Islander communities.
	• Online searches for Native Title groups and corporations on the prescribed bodies corporate (PBC) website.
	• Registered searches on the National Native Title Tribunal (NNTT) website.
	• Geospatial searches by completing the forms on the NNTT website.
	Note: EOG categorises any person with Native Title claims of any standing (i.e., claim or determination) as a relevant person.
	Methods of identifying First Nations Peoples that may be relevant persons included:
	• Assessed the values and sensitivities of the EMBA.
	• Desktop research of any public Sea Country information within the EMBA of each specific activity.
	  ○ AMP management plans.
	  ○ Aboriginal group HCPs.
	• Engaged with First Nations groups such as land councils and PBC to seek who they represent; how First Nations groups or individuals should be consulted as relevant persons; and if there are any groups or persons that EOG had not identified.
	• Provided information via written correspondence, information flyers, and the project-specific website, and continued to engage with additional relevant persons or organisations as they were identified.
	• Advertised in Aboriginal-owned publications, *Koori Mail* and *The Kimberley Echo* newspapers, to invite consultation with any person who may have a function, interest or activity that may be affected by the activity. Use of Aboriginal-owned publications allows for persons that have not yet been identified to self-identify as relevant.

Port users	• Contacted harbourmasters to enquire about frequent users. • Online searches for businesses located at wharves in regional ports.
Petroleum titleholders	• Queried the National Electronic Approvals Tracking System (NEATS) database to find titles and titleholders within the EMBA. • Queried the NOPSEMA EP database to find other titleholders with petroleum activities. • Subscribed to the NOPSEMA EP submissions pages for all activities within the EMBA.
Commercial fishers	• Requested data from the Commonwealth, WA and NT fishing authorities to understand historical fishing activity. • Visited local ports to find local fishers who operate in the region. • Contacted all state-licensed fishers. • Contacted all Commonwealth fishing license holders. • Queried and reviewed the Fisheries Research and Development Corporation

Subject-centred group	Tailored strategy to identify relevant persons
	(FRDC) website, including the annual State of the Fisheries Report (www.fish.wa.gov.au). • Engaged with the Western Australia Fishing Industry Council, Inc (WAFIC).
Recreational fishers	• Engaged with recreational fishing associations to advertise in newsletters/circulars or websites. ○ Requested contact details for license holders. ○ Requested to engage with advisory bodies or reference groups to establish the best approach to identify relevant persons.
Native Title Prescribed Bodies Corporate and Land Councils	• Sought contact details of land councils from the NNTT. • Online searches for Native Title PBC on the PBC website. • Cross-referenced PBC contact details with the Office of the Registrar of Indigenous Corporations.
Conservation groups	• Reviewed previously submitted EPs on the NOPSEMA website. • Online searches for conservation groups with interests in similar activities. • Online searches for new articles and current campaigns related to similar activities.
Fishing associations	• Identified target species within the EMBA through online research. • Requested contact details for license holders.
Other marine users	• Online searches for groups who use or have a connection to the marine environment.
Commercial shipping	• Contacted harbour masters and shipping agents to enquire about frequent users. • Online searches for businesses located at wharves in regional ports.
Local councils	• Queried the WA and NT Electoral Commission and Government databases for councils, shires and cities. *Note:* NOPSEMA guideline GL1887 identifies the government agencies as a relevant person because they have responsibilities within the Commonwealth marine area.
Educational bodies	• Contacted the Department of Education to identify relevant institutions and research programs. • Contacted universities to identify any relevant research programs. *Note*: For this category, the exposure thresholds for monitoring potential impacts of the activity were used rather than the socio-economic thresholds, because this is more relevant to the likely activities of research institutions.
Commerce	• Online searches for businesses located at wharves in regional ports. • Online searches for news articles or press releases about marine-based businesses in the area.
Ports and harbours	• Reviewed automatic information system (AIS) data of vessel activities along the coast to establish frequented ports. • Reviewed the WA and NT boat ramp databases. • Contacted local councils, cities and shires for listing of local boat ramps and users.

Subject-centred group	Tailored strategy to identify relevant persons
Heritage groups	• Contacted WA and NT heritage organisations to identify relevant persons. • Queried the Australian Heritage Database. • Queried the Australasian Underwater Cultural Heritage Database.

The outcome of the approaches listed in Table 4.2 resulted in the complete list of relevant persons applicable to the proposed activity, presented in **Appendix 3** and **Appendix 4** (named individual fishing licence holders). In addition to the strategies listed in Table 4.2, the following strategies as stated in the RPCEP were also considered but not undertaken because the databases or systems were not in place to accomplish these strategies:

- Request Tourism Australia and Tourism WA to query databases of local businesses along the coastline within the socio-economic risk EMBA; and
- Enquire with local Chambers of Commerce to identify marine-based tourism operators and local marine-based businesses in the region.

The subject-centred strategies used to search for relevant persons in Table 4.2 were primarily focused on persons within and proximate to the Beehive multi-well drilling EP spill EMBA (see Section 5.1 for a description of the spill EMBA), which facilitated a broad capture of relevant persons. Furthermore, the communication strategies discussed in the following sections specifically targeted persons proximate to the activity (see also Section 5 of the RPCEP in **Appendix 2**).

International Persons

EOG has also considered the potential that relevant persons may exist in international waters. EOG has not been contacted directly by an international person who identified themselves as a relevant person. However, should international persons make themselves known to EOG as a relevant person for the purposes of this activity, EOG will make an assessment of this and if they are determined to be relevant, add them to the list of relevant persons.

It is possible that persons based in Indonesia would have an interest in fishing and aquaculture in the waters offshore from their coastlines. Nonetheless, at the low exposure concentration of 10 ppb used to define the outer extent of the spill EMBA for dissolved and entrained hydrocarbons (see Section 8.7.1) and which come close to Indonesia, there is not considered to be any exposure pathways resulting in ecological/toxicity impacts to fish or other receptors and therefore no effect on the functions, interest or activities of Indonesian coastal communities who may be undertaking fishing or aquaculture activities in coastal waters. As such, EOG considers that there is no potential for functions, interests or activities to be materially affected and therefore concludes that there are no internationally relevant persons applicable to this activity.

In addition, traditional Indonesian fishing effort is focused on shallow waters rather than the deep waters of the permit areas and EOG has engaged with individual fishers, fishing organisations and fishing regulatory bodies. In regard to Indonesian fishers, such persons are not accessible through a register as there is no requirement for traditional fishers to be licensed by either the Australian or Indonesian governments. There is no publicly available information to identify these individuals. As per the Santos Decision, the obligation to identify relevant persons for the purpose of consultation must be reasonably capable of discharge within a reasonable time and there is an evident need for all relevant persons to be ascertainable. The inability to identify traditional Indonesian fishers combined with EOG providing information via its website that is accessible globally (as described in further detail later in this section) is reasonable and workable.

Nonetheless, it is also reasonable and practicable to assume that the interests of traditional fishers are the same as those of licenced commercial fishers operating in Australia that EOG has been able to contact. EOG has considered feedback from Australian commercial fishers and fishing associations in relation to potential impacts to fish communities.

Public Outreach

To complement the proactive and comprehensive searches for relevant persons via subject-centred groups, EOG also undertook a broader approach (both geographically and demographically) to raise public awareness, so persons not contacted as part of the tailored consultation could learn the details of the Beehive Project and self-identify as a relevant person. Each public outreach activity is listed in this section and fully described in the RPCEP (**Appendix 2**).

EOG Australia website

The EOG Australia website (https://www.eogresources.com/australia/) provides an overview of EOG Australia. In February 2024, a summary of the proposed multi-well drilling activity and activity map was posted, along with links to the project-specific online consultation hub, summary Fisheries Compensation Protocol, WA-488-P permit details, EPs (geophysical, geotechnical, Beehive 1 drilling) and information flyers. A draft of this EP (Revision A) was also made available on the website from mid-April 2024.

Establish a Dedicated Project-specific website

EOG launched a project-specific website (https://klarite.mysocialpinpoint.com.au/beehive) on 11 May 2023 as the central tool to convey information and updates about all Beehive exploration activities , potential environmental impacts and risks and control measures to mitigate them. The nature of the internet allows anyone in Australia and further extending to anyone in the world with internet access, to learn and choose to engage with the project in any manner they wish, thus removing geographic limitations for consultation. This platform provides opportunity for users to self-identify as a relevant person and request consultation with EOG. The website includes a feedback form and EOG contact information including telephone number, mailing address, and email address. The project-specific website will remain available throughout the EP assessment process and throughout the activity as the central place for updates on the activity.

A link to the project-specific website is included on the EOG Australia website (see previous sub-section). EOG project information, project map, QR code and link to the project-specific website were also included in public notices in print media (Table 4.3), and posted on notice boards at boat ramps, ports, local councils and other prominent community gathering sites within the spill EMBA, as listed in Table 4.5. This central tool allows users to review the project information at their own pace on their own schedule and ensures all relevant project information is made available anytime, anywhere.

The project-specific website invites the user to explore the following:

- *Consultation Information*
    - What are the consultation requirements? Provides information to all relevant persons so they can make an informed assessment of how their functions, interests and activities may be affected by the proposed activities.
    - What should I do if I want to be included in consultation? Provides a user-friendly, readily accessible means to register per activity as a relevant person.
    - What should I do if I don't want to be consulted? Provides a user friendly, readily accessible means to opt out of consultation per activity.

- What happens if I don't respond to the information provided to me through the consultation process? Provides details on EOG's actions if party contacted by EOG does not respond.

- *Relevant Person Information*
  - What is a relevant person and how do I know if I am one? Describes what it means to be a relevant person and provide access to the Beehive Consultation Survey if user is unsure if they are a relevant person.
  - How do I advise EOG if I believe I am a relevant person? Provides the variety of ways available to register as a relevant person.
  - What are my rights and obligations as a relevant person? Provides detail of the regulations regarding information shared during consultation.
  - I think someone I know could be a relevant person, what should I do? Provides EOG contact information to share with others.
- *What is an Environment Plan?* Provides background information on the purpose of an EP.
  - Description of the activity.
  - Description of the existing environment.
  - Environmental impact and risk assessment.
  - Environmental management measures and commitments.
  - Environmental spill response measures contained within an OPEP.
  - Summary of the consultation record.
- *Interactive Project-specific Information*:
  - Beehive geotechnical assessment
    - EP status.
    - Activity summary.
    - Activity map.
    - Geotechnical assessment information.
    - Geotechnical assessment interactive map.
    - Current EP.
    - Information flyers.
  - Beehive-1 exploration drilling
    - EP status.
    - Activity summary.
    - Activity map.
    - Drilling activity information.
    - Drilling interactive map.
    - Current OPEP.
    - Information flyers.
  - Beehive multi-well exploration Drilling

- A draft of this EP (Revision A) was available from mid-April 2024.
- Activity summary.
- Activity map.
- Drilling activity information.
- Drilling interactive map.
- Information flyer.

- *Beehive Consultation Survey and Feedback*
  - Relevant Persons
    - Identify functions, interests, or activities that may be affected.
    - Activity-specific surveys.
    - Opt-in/Opt-out of consultation process.
    - Confidentiality Statement.
    - Provide feedback.
  - General Public
    - Sign-up for project updates.
    - Confidentiality Statement.
    - Provide feedback.

Through the Beehive Consultation Survey, users are able to determine whether their activities, interests or functions have the potential to be affected by the project and the option to self-identify as a relevant person. The consultation survey provides relevant persons and the general public opportunity to provide feedback and comments, make suggestions for improvements, and sign up to receive project updates and information flyers. EOG's confidentiality policy is declared within the feedback form, with respondents having to elect whether their information be made public or removed from any documents made public, prior to submitting their information.

Public Notices in Print Media

Five advertisements were published in Australian national, regional and local newspapers in late February 2024 regarding the multi-well drilling campaign, as listed in Table 4.3 (the advertisements are provided in **Appendix 5**). The advertisements included a link/QR code for the project-specific website along with contact details (email address and phone number) for readers to provide EOG with comments on the proposed activity.

Table 4.3. Newspaper advertising of the proposed activity

Newspaper	Coverage	Publication date
General public notices		
The Australian	National	28 February 2024
Koori Mail	National	28 February 2024
NT News	Regional (NT)	28 February 2024
The West Australian	Regional (WA)	28 February 2024

Newspaper	Coverage	Publication date
The Kimberley Echo	Local (WA)	29 February 2024
Associated with EP submission to NOPSEMA for public exhibition		
The Australian	National	Immediately after publication of this EP on the NOPSEMA website
Koori Mail	National	
NT News	Regional (NT)	
The West Australian	Regional (WA)	
The Kimberley Echo	Local (WA)	

Publication of Information Flyers

Information flyers have been produced periodically since 2021 to provide relevant persons and the general public specific information about the activity (Table 4.4, **Appendix 6**). Information flyers were used to introduce EOG and the Beehive project, provide descriptions of the geotechnical, geophysical and drilling processes, and to discuss the purpose of the EP relative to regulatory requirements. Tailored subject-centred flyers were created for relevant persons that requested more information or information in a different form.

The information flyers provided a description of the relevant persons consultation process, an invitation to consult with EOG, a QR code for the project-specific website, and contact details. The flyers were emailed to relevant persons, accessible through the project-specific website and the EOG Australia website, and appended to written correspondence as necessary.

Table 4.4. Beehive-1 information flyers

Flyer	Date	Focus
1	15 September 2021	Geophysical and geotechnical investigations
2	1 December 2021	Update on geophysical and geotechnical investigations
3	28 February 2022	Drilling program
4	11 May 2022	Updates on geophysical and geotechnical investigations and drilling program
5	27 June 2022	Updates on drilling program and geotechnical investigations and EP status
6	May 2023	Introduction to the project-specific website and updates on the drilling program and geotechnical investigations and EP status
7	February 2024	Introduction to the Beehive multi-well drilling program and updates on geophysical and geotechnical investigations, Beehive-1 drilling program and EP status.

Public Notices at Prominent Locations

Public notices were developed to span a broader and more general audience that might otherwise not receive or have access to notifications provided by email, in print media or on internet platforms. During May and June 2024, A4-sized public notices were distributed in high-traffic areas throughout

the spill EMBA on notice boards, at boat ramps, ports, local councils and other prominent community gathering sites, listed in Table 4.5.

Public notices specifically tailored for relevant subject-centred groups and individual persons were created and displayed in specific areas frequented by subject-centred relevant persons (e.g., fishers, tourism operators) within the spill EMBA. The primary purpose of the public notices was to inform the general public of the activity and invite consultation with relevant persons. Public notices provided the project-specific website QR code so that the public could access information about the activity, determine if they are a relevant person, and contact EOG.

Table 4.5. Public notice posting locations for the multi-well drilling activity

Town	Location	Posting Date
WA		
Broome	Broome Historical Museum	In June 2024, staff at each venue were unwilling to display the notice without the permission of management. It is assumed that the signs have not been placed in these locations.
	Broome Boat Shop	
	Diverse Watersports and Marine	
Kununurra	IGA supermarket	22 June 2024
	Coles supermarket	22 June 2024
	Shire of Wyndham/East Kimberley Council office	22 June 2024
	Red Sun Sports and Casual Gear	22 June 2024
Wyndham	Wyndham boat ramp (corflute sign)	22 June 2024
	Shire of Wyndham/East Kimberley	22 June 2024
	Wyndham supermarket	22 June 2024
	Wyndham post office	22 June 2024
NT		
Darwin	Dinah Beach Cruising Yacht Club	8 May 2024
	Best Foods Frances Bay Village	8 May 2024
	Fishing & Outdoor World Darwin	8 May 2024 - staff were unwilling to display the notice without the permission of management. It is assumed that the sign has not been placed in this location.
Larrakeyah	Cullen Bay Marina	8 May 2024
Fannie Bay	Darwin Trailer Boat Club	8 May 2024
Berrimah	Craig's Fishing Tackle Shop	8 May 2024
Millner	Anaconda Darwin	8 May 2024
Wagait Beach	Wagait Beach supermarket	9 May 2024

Town	Location	Posting Date
Dundee Beach	The Lodge of Dundee	8 May 2024

Access to self-identify as a relevant person

Project-specific website

The project-specific website (https://klarite.mysocialpinpoint.com.au/beehive) was specifically designed to convey information about the proposed activity, and enable users no matter their location to determine whether they are a relevant person. Through the Beehive Consultation Survey, users are able to determine whether their activities, interests or functions have the potential to be affected by the project and thereby self-identify as a relevant person. The consultation survey also directs relevant persons to either request to consult with EOG or opt out of the consultation process. Relevant persons can also sign up for updates and information flyers, or specifically request to be excluded from all correspondence. EOG's confidentiality policy is declared within the consultation survey, with respondents having to elect whether their information be made public or removed from any documents made public, prior to submitting their information.

Print media, public notices and information flyers

For those who do not have access to the internet or otherwise do not interact online, EOG contact information (telephone numbers and mailing address) was provided in advertisements in print media, public notices, and information flyers.

Request relevant persons identify other relevant persons

To amass as great an assemblage of relevant persons as possible, each person contacted was encouraged to share information about the project and thereby identify other relevant persons. This request was included in written correspondence, and project information sessions, and included on the project-specific website. In addition, the Beehive Consultation Survey on the project-specific website explains that EOG is "*seeking to engage with any other person to improve our environmental management of this activity*" and specifically requests that readers share the website with others who might be a relevant person.

Consultation

This section describes how EOG has consulted with relevant persons.

Invite co-design of the consultation process for each relevant person

Utilising the methods previously outlined, relevant persons were invited to engage with EOG in co-design of the consultation process to ensure that the consultation process was adapted to the nature of the relevant person and their interests. Written correspondence was the primary means used to conduct formal consultation between EOG and relevant persons. Phone calls were used to follow up on initial correspondence to ensure receipt of initial email correspondence.

Customised communication appropriate to relevant persons

A variety of communication methods were employed respective of the preferred methods requested by the different subject-centered groups. Written correspondence is the primary means used to conduct consultation between EOG and relevant persons. If a relevant person requested more information, or the information in a different form, subject-specific flyers were created to tailor the information to the relevant person that made the request. The full list of communication methods is described below. Communication records are included as 'sensitive information' (in

accordance with OPGGS(E) Regulation 26(8)) in **Appendix 7**.

Written Correspondence

Written correspondence is the primary means used to conduct consultation and is tailored specifically to communicate appropriately with relevant persons. It has been used to initiate (or continue) consultation with authorities, organisations and subject-centred groups. Written correspondence was used to provide notifications on project milestones and availability of activity-specific online information, and to request input and invite co-design of the consultation process. Written correspondence has also been used to respond to enquiries and to request any remaining feedback that had not been previously addressed.

Phone Calls and Virtual Meetings

The EOG consultation team utilised phone calls and virtual meetings to maintain rapport and continue timely consultation with relevant persons, to confirm receipt of correspondence and offer opportunity to ask questions and clarify information provided through written correspondence and other media. All relevant persons were encouraged to provide feedback and present their concerns regarding the project.

On 11 March 2024, the Dambimangari Aboriginal Corporation (DAC) requested that EOG present at the DAC Board meeting. Due to logistics of travel between EOG's North American headquarters and the DAC office location in Derby, it was decided between the parties that EOG would present virtually to the DAC Board on 10 April 2024. This meeting included a specific presentation for the DAC regarding EOG's current and proposed activities.

Face-to-face Meetings

EOG has hosted multiple in-person meetings for previous EPs related to Beehive drilling activities to facilitate consultation with Native Title holders, Aboriginal land holders and Traditional Owners. Information was prepared to communicate details of the Beehive project and potential impacts and risks, including possible effects on Native Title and traditional country, as well as resources integral to culture and customs. Information and concerns of relevant persons gathered during those meetings have been incorporated into the content of this multi-well drilling EP. Summaries of in-person meetings conducted for the Beehive-1 Exploration Drilling activity are presented in Section 4.2.1 of the NOPSEMA-accepted Beehive-1 drilling EP (available on the Beehive website here).

EOG has made specific efforts to engage with First Nations peoples, as presented in Section 3.4.3 of the RPCEP (**Appendix 2**), to inform EOG about cultural features within and proximate to the Beehive multi-well drilling spill EMBA. In fulfilling these objectives, EOG has:

(1) Engaged with the First Nations groups such as land councils and PBCs to seek who they represent, how First Nations groups or individuals should be consulted as relevant persons, and if there are any groups or persons which EOG had not identified;

(2) Provided information via written correspondence, subject-centred information flyers, and the project-specific website, and consistently engaged with additional relevant persons or organisations as they were identified; and

(3) Advertised in *Koori Mail* and in *The Kimberley Echo*, regional print media serving Aboriginal people and communities in Northern Australia.

Determination of Representation of the Land Councils

Both the TLC and the NLC expressed a preference that EOG's consultation activities be conducted through these land councils, as representatives for their constituents. In contrast, the KLC saw the organisation as a relevant person in its own right but advised EOG to directly contact the Aboriginal

peoples within the KLC boundaries.

KLC also recommended, and EOG did utilise the services of KRED to undertake project information sessions for previous Beehive activities. Comments and concerns gathered during those information sessions have been factored into the content of this multi-well drilling EP. A summary of those information sessions has been documented in the Beehive-1 drilling EP (available on the Beehive website here).

To date, no information sessions have been requested or conducted for the multi-well drilling activity.

Confidentiality and sensitive information

As stated in Section 5.6 of the RPCEP (**Appendix 2**), EOG has communicated the legislative requirements around sensitive information. Throughout the consultation process and in all communications, EOG has reminded relevant persons of their right to request that any information provided during the consultation not be made publicly available. While that information must still be included in the EP submitted to NOPSEMA as "*sensitive information*", it would be excluded from the information published on NOPSEMA's website. This declaration has been included in public notices, information flyers, written correspondence, and in the Beehive Consultation Survey and Feedback form on the project-specific website.

On the main page of the project-specific website, it reads:

> "*As a Relevant Person, you may request that information you provide during the consultation not be made publicly available. That information must still be included in the EPs submitted to NOPSEMA as sensitive information but will be excluded from information published on NOPSEMA's website*".

Furthermore, EOG's confidentiality policy was declared within the Beehive Consultation Survey and Feedback form, with respondents having to elect whether their information be made public or removed from any documents made public, prior to submitting their information. The statement of confidentiality also noted that information would be included in the EP submitted to NOPSEMA as "*sensitive information"* but excluded from information made publicly available on NOPSEMA's website.

As a specific example of the confidentiality notice provided by EOG in its communications, information flyer #6 (May 2023) and information flyer #7 (February 2024) provided the following confidentiality statement:

> *Note: you may request that information you provide during the consultation not be made publicly available. That information must still be included in the environment plan submitted to NOPSEMA as sensitive information but will be excluded from information published on NOPSEMA's website. * The Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (including the definitions, sections 9(8), and 11A(4)) indicate that, if requested, information that you or your organisation provides, along with personal information, will be considered "sensitive information". Environment plans published by NOPSEMA on its website do not include any information deemed as sensitive.*

Protocol for unresponsive relevant persons

All attempts to contact relevant persons after the mail out of information flyers were recorded in EOG's consultation management system. If after multiple attempts to contact relevant persons, no response had been received, the following actions were employed to ensure compliance with EOG's requirement to consult with relevant persons on the proposed activity:

- Multiple phone calls, written correspondence and emails;
- Follow-up after 20 business days (4 weeks) from issue of initial consultation materials;
- Final follow-up prior to the resubmission of the EP; and
- Use of other broader consultation methods, including newspaper advertising and information flyers.

All of the above strategies were implemented to contact relevant persons multiple times.

4.2.2. Duty 2: Provide Sufficient Information

In accordance with OPGGS(E) Regulation 25(2), titleholders must provide sufficient information to each relevant person during the consultation process. To achieve this, EOG committed to the process as outlined in the RPCEP and implemented the information and outreach actions summarised below.

Tailor information to relevant persons functions, interests, activities

Project-specific website

The project-specific website includes the Beehive Consultation Survey and Feedback form, which clearly defines “functions”, “interests” and “activities” to enable potentially relevant persons to accurately self-identify as a relevant person. The interactive map enables users to determine whether their functions, interests or activities have potential to be affected by the project. Through the survey, users can specify their interests relative to the project and identify those aspects of the project for which they desire more information or information in a specific manner.

The consultation survey provides relevant persons and the public with an opportunity to provide feedback on the proposed activity, make suggestions for improvements, and sign up to receive project updates and information flyers. The project-specific website allows relevant persons to review the information at their own pace on their own schedule and ensures that all current project information is made available anytime, anywhere.

The website includes interactive self-guided links as listed in Section 4.2.1 so that individuals can access specific information relevant to their unique functions, interests and activities.

EOG’s confidentiality policy is declared within the feedback form, with respondents having to elect whether their information be made public or removed from any documents made public, prior to submitting their information.

Information flyers

In recognition of the needs and particular interests of specific relevant persons and groups, tailored subject-centred flyers were created for relevant persons that requested more information or information in a different form.

4.2.3. Duty 3: Describe the Environment that may be Affected by the Activity

In accordance with OPGGS(E) Regulation 21(2)(b), titleholders are expected to use consultation with relevant persons to improve the description of the environment that may be affected by the activity and increase predictive certainty of the impact assessment. To discharge this duty, EOG committed to the processes as outlined in the RPCEP. The following is a summary of how EOG completed each commitment.

Engage relevant persons

Relevant persons were invited to communicate information about their environment and sensitivities through the project-specific website, phone calls, and written correspondence, as described in Section 4.2.1. Furthermore, EOG made specific efforts to engage with First Nations peoples to inform EOG about cultural features of the EMBA. EOG has engaged with land councils and PBCs, provided information via written correspondence, specific subject-centred information flyers and consistently engaged with additional relevant persons or organisations as they were identified.

Publicise the EMBA / Invite feedback

EOG has published the description of the environment in the following locations that have been available to relevant persons throughout consultation: the project-specific website, Beehive-1 drilling, Beehive multi-well drilling and Beehive geotechnical interactive map and comment portal, information flyers #3, #5, #6 and #7, email correspondence, and relevant persons-specific requested information packets.

Additionally, this EP is being published on NOPSEMA's website with an invitation for public comment for 30 days. EOG advertised the EP's publication in national, regional and local print media (see Table 4.3).

Online interactive access to project maps and communications

EOG developed the project-specific website, launched 11 May 2023, as the central tool to convey information about the proposed activity, potential environmental risks and controls in place. The website's interactive map allows users to view the proposed drilling activity in context with other spatial features—depicting the Beehive multi-well location, AMPs and state marine parks, and the EMBA. The interactive map allows users to place comments directly on the map to share feedback regarding the activity with EOG. This feature enables precise and easy communication of location-based environmental values and sensitivities.

The website also provides a comment form, an email address, mailing address and telephone number for alternative methods of contact. As of 24 June 2024, the following user statistics for the multi-well drilling part of the website are:

- 39 total visits;
- 17 unique users;
- 4 document downloads;
- 0 consultation survey responses; and
- 0 comments posted to the interactive multi-well drilling map.

Additionally, throughout the relevant persons consultation process other forms of communication, telephone numbers, a mailing address, and email addresses have been shared with relevant persons. Relevant persons could contact the EOG team directly and share location-based information.

4.2.4. Duty 4: Reasonable Period for Relevant Persons to Assess the Sufficient Information

As required by OPGGS(E) Regulation 25(3), consultation must allow a reasonable period for relevant persons to review the proposed activities. The consultation period, described in **Appendix 2**, states that consultation with relevant persons during the development of an EP will generally run for 30 calendar days (four weeks).

All relevant persons consulted for this activity have had greater than 30 days to assess the information provided by EOG and make comment, claims and objections, as noted by the following drilling-specific timeline of consultation:

- 22-23 February 2024 – issue Information Flyer #7 to 454 relevant persons via email with an invitation to review the activity and provide feedback;
- 23-26 February 2024 – mail out campaign to relevant persons with an invitation to review the activity and provide feedback;
- 28-29 February 2024 – EOG placed advertisements with *The Australian*, *The Kimberley Echo*, *Koori Mail, NT News,* and *The West Australian* newspapers, advising of the multi-well drilling activity availability with a link and QR code for the Beehive website and inviting comments.
- February 2024 - update the Beehive website to include the multi-well EP details;
- 27 February to June 2024 – 152 telephone calls to follow up on written and email correspondence;
- 17 April 2024 – publish a draft of this EP on EOG's Beehive website;
- April 2024 – email follow ups to 172 relevant persons (where only email addresses were available) and letters issued to 286 relevant persons (who did not have an email address on file); and
- Late June/early July 2024 - EOG placed advertisements with *NT News*, *The Australian*, and *The West Australian* newspapers, advising of the EP's availability on the NOPSEMA website and inviting comments.

Appendix 8 provides a complete summary of consultation undertaken with dates of consultation. Up to the point of submission of this EP to NOPSEMA for public exhibition on the NOPSEMA website, relevant persons have been provided with over 16 weeks to provide feedback to EOG about this activity, including over 8 weeks where a full copy of this EP has been available online on the EOG website.

4.2.5. Duty 5: Assessment of Merit of Objections and Claims

As required by OPGGS(E) Regulation 24(b)(ii), titleholders are obligated to assess objections or claims from relevant persons and provide a response to each relevant person about each objection or claim. Titleholders are also required to adopt appropriate measures as a result of the consultations with relevant persons. This section provides a summary of how EOG fulfilled this duty.

EOG recognises and respects each relevant person's need to be identified and included in the fulfillment of the consultation processes and therefore followed a stringent process to assess the merit of objections and claims from relevant persons to ensure that their concerns were recognised and fully addressed. Written correspondence was used to respond to enquiries and to request any remaining feedback that had not been previously addressed.

The EOG consultation team followed a standard protocol to assess the merit of claims and objections to the EP and provide feedback to all relevant persons with regards to enquiries, objections or claims. All objections and claims were recorded in EOG's consultation management system and assessed based on the following criteria:

- Relevance to environmental management of the activity;
- Relevance to the persons' functions, interests, and activities; and
- Whether the objection or claim can be resolved through the adoption of additional control measures, an activity design variation, or through changes to the Implementation Strategy for the EP.

For objections or claims found to have merit, EOG incorporated measures that avoid, manage or mitigate the objection or claim into this EP. For objections and claims found to not have merit with regards to the criteria, the claim was recorded and reasons documented. In all instances, each claim or objection was recorded and the relevant person responded to via written correspondence providing an explanation of EOG's assessment of merit and a request for additional feedback in an effort to uncover any remaining objections or claims. Additional claims were again considered relative to the merit criteria and the process repeated until the relevant person's claim or objection had been satisfactorily considered.

Despite best efforts to resolve all objections and claims, EOG understands that relevant persons may not agree with its assessment of merit regarding their objection or claim. Such circumstances do not preclude EOG's submittal of this EP to NOPSEMA for assessment.

Appendix 8 provides a complete list of consultation undertaken with relevant persons, inclusive of an assessment of merits of objections or claims. Full records of all correspondence with relevant persons are provided in **Appendix 7** (Sensitive Matters Report), which is submitted to NOPSEMA separately to this EP.

Table 4.6 provides a summary of the objections and claims raised by relevant persons throughout the consultation process for this activity, along with an assessment of merit of each objection or claim and how EOG has addressed this. Objections or claims made in relation to the Beehive-1 drilling EP have been factored into the content of this multi-well EP, and the objections or claims for Beehive-1 are presented in Table 4.6 of the Beehive-1 drilling EP (available on the Beehive website here).

Table 4.6. Summary of relevant person objections and claims for the Beehive multi-well activity

Theme	Relevant persons	Objections and claims raised by relevant person	Assessment of merit of objections and claims	Measures adopted by EOG in response to objections and claims
Request to consult	Top End Aboriginal Coastal Alliance (TEACA)	The TEACA called EOG to identify themselves as a Relevant Person for the Beehive multi-well drilling EP. The TEACA would like to discuss the activity and be directly contacted and asked that the most recent project communications be sent to them.	This request is relevant to the functions, interests and activities of the TEACA and therefore have merit.	EOG issued the most recent project information flyer (#7) to the TEACA the day following contact, along with links to the project website and previous Beehive EPs. EOG also entered TEACA into its consultation database so they are included in all future project communications.
Impacts to commercial fishing	Equinox Fishing Charters	When called by EOG in follow up to the issue of Flyer #7, a representative of this fishing charter company claimed that the information they had received from EOG was too long and didn't address the key points succinctly. They wanted it noted that they are opposed to the project and they would prefer for the drilling and blasting to not go ahead. They stated that the fishing industry in the area would be negatively affected by operational activities due to its proximity to the coastline (referenced times of low fishing productivity in the JBG from earthquakes in Indonesia).	This claim is relevant to the functions, interests and activities of Equinox Fishing Charters and therefore have merit.	EOG will look into methods of communication with relevant persons and customise communication as necessary.
	Tuna Australia	In response to a phone call from EOG to follow up on Flyer #7, Tuna Australia stated that it is not prepared to make comments on the project without a Consultation Services Agreement, which mandates an hourly fee be paid with a minimum hour commitment, in order for consultation to proceed.	NOPSEMA's brochure GL2086 *Consultation in the course of preparing an environment plan* (May 2023) indicates that there is no requirement in law for titleholders to pay relevant persons' costs associated with consultation. There is therefore no merit to this claim.	EOG did not respond in writing to Tuna Australia's comment given that this exact issue had been dealt with for the Beehive-1 drilling EP. For Beehive-1, EOG explained to Tuna Australia that it had consulted with the individual Southern Bluefin Tuna and Western Tuna and Billfish fishery license holders and peak representative bodies (the fishing zones for those fisheries

Theme	Relevant persons	Objections and claims raised by relevant person	Assessment of merit of objections and claims	Measures adopted by EOG in response to objections and claims
				overlap the spill EMBA). EOG also noted that the ABARES fishing data indicates there is no recent fishing effort near the activity area for any tuna fisheries.
Oil spill impacts	Dambimangari Aboriginal Corporation	During a virtual presentation to the DAC Board meeting, the DAC asked various questions about whether marine fauna migrations from the coast to the sea had been considered and what the impacts of an oil spill would be to marine life.	This request for information is relevant to the functions, interests and activities of the DAC and therefore has merit.	EOG was unable to answer some of the questions in detail during the meeting, but provided a detailed response letter a few weeks after the meeting. The letter provided a summary response to each question and directed the DAC to sections of the Beehive-1 EP (online) so they could read more detailed information.
	Gogolanyngor Aboriginal Corporation	The GAC requested an update on oil spill pollution modelling.	This request for information is relevant to the functions, interests and activities of the GAC and therefore has merit.	EOG provided a flyer to the GAC with information about the oil spill modelling results.
	WA DBCA	The DBCA noted the many marine parks, islands and coastal reserves in the spill EMBA that may be impacted in the event of a large hydrocarbon spill. They asked that the necessary baseline values of these areas be understood. If baseline data is not available, they requested that EOG establish what baseline information is available in order to be available to undertake Before-After, Control-Impact (BACI) studies in the event of a large spill.	This concern is relevant to the functions, interests and activities of the DBCA and therefore has merit.	Chapter 5 of this EP describes all conservation values in the impacts EMBA, and Appendix 11 of this EP describes all conservation values in the impacts EMBA. Appendix C of the OPEP outlines the scientific monitoring arrangements that will be implemented in the event of a LoWC.
Sensitive receptors	DBCA	The DBCA also suggested using the *National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds* as a best-practice industry standard for managing potential impacts of light pollution on marine fauna.	This concern is relevant to the functions, interests and activities of the DBCA and therefore has merit.	The light pollution guidelines were already referenced in the EIA in Section 7.3 of this EP.

4.2.6. Duty 6: Titleholder Responsiveness

As required by OPGGS(E) Regulation 24(b)(iii), titleholders must respond to each relevant person's objections or claims. The EOG consultation team manages all website content, in-person meetings and activities, written correspondence and phone calls to ensure that the consultation process is adequate and appropriate to targeted relevant persons, and that every claim and objection receives a response.

Feedback is handled via written correspondence and telephone contact. Written correspondence has been used to respond to enquiries and to request any remaining feedback that had not been previously addressed. Phone calls are used to maintain rapport and continue formal consultation with relevant persons, to confirm receipt of correspondence and offer opportunity to ask questions and clarify information provided through written correspondence and other media.

Appendix 8 provides a complete list of consultation undertaken with relevant persons and demonstrates that EOG has responded to all questions, objections and claims.

4.2.7. Duty 7: Consultation Shall Be Ongoing

Regulation 22(15) requires that ongoing consultation be incorporated into the Implementation Strategy of the EP. Based on the fact that EOG has executed in its entirety the methodology set forth in its RPCEP and fulfilled its requirements for the purposes of compliance with the OPGGS(E), relevant persons consultation has been fulfilled. However, titleholders are obligated to maintain ongoing consultation. Therefore, until the EP has been accepted by NOPSEMA and the project is completed, relevant persons can provide feedback to EOG. This section summarises how EOG is fulfilling this duty.

Ongoing Consultation Matters

EOG remains in ongoing consultation with multiple relevant persons.

At the time of EP submission, there are no outstanding issues to resolve as a result of stakeholder consultation.

4.3. Public Exhibition of the EP

In accordance with OPGGS(E) Regulations 28(1) and 30, NOPSEMA is publishing this EP (Revision 0) on the NOPSEMA website so that members of the general public can view and comment on the contents of this EP. Once published, the EP is available for a period of 30 days. Table 4.3 lists the print media in which EOG placed advertisements so as to promote the availability of the EP in order to seek public comment.

The public exhibition process is another avenue in which to identify relevant persons.

5. Description of the Existing Environment

In accordance with OPGGS(E) Regulation 21(2), this chapter provides a description of the EMBA by the activity, together with its values and sensitivities. Regulation 5 of the OPGGS(E) defines the environment as:

- Ecosystems and their constituent parts, including people and communities;
- Natural and physical resources;
- The qualities and characteristics of locations, places and areas;
- The heritage value of places; and
- The social, economic and cultural features of the above-listed matters.

The key sources of information used in developing this chapter include the:

- EPBC Act Protected Matters Search Tool (PMST) database (DCCEEW, 2024a), conducted for the impacts EMBA and flaring light EMBA on the 5th of April 2024 (Appendix 10);
- Species Profile and Threats (SPRAT) Database (DCCEEW, 2024b);
- The Northwest Marine Bioregional Plan Bioregional Profile (DEWHA, 2008b);
- Marine bioregional plan for the North Marine Region (NMR) (DSEWPC, 2012);
- National Conservation Values Atlas (NCVA) (DCCEEW, 2024c);
- Species recovery plans, conservation advice and scientific publications; and
- Seabed Habitats and Hazards of the JBG and Timor Sea, Northern Australia (Przeslawski *et al*., 2011).

Where appropriate, descriptions of the JBG environment (beyond the immediate impacts EMBA) are provided for context. The relevant values and sensitivities considered in this chapter are inclusive of but not limited to the matters protected under Part 3 of the EPBC Act.

5.1. The Environment That May Be Affected

The spatial extent of the EMBA is divided into that for planned activities (impacts) and unplanned activities (risks).

5.1.1. Planned Activities

The extent of the EMBA for each of the impacts from the activity is listed in Table 5.1 (see also Chapter 7). This indicates that the greatest extent of the EMBA for planned activities is no greater than a 20-km radius from each drill site. This EMBA is simply referred to as the 'impacts EMBA' (Figure 5.1) and is the area of focus for the description of the environment in this chapter.

The impacts EMBA for light emanating from flaring is estimated to extend to 42 km; this distance is included in the PMST search results despite uncertainty as to whether flaring will take place (see Section 2.7.4). The flaring EMBA is discussed further within sections 5.4.6 (Marine Reptiles) and 5.4.7 (Avifauna) due to these species being particularly vulnerable to artificial lighting.

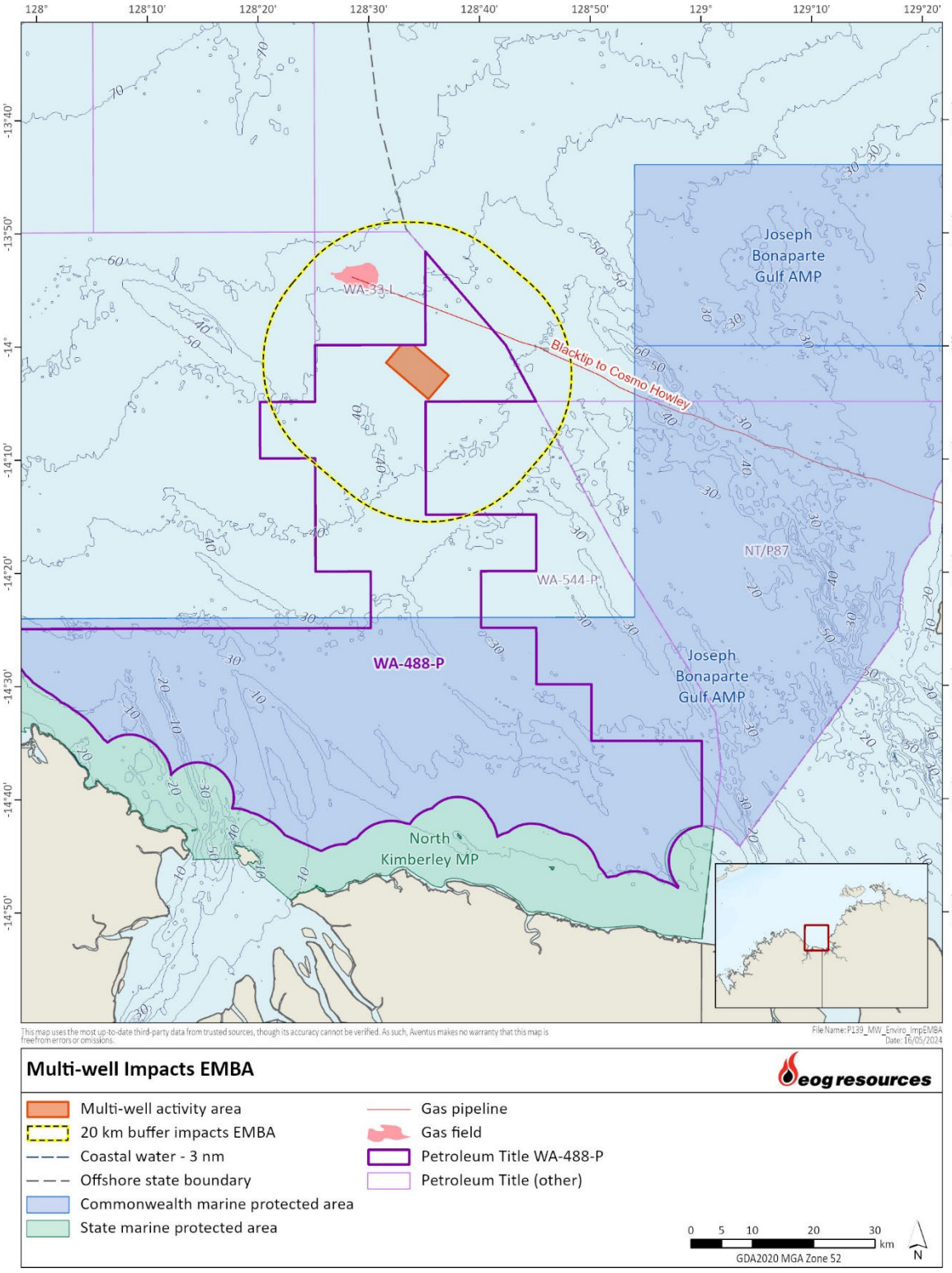


Figure 5.1. The impacts EMBA

Table 5.1. Extent of the impact EMBAs

Planned event	Extent of EMBA (radius around the multi-well location)	EIA section
Seabed disturbance	Tens of metres	7.1
Displacement of marine users	500 m	7.2
Light glow	20 km (routine MODU operations)	7.3
	42 km (if flaring is undertaken). See earlier notes.	
Air emissions	Hundreds of metres	7.4
Underwater sound	Hundreds of metres	7.5
Drill cuttings discharges	1.80 km	7.6
Drill muds discharges	9.1 km	7.6
Cement discharges	9.1 km	7.7
Putrescible waste	100 m	7.8
Treated sewage discharges	50 m	7.9
Cooling water discharges	100 m	7.10
Bilge water discharges	100 m	7.11

Note that the impacts EMBA illustrated in Figure 5.1 and subsequent maps in this chapter will in reality be smaller because the EMBA will be centred on a single drilling location rather than the entire activity area. Therefore, the impacts EMBA described in this chapter is considered conservative.

5.1.2. Unplanned Activities

The EMBA for unplanned activities is defined by modelling of the LoWC, noting that the EMBA from an MDO spill is contained within the broader LoWC EMBA. The description of the existing environment for the EMBA defined by the LoWC is provided in **Appendix 11**.

The boundary for the EMBA associated with a LoWC is defined by the hydrocarbon spill thresholds defined in the *NOPSEMA Bulletin #1 Oil Spill Modelling* (NOPSEMA, 2019). This bulletin uses hydrocarbon contact values of four oil phases (surface, dissolved, entrained and accumulated shoreline) that pose differing environmental risks to define the outer extent of the EMBA (Table 5.2).

The low contact values used to inform the extent of the socio-economic EMBA are useful for establishing scientific monitoring parameters and identifying potential socio-economic impacts (the socio-economic EMBA); however, they may not be at concentrations that are ecologically significant (NOPSEMA, 2019). Therefore, in addition to the socio-economic EMBA, an ecological EMBA has also been derived from the stochastic spill modelling using hydrocarbon thresholds that are identified by NOPSEMA (2019) as having the potential to cause impacts to ecological receptors (see Table 5.2).

The socio-economic EMBA and the ecological EMBA are referred collectively as the ‘spill EMBA’, and the environment of the spill EMBA is described in **Appendix 11**.

Table 5.2. Oil spill thresholds used to define the spill EMBA

Hydrocarbon phase	Exposure values	
	Socio-economic EMBA	Ecological EMBA
Shoreline	Low – **10 g/m²** (equivalent to 10 ml/m², or 2 teaspoons) Potential for some socio-economic impact.	Moderate – **100 g/m²** (equivalent to 100 ml/m²) Area likely to cause environmental impacts and to require clean-up effort.
		High – **1,000 g/m²** (equivalent to 1 litre/m²) Area likely to require intensive clean-up effort.
Sea surface (floating)	Low – **1 g/m²** (equivalent to 1,000 L/km²) Approximates socio-economic effects and planning area for scientific monitoring.	Moderate – **10 g/m²** (equivalent to 10,000 L/km²) Lower limit for harmful contact to birds and marine mammals.
		High – **50 g/m²** (equivalent to 50,000 L/km²) Approximates surface oil slick and informs response planning.
Dissolved	Low – **10 ppb** Planning area for scientific monitoring as potential water quality trigger exceedance.	Moderate – **50 ppb** Potential toxic effects, particularly sub-lethal effects to sensitive species.
		High – **400 ppb** Toxic effects, including lethal effects to sensitive species.
Entrained	Low – **10 ppb** Planning area for scientific monitoring as potential water quality trigger exceedance.	High – **100 ppb** To inform risk evaluation.

Source: NOPSEMA (2019).

5.2. Regional Context

Under the EPBC Act, management of Australian offshore waters is divided into six marine bioregions. Marine bioregional plans describe the marine environment and conservation values (protected species, protected places and key ecological features) of the marine region, sets broad biodiversity objectives, identify regional priorities, and outlines strategies and actions to achieve these (DCCEEW, 2024a).

The impacts EMBA is located within the Northwest Marine Region (NWMR). Based on the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) Version 4.0, the impacts EMBA is situated completely within the 'Northwest Transition' provincial bioregion (CoA, 2006), as illustrated in Figure 5.3 and the 'Bonaparte Gulf' mesoscale bioregion (Figure 5.3).

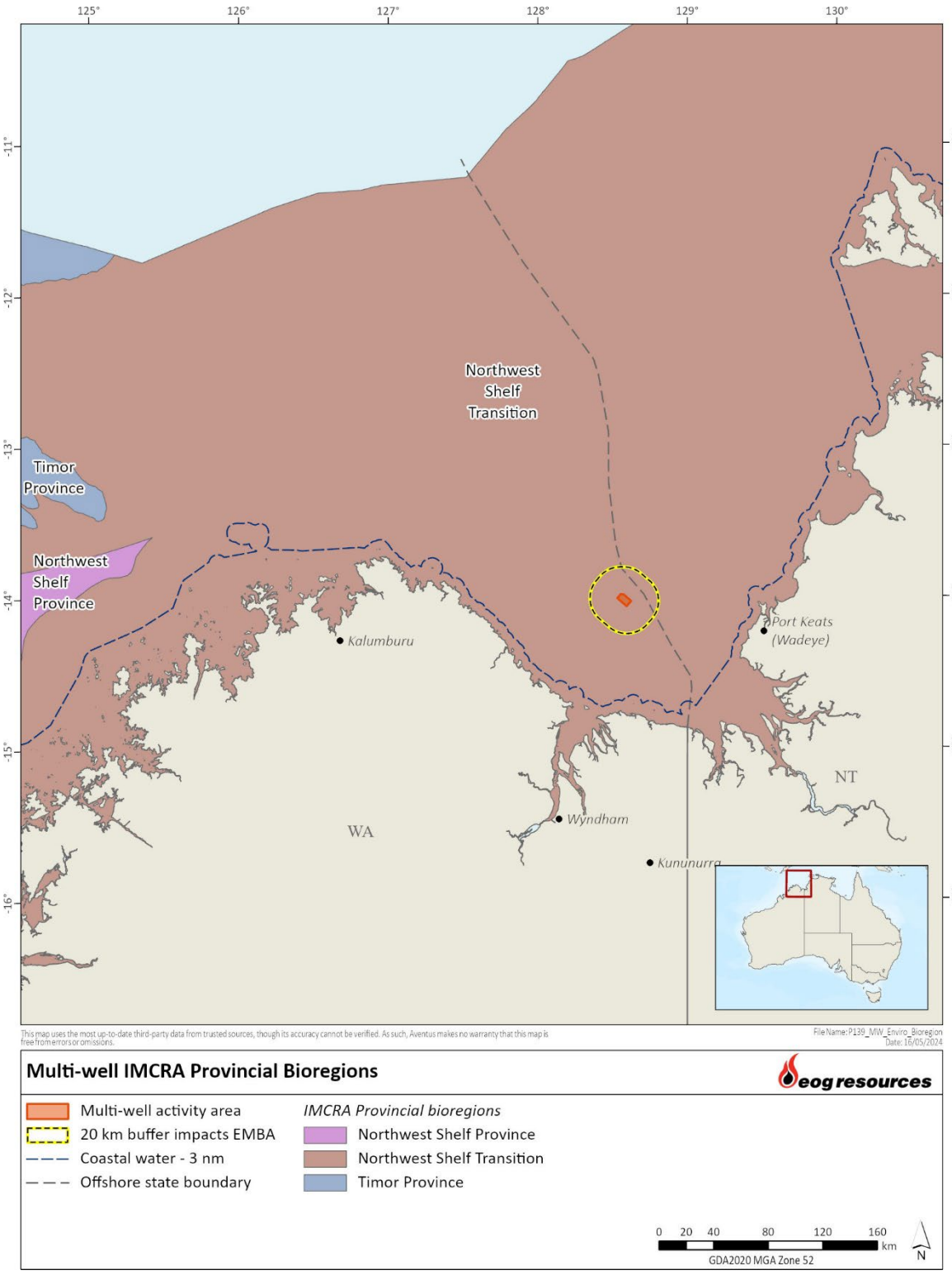


Figure 5.2. Provincial bioregion overlapped by the impacts EMBA

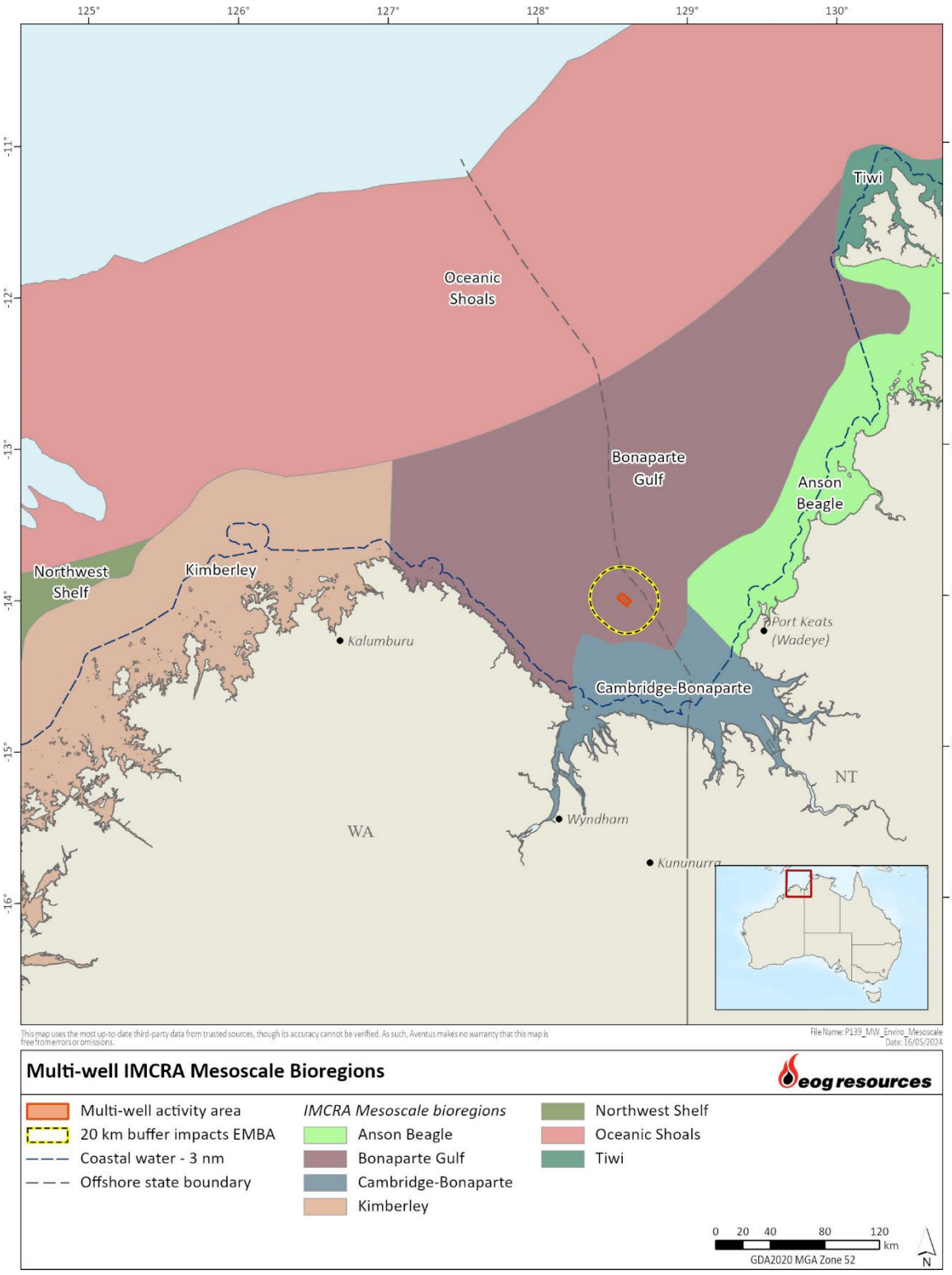


Figure 5.3. Mesoscale bioregion overlapped by the impacts EMBA

5.2.1. Climate

The impacts EMBA is located in a region with a pronounced tropical monsoonal climate consisting of two distinct seasons known as the northwest monsoon ('wet season') and southeast monsoon ('dry season').

The northwest monsoon occurs from late October to mid-March. Regular and high rainfall is a characteristic of the northwest monsoon, mainly over coastal areas and during cyclones. This is caused by large amounts of moisture being gathered as the monsoon crosses the sea from the Asian high-pressure belt on its way to the intertropical convergence zone, which drifts southward close to, or over, northern Australia. The southeast monsoon occurs from May to mid-October. This originates from the southern hemisphere high-pressure belt and is relatively dry and cool (DSEWPaC, 2012a).

Temperature and Rainfall

Port Keats Airport, located on the NT mainland approximately 100 km east ofthe activity area, is the location of the nearest meteorological station. Data collected from 1997 to 2024 show that the average maximum annual temperature is 33.1 and the lowest annual average temperature is 22.0 (BoM, 2024). The mean annual rainfall is 1,335.6 mm, with the highest rainfall in January (371.7 mm) and the least in August (0.6 mm) (BoM, 2024). Typically, the majority of rain occurs from December to March.

Winds

Wind patterns in the region are controlled by the seasonal migration of high-pressure cells from latitudes 25-30°S in winter to 35-40°S in summer (Pearce *et al*., 2003). Sea surface wind data spanning five years sourced from the NCEP/NCAR global reanalysis project shows two predominant (general) directions:

1. West to northwest winds prevail during the months of September to February; and
2. Easterly to south-easterly winds prevail from April to July (Kalnay *et al*., 1996; Kistler *et al*., 2001).

March and August are transitional periods with a higher variability in wind directions. Wind speed and direction used in the stochastic spill modelling are provided in Table 5.3 and presented in Figure 5.4 (RPS, 2021).

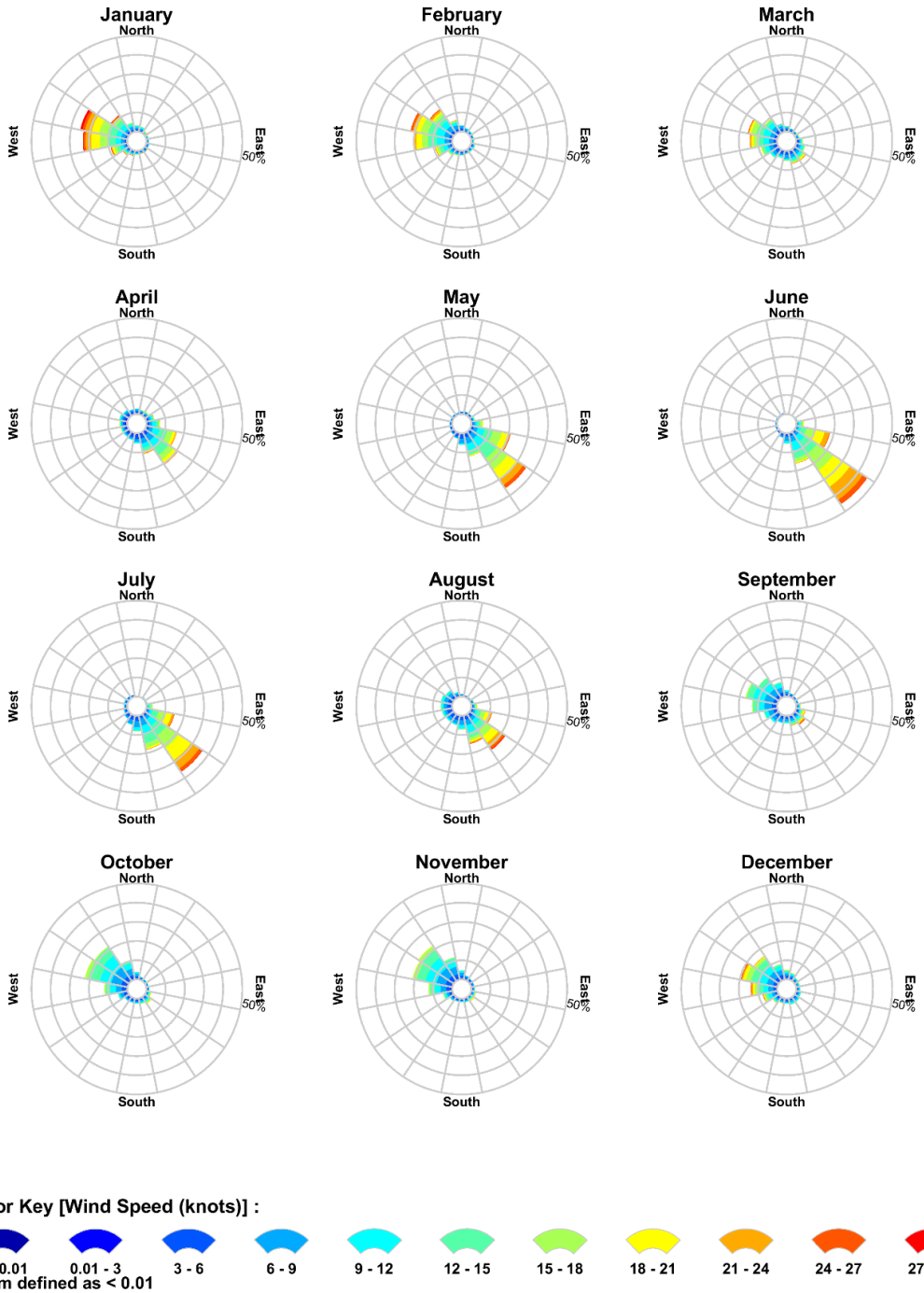
Cyclones

Tropical cyclones are common in the region, resulting in severe storms with gale force winds and a rapid rise in water levels. The cyclone season typically occurs between November and April (BoM, 2022).

Table 5.3. Predicted average and maximum winds for the wind station nearest the impacts EMBA for 2010-2019 (inclusive)

Season	Month	Avg. wind speed (knots)	Maximum wind speed (knots)	General direction (from)
Summer	January	13.2	44.9	West-northwest
	February	11.4	35.2	
Transitional	March	9.7	46.2	Variable
Winter	April	9.3	32.7	Southeast
	May	11.7	28.8	
	June	14.1	27.4	
	July	12.3	30.9	
	August	10.4	29.5	
Transitional	September	8.7	29.3	Variable
Summer	October	8.8	24.7	West-northwest
	November	8.8	24.1	
	December	9.9	35.9	
Minimum		8.7	24.1	
Maximum		14.1	46.2	

Source: RPS (2021).



The colour key shows the wind magnitude, the compass direction provides the direction FROM and the length of the wedge gives the percentage of the record for a particular speed and direction combination.

Source: RPS (2021).

Figure 5.4. Modelled monthly wind rose distributions from 2010-2019 (inclusive) for the wind station closest to the impacts EMBA

5.2.2. Oceanography

Currents

Broad-scale ocean circulation of the North Australian Shelf is dominated by the Indonesian Throughflow current system. Circulation in the JBG is dominated by tidal and wind driven currents according to the season (Figure 5.5) (Przeslawski *et al.*, 2011).

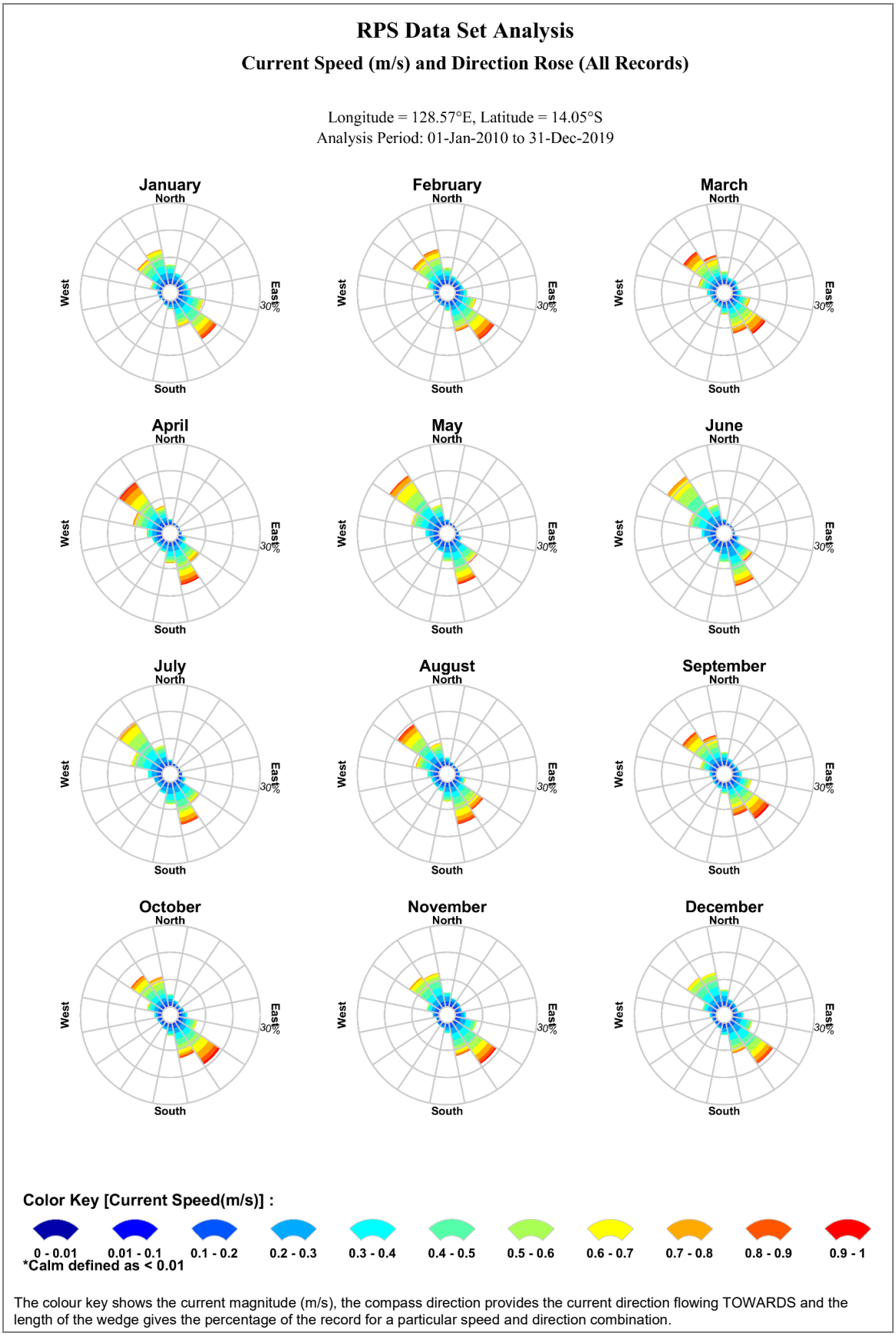
Table 5.4 provides the average and maximum combined surface current speeds (ocean plus tides) located within the impacts EMBA. This data indicates that surface currents flow predominantly along the northwest to southeast axis. The monthly current speeds averaged between 0.33 to 0.40 m/s and reached a peak of 0.96 to 1.17 m/s.

Figure 5.6 illustrates the monthly surface current rose plots located at the Beehive-1 location from 2010 to 2019 (inclusive). Figure 5.7 presents the major ocean currents in north-western Australian waters.

Table 5.4. Predicted average and maximum surface current speeds within the impacts EMBA from 2010-2019 (inclusive)

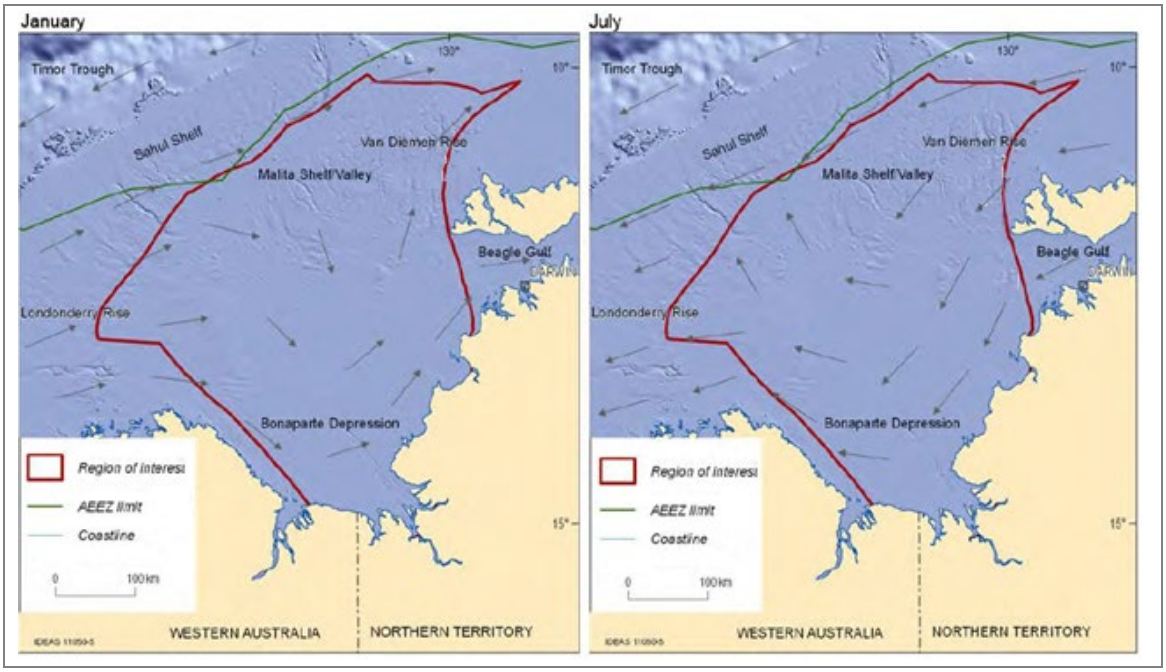
Season	Month	Avg. current speed (m/s)	Maximum current speed (m/s)	General direction (towards)
Summer	January	0.35	1.10	Northwest and southeast
	February	0.37	1.12	
Transitional	March	0.40	1.05	
Winter	April	0.39	1.06	
	May	0.35	1.17	
	June	0.34	1.07	
	July	0.35	0.96	
	August	0.37	1.15	
Transitional	September	0.39	1.10	
Summer	October	0.37	1.09	
	November	0.34	1.06	
	December	0.33	0.98	
Minimum		0.33	0.96	
Maximum		0.40	1.17	

Source: RPS (2021).



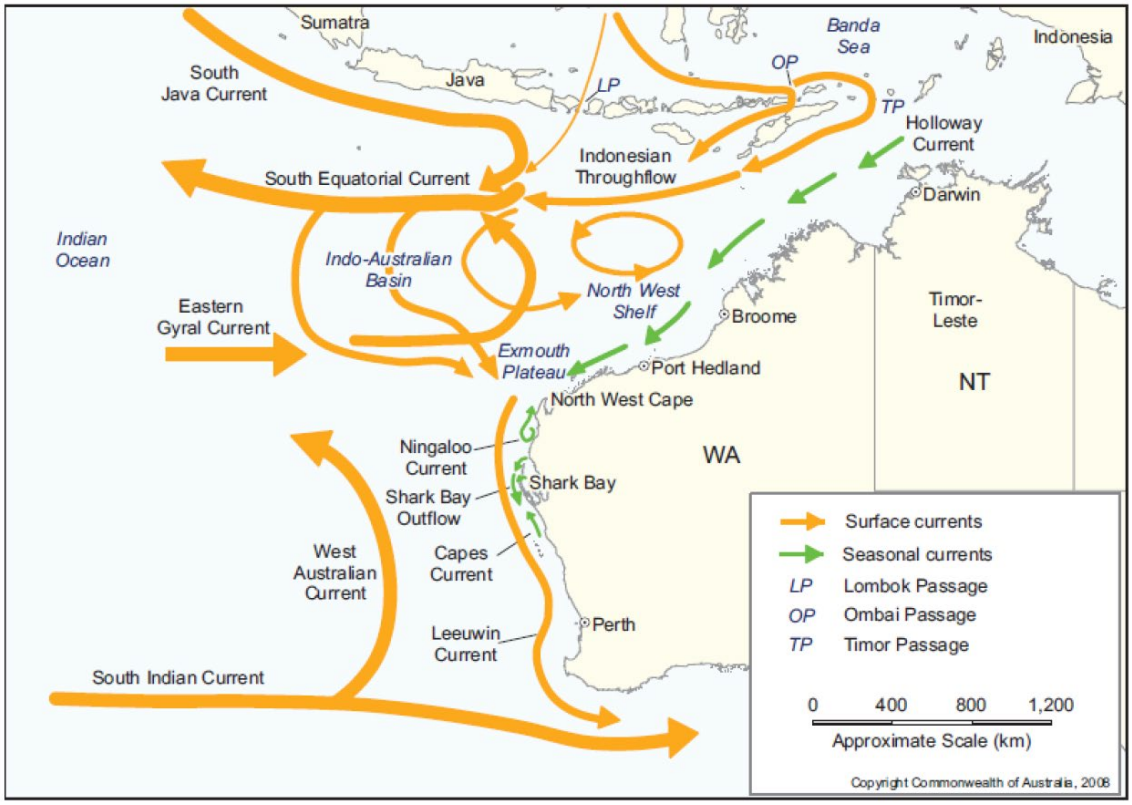
Source: RPS (2021).

Figure 5.5. Monthly surface current rose plots nearby the impacts EMBA (2010-2019 inclusive)



Source: Przeslawski et al 2011.

Figure 5.6. Currents of the JBG



Source: DEWHA, 2008b.

Figure 5.7. Ocean currents along the Northwest Australian continental shelf

Sea Temperature and Salinity

Sea surface temperatures and salinity in the region are heavily influenced by the Indonesian Throughflow, which transports warm, low salinity water from the western Pacific Ocean through to the Indian Ocean (DSEWPC, 2012). During the northwest monsoon, a thermocline flow of relatively cool water dominates resulting in the tropical Indian Ocean being cooled rather than warmed. The region typically has average sea surface temperatures of 28-30°C and salinities of 34-35 psu.

Tides

The JBG is subject to semi-diurnal tides with two high and low tides per day, and has the largest tidal energy observed anywhere in the world (>7 m) (Rothlisberg *et al*., 2005). Within the Bonaparte Gulf mesoscale bioregion, tides range from 2-3 m offshore (microtidal) rising to 3-4 m inshore (mesotidal).

Waves

In the JBG, the Southern Ocean swell is higher in winter than in summer as a result of northerly migration of swell-generating storms. The wave period and significant wave height generated by this swell is highly dependent on the exact location within the basin. For example, the JBG is protected from the Southern Ocean swell; therefore, swells affecting the area are limited to those generated by cyclones or prolonged storm winds (Maxwell *et al*., 2004).

The region is considered a moderate-energy environment except when influenced by tropical cyclones which generate short-term but major fluctuations in sea levels. Swells generated may have periods of 6-18 seconds and wave heights of 0.5-9 m and are dependent on the size, intensity, speed and relative location of the cyclone.

Water Quality

The Indonesian Throughflow brings in oligotrophic waters (low in nutrients) from the western Pacific Ocean through to the Indian Ocean (DEWHA, 2008b). Exceptions in the region occur in the event of local or regional upwelling activity at the shelf break, where deeper, cooler nutrient-rich water is brought to the surface (DEWHA, 2008b). These upwelling activities include, but are not limited to, internal wave and tide regimes, horizontal shear due to strong tidal currents and tropical cyclones. However, understanding of the nature and spatial distribution of biological productivity in the region is limited (DEWHA, 2008b).

Major inputs of fine silt sediments from the Ord, Victoria and Keep river systems occur during the wet season, creating vast areas of high turbidity, particularly in the southern part of the JBG. The sediments are deposited to form sand bars and mud flats which are themselves the source of high turbidity throughout the year as sediments are resuspended by tidal movements. Though there is only limited marine and nearshore water quality data available, as there are no major developments or population centres along the JBG coastline, the potential for existing pollution is limited.

Ambient Ocean Sound

Physical and biological processes contribute to natural background sound. Physical processes include that of wind, waves, rain and earthquakes, whilst biological noise sources include vocalisations of marine mammals and other marine species.

Wind is a major contributor to noise between 100 Hz and 30 kHz and can reach 85-95 dB re 1µPa^2/Hz under extreme conditions (WDCS, 2004). Rain may produce short periods of high

underwater sound with a flat frequency spectra to levels of 80 dB re 1µPa^2/Hz and magnitude 4 earthquakes have been reported to have spectral levels reaching 119 dB re 1µPa^2/Hz at frequency ranges of 5-15 Hz.

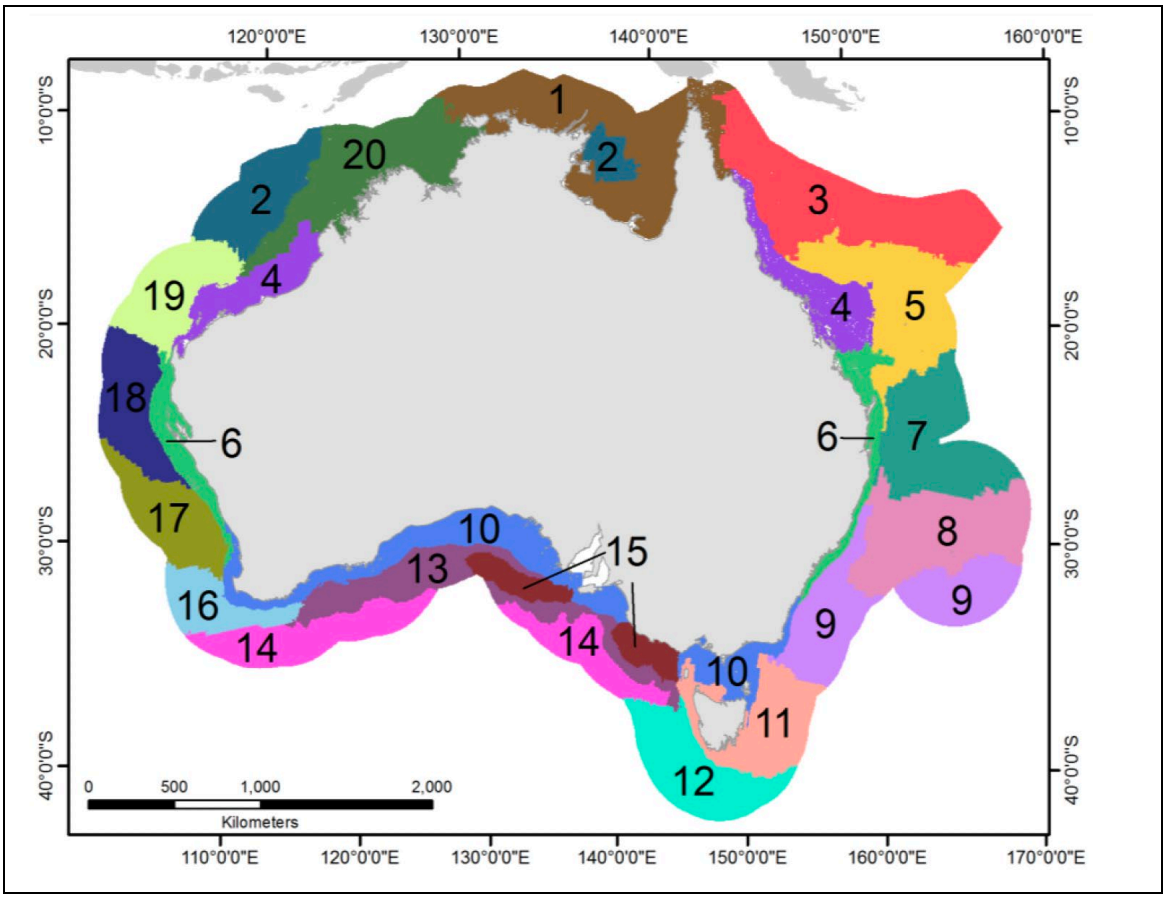
Turnpenny and Nedwell (1994) found that in sensitive species such as the cod, continuous ambient sound alone resulted in auditory masking, and that sound had to be 20 dB above ambient sound to be audible. Table 5.5 presents a comparison of biological and anthropological sounds in the marine environment.

Table 5.5. Sound intensity and pressure (dB re 1µPa @ 1 m from source) for some common marine sources

Source	Sound intensity (dB re 1 µPa)	Frequency (Hz)	Reference
Natural sound			
Ambient sea sound	80-120	Varied	2
Undersea earthquake	272	50	2
Seafloor volcanic eruption	255+	Varied	2
Lightning strike on sea surface	250	Varied	2
Iceberg calving, shoaling and disintegration	220-245	Varied	4
Bottlenose dolphin click	Up to 229	Up to 120,000	2
Breaching whale	200	20	2
Blue whale vocalisations	190	12 – 400 (16 – 25 dominant)	2
Blue whale moans	188	12 – 390 (16 – 25 dominant)	1
Southern right whale vocalisations	172-186	30 – 2,200 (50 – 500 dominant)	1
Humpback whale vocalisations	144-174	30 – 8,000 (song) (120 – 4,000 dominant) 50 – 10,000 (social calls)	1, 3
Sperm whale clicks	Up to 235	100 – 30,000	2
Anthropogenic sound			
Seismic acoustic source (32 guns)	178-210	Most energy 5 to 200 Hz	1
Ship sound (close to hull)	200	10 – 100	2
Fishing trawler	158	100	3
7 m outboard motorboat	156	630	3
Tanker (179 m)	180	60	3
Supertanker (340 m)	190	7	3
Containership (274 m)	181	8	3
Navigation transponders	180 – 200	7,000 – 60,000	3
Side scan sonar (SSS)	220 – 230	50,000 – 500,000	3

Source	Sound intensity (dB re 1 µPa)	Frequency (Hz)	Reference
Bottom profilers	200 – 230	400 – 30,000	3
Helicopter flyover (Bell 212)	142 – 155	162	1, 3
Drill rig (Ocean Bounty semi-submersible)	145 maximum (>120 for 1% of time at 5.1 km)	20 – 1,000 (15-30 dominant)	5
FPSO (maximum at Griffin Venture)	176	10 – 500 (up to 2,000)	6
References			
1 – Richardson et al (1995).	*2 – APPEA (2004).*	*3 – WDCS (2004).*	
4 – Matsumoto et al (2014).	*5 – Woodside (2003).*	*6 – Apache Energy (2008).*	

Erbe et al (2021) have classified the marine acoustic zones of Australia based on 10 km x 10 km grids that are characterised by sea surface temperature, salinity and sound speed profiles (for the month of July). The study resulted in the creation of 20 acoustic zones around Australia, with the impacts EMBA occurring within zone 20 ('Western Tropical Shelf') (Figure 5.8). Zone 20 is described as having shallow water with a wide sandy continental shelf and a hot sea surface that is strongly downward refracting (Erbe *et al.,* 2021). For zone 20 at 40 m water depth (the water depth at the multi-well location), the sound speed profile gradients ranged between -0.03 and 0.04 (m/s)/s.



Source: Erbe et al (2021).

Figure 5.8. Map of the 20 acoustic zones of the Australian EEZ for the Austral winter

5.2.3. Physical Environment

Bathymetry

The benthic environment of the JBG is linked to its geomorphic features, with the majority of the area characterised by infaunal plains, with some localised reefs and outcrops supporting sponge gardens. Water depth in the impacts EMBA ranges from 40-50 m. Bathymetry in parts of the south of the JBG is strongly influenced by the strong tidal movement and channels of the Ord, Keep, Victoria and Fitzmaurice rivers. A series of extensive sandbars, known as the King Shoals and Medusa Banks, have been generated in the southwest by the strong outflows of sediment-laden water from the Cambridge Gulf. Similar sandbars can be found in the southeast of the JBG. Bathymetry of the JBG and the impacts EMBA is presented in Figure 5.9.

The geophysical survey undertaken by Fugro for EOG in June 2022 around the proposed multi-well activity area (Fugro, 2022) found that the bathymetry of the multi-well activity area ranges between 43 - 49 m MSL with a 0.35° slope. The multi-well actvity area is generally flat with a regional gradient of less than 1° to the west (Figure 5.10).

Seabed

Seabed morphology in parts of the JBG is influenced by the strong tidal movement and channels of the Ord, Keep, Victoria and Fitzmaurice rivers. A series of extensive sandbars, known as the King Shoals and Medusa Banks (near Lacrosse Island, at the mouth of Cambridge Gulf, about 50 km south of the impacts EMBA), have been generated by the strong outflows of sediment-laden water from Cambridge Gulf. Similar sandbars can be found in the southeast of the JBG. The multi-well activity area is located on the 'shelf' geomorphic feature, which is typically characterised by extensive sediment plains and high sediment deposition from the coastal rivers to the south, while the impacts EMBA also overlaps the 'tidal-sandwave/sand-bank' geomorphic feature (Figure 5.11).

The geophysical survey undertaken within proximity of the proposed activity area site (Fugro, 2022) found that the topographical features in the survey area include broad undulations, terraces with uneven surfaces, local ridges, scarps and smooth seafloor areas. Seabed features found in the survey are listed below and illustrated in Figure 5.12:

- Low to moderate undulations and low to moderate acoustic reflectivity – inferred as silts and sands (medium to coarse);
- Moderate undulations and moderate acoustic reflectivity – inferred as sands (medium to coarse);
- Uneven and moderate acoustic reflectivity – inferred as sands (medium to coarse) and shells; and
- Uniform low acoustic reflectivity – inferred as silts, sandy silt and silty sand (fine).

Within the multi-well activity area, the seabed is inferred as sands (medium to coarse) and shells (see Figure 5.12), and the data from the shallow seismic survey indicates these sediments are 5.5 m deep in the top unit. The acoustic reflectivity (hardness) of the multi-well activity area (generated from the side-scan sonar data) confirms an absence of seabed features around the drill site such as rocky reefs (Figure 5.13).

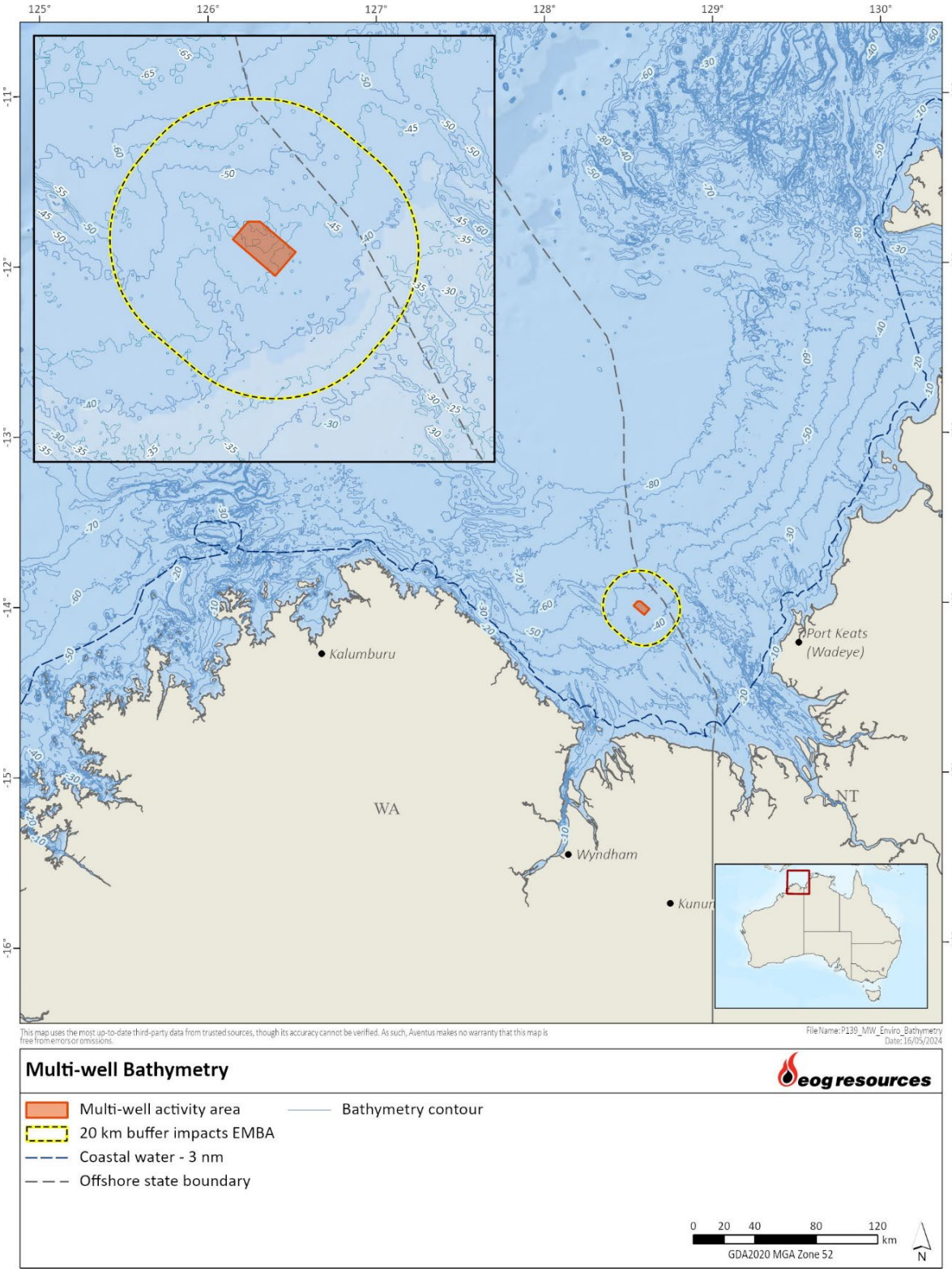


Figure 5.9. Bathymetry of the impacts EMBA and surrounds

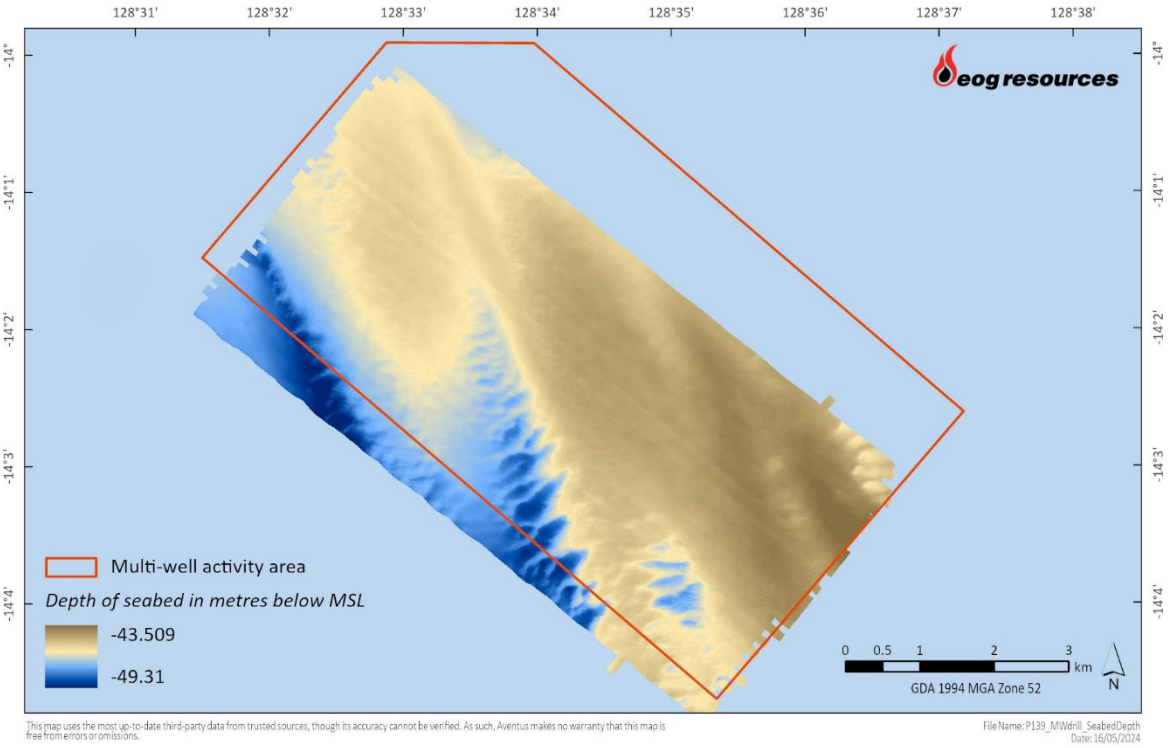


Figure 5.10. Bathymetry in and around the multi-well activity area

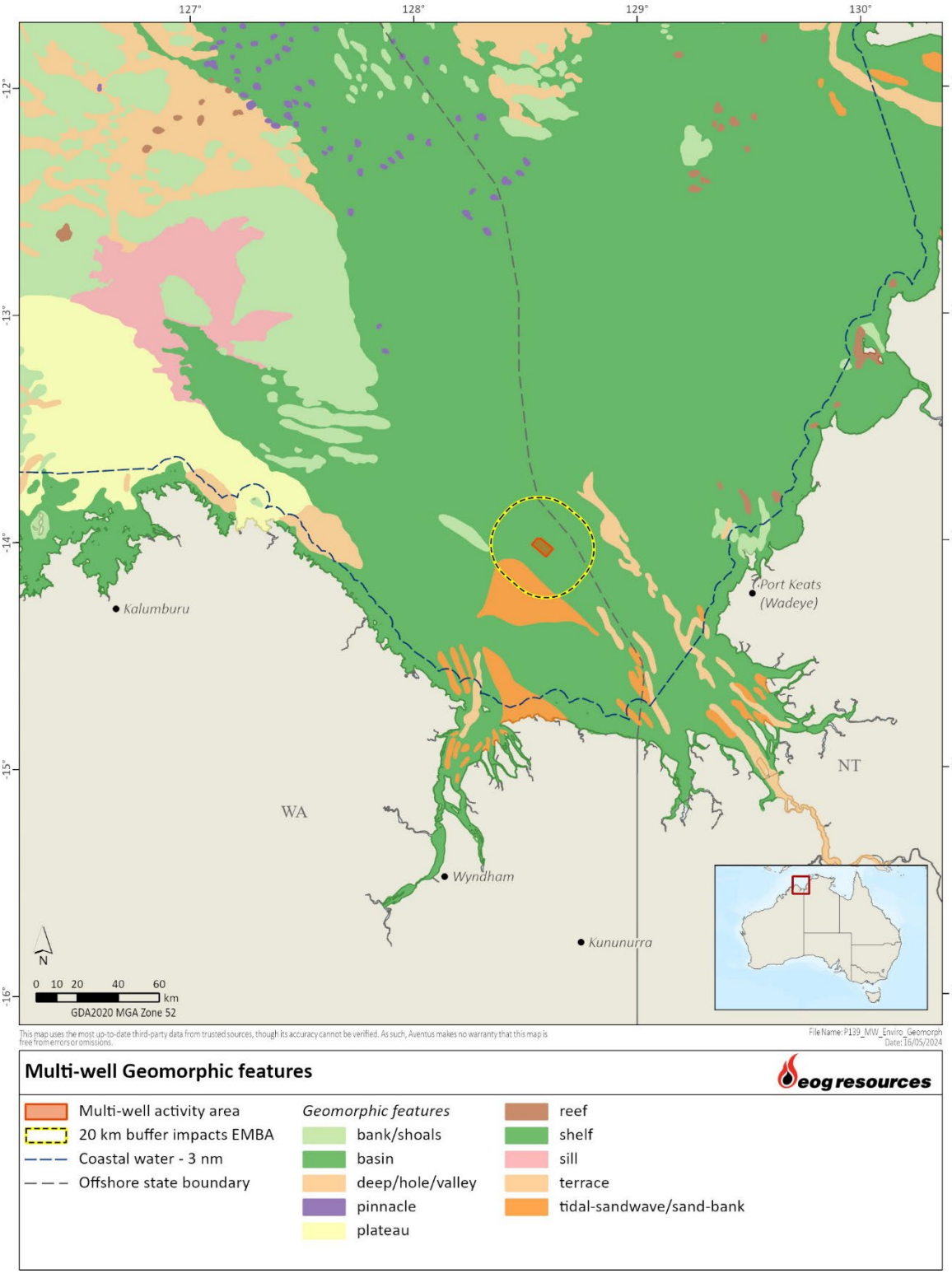


Figure 5.11. Geomorphic features of the impacts EMBA and surrounds

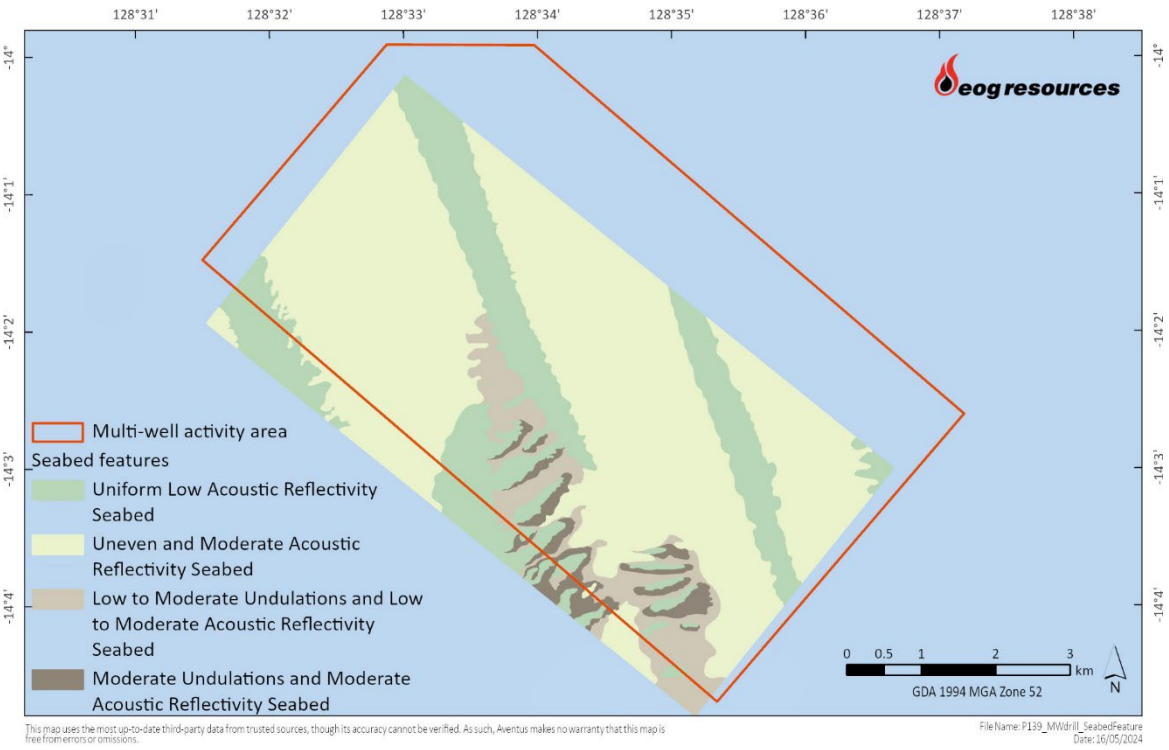


Figure 5.12. Seabed features in and around the multi-well activity area

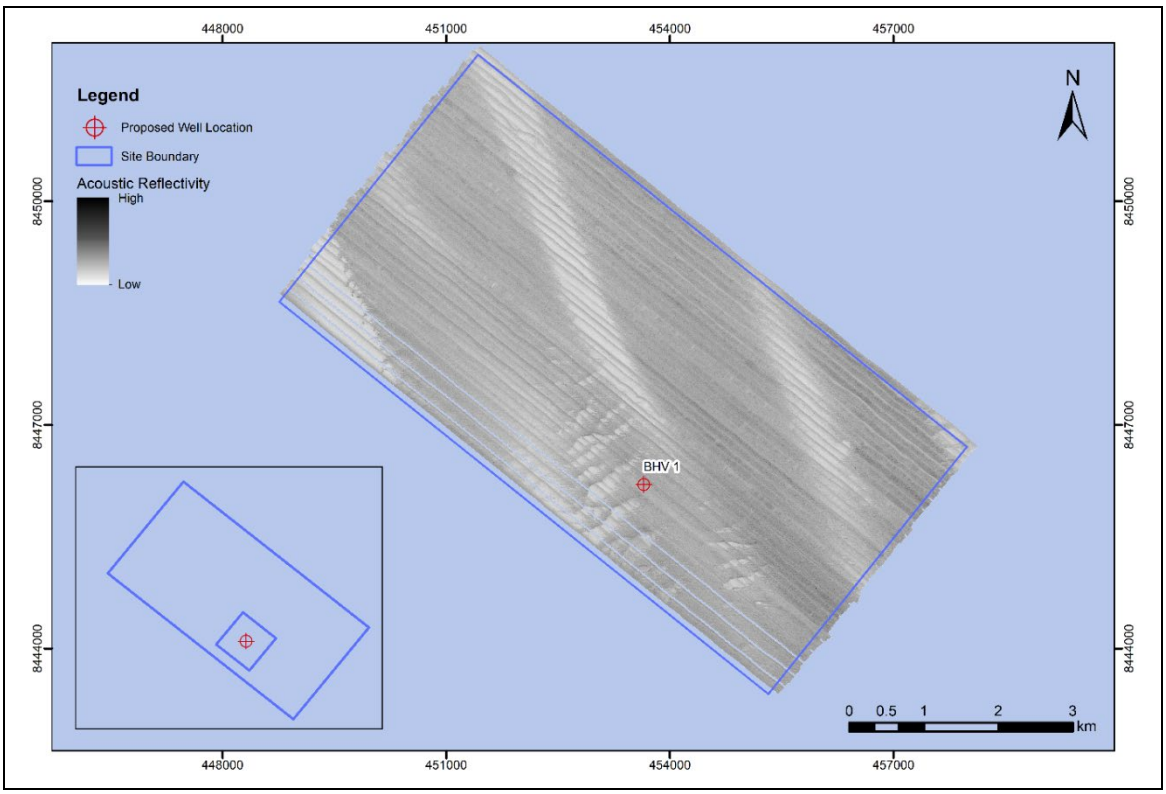


Figure 5.13. Acoustic reflectivity around the multi-well activity area

Sedimentology

The sedimentology of the NWMR is varied due to the diversity of physical features from coral reefs to major canyons that act as conduits for sediment and nutrient transport (DSEWPC, 2012). Sedimentology in the NMR is also varied, with physical features including shallow canyons, which mainly consist of calcium carbonate, based sediments, as well as limestone pinnacles and reefs (DEWHA, 2008b).

The continental shelf in the JBG is the widest in Australia, extending up to 400 km from the shore. The sedimentology of the JBG is unique, with most of the inner shelf being characterised by relatively flat expanses of soft sediment seabed with localised rocky outcrops, gravel deposits and sands banks. The soft sediments in the region typically consist of sandy and muddy substrate, occasionally made up of patches of coarser sediments (Baker *et al*., 2008). The inner shelf section of the JBG receives significant loads of sediments from several large rivers including the Daly and Victoria rivers (Przeslawski *et al*., 2011).

The distribution of seabed sediments in the JBG, and in particular within the Sahul Shelf, reflects the present-day oceanographic condition and displays a distinct seaward fining pattern (Lees 1992, in Baker *et al*., 2008). Sediment sampling undertaken by Environmental Resource Management Australia Pty Ltd (ERM) in 2010 and 2011 (within WA-6-R and NT/RL1, 90 km north of the impacts EMBA) confirms that the area is mainly dominated by sand, with similar proportions of smaller gravel, silt and clay (ERM, 2011).

The top layer of sediment in the JBG from ~3 km to 35 km offshore is expected to be greater than 1 m in depth and consists of sand and gravel with variable proportions of clay. This material is primarily alluvium, derived from sedimentary sandstones and basal conglomerate. Sonar images indicate some minor paleochannels in this area containing mega-ripple or sand waves. These sediments are generally unconsolidated coarse sand, fine gravel interspersed with areas of flat and featureless seabed containing very soft to firm gravelly clays (Woodside, 2004).

The main drainage channels for the Victoria River System occur from approximately 35 km to 58 km offshore. This area is dynamic as currents and tidal influence are constantly changing the seabed features in the area. Due to the dynamic nature of the channels, the thickness of the top layer of sediment is expected to be variable. A top layer greater than one metre in depth and consisting of sands and gravels with variable proportions of clay is expected from 59 km to 65 km offshore, with some minor paleochannels occurring. The influence of alluvial inputs diminishes from around 60 km offshore to the Blacktip Wellhead Platform (WHP), which is located 13 km northwest of the proposed activity area. This top layer increases to greater than two metres in depth from 66 km offshore and the sediments range from loose silty/clayey sands from 66 km to 75 km and very soft clayey silt and silty clay from 75 km offshore to the Blacktip WHP location (Woodside, 2004). Again, the seabed alternates between flat and featureless seabed containing very soft to firm silty clay and an area of hummocky seabed containing mega-ripple or sand waves, though the seabed is generally flat to gently sloping from about 66 km offshore to the Blacktip WHP location (Woodside, 2004).

5.3. Coastal Environment

The coastal environment is outside the impacts EMBA and is described in **Appendix 11**.

5.4. Biological Environment

The sources listed at the start of this chapter have been used in the preparation of this section. Additionally, biologically important areas (BIAs) are identified for those species that may occur within the impacts EMBA. BIAs are spatially defined areas, defined by the DCCEEW based on expert scientific knowledge, where aggregations of individuals of a species are known, or likely, to display biologically important behaviour such as breeding, foraging, resting or migration (DCCEEW, 2024a). The BIAs do not represent a species' full distribution range.

The PMST identifies that in total, there are 23 threatened species and 39 migratory species (or habitat for such species) that may occur in the impacts EMBA.

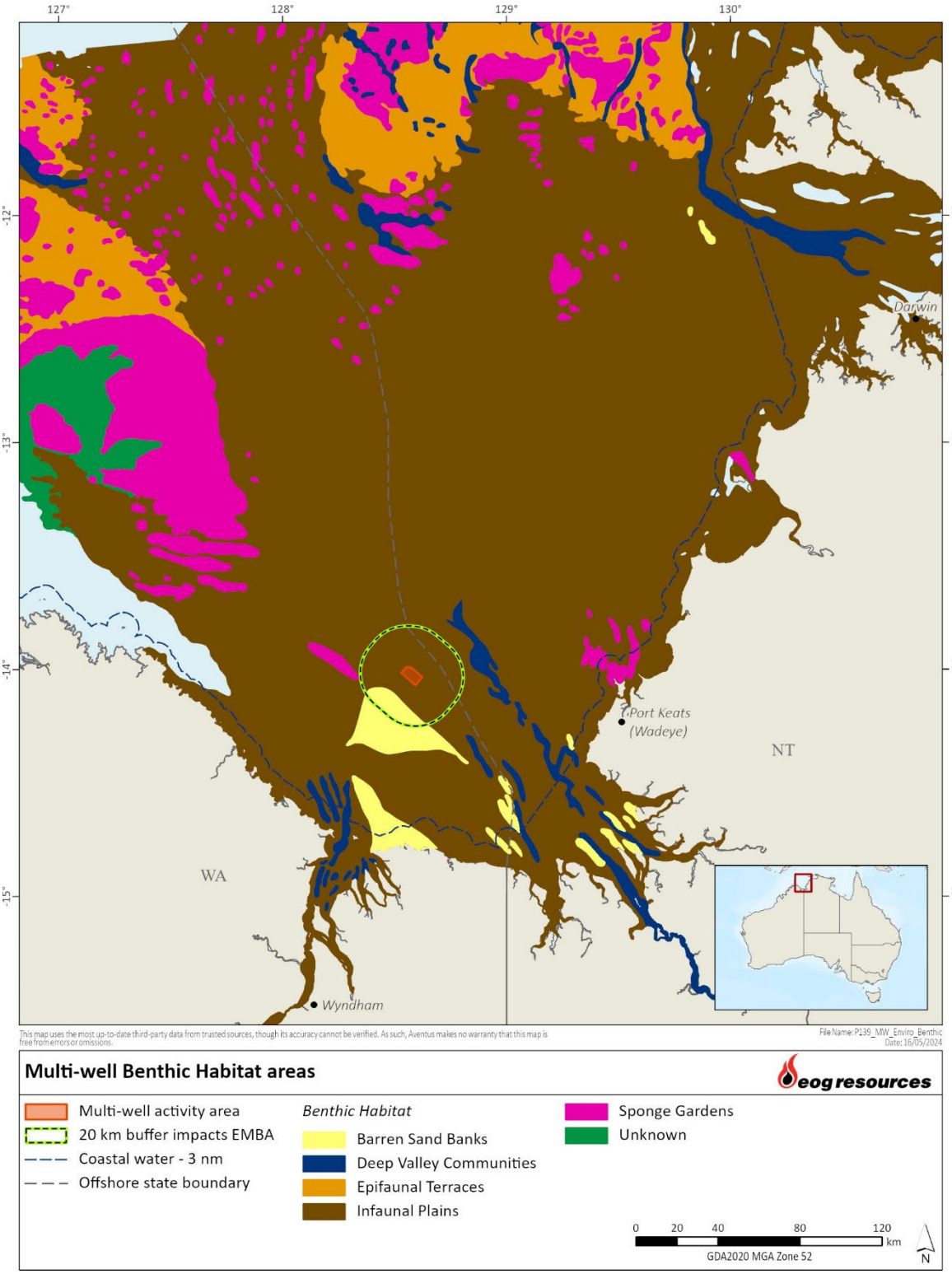
5.4.1. Benthic Assemblages

The benthic environment of the JBG is linked to its geomorphic features, with the majority of the area characterised by infaunal plains, with some localised reefs and outcrops supporting sponge gardens. Figure 5.14 illustrates the habitat types in the JBG, with the impacts EMBA located within infaunal plains and barren sand banks, which are primarily characterised by flat soft substrate with occasional rocky outcrops, scattered epifauna and biota dominated by infauna (Przeslawski *et al*., 2011).

Studies conducted on the infauna within the Blacktip Project area (the closest sampling station, located 18 km northwest of the activity area and thus within the impacts EMBA) found infauna to be diverse and abundant, with two major phyla, Arthropoda (crustaceans) and Annelida (polychaete worms), contributing over 80% of the total number of individuals (Woodside, 2004). Recorded Arthropoda species include tanaids (shrimps), brachyurans (crabs) and grammarid amphipods. The Annelida were diverse comprising of 36 families, with the most abundant families being Terebellidae, Spionidae, Onphidae, Maldanidae and Ampharetidae. Members of these families are mainly tube-dwelling worms that feed on detrital material on the surface or in the surface sediments. Other abundant infauna are the Cnidaria (hydroids, soft corals), Mollusca (mainly bivalves) and Echinodermata (brittle stars, sea urchins).

The Blacktip baseline studies found that infauna species richness and abundance in the JBG was related to sediment particle size. Richness and species abundance increased with distance from the mouth of the Victoria River (95 km southeast of the impacts EMBA), which coincided with an increasing proportion of fine particles in the sediment (Woodside, 2004). Sites near the Victoria River mouth generally had coarser sediments and lower species richness and abundance. The Blacktip sampling sites supported a richer assemblage than sites closer to the Victoria River mouth (Woodside, 2004).

During this survey, 135 nominal species were identified. However, faunal abundance was low with only 528 individuals recorded and only 14 species recording more than 10 individuals across all the offshore samples. The composition of the infaunal community was somewhat unusual. Continental shelf infauna is generally dominated by polychaete worms. However, nearly three times as many crustaceans were collected as polychaetes. Bryozoans and hydroids were the next most abundant group after the crustaceans, and nearly as many molluscs and echinoderms were collected as polychaetes. The most abundant species was a porcelain crab followed by a brittle star (Woodside, 2004).



Source: Przeslawski et al (2011)

Figure 5.14. Generalised habitat map showing likely distribution of habitats and biological communities in the impacts EMBA and surrounds

The study also observed that sites near the Victoria River mouth, which generally had coarser sediments, had a greater proportional abundance of crustaceans and cnidarians (hydroids and soft corals) compared to sites further offshore, which supported a predominantly detritus feeding infauna (Woodside, 2004).

Crustaceans

In a study of prawn trawl bycatch in the JBG, which included sampling locations close to the impacts EMBA, Tonks et al (2008) found that four crustacean species dominated the invertebrate component of the bycatch: *Charybdis callianassa* (Portunidae); *Trachypenaeus gonospinifer* (Penaeidae); *Metapenaeopsis novaeguineae* (Penaeidae); and *Solenocera ertebrate* (Solenoceridae).

The dominant prawn species of the JBG are the penaeid species, namely tiger prawn (*Penaeus esculentus*), banana prawn (*P. merguiensis*) and red-legged banana prawn (*P. indicus*). These species occur in coastal waters to depths of approximately 200 m and are widely distributed through sub-tropical and tropical waters from WA to New South Wales (NSW) (Jones and Morgan, 1994). Shallower inshore waters act as nursery grounds for juveniles, such as the river and tidal creek systems of the JBG. Small numbers of prawns can also be found in mangrove habitats. More is known about the distribution and abundance of prawns in the JBG compared to other crustaceans due to their commercial significance.

As discussed in detail in Section 5.8.1, prawns are commercially caught in areas of the JBG, mainly in the west of the gulf and in Fog Bay, NT (over 200 km to the northeast of the impacts EMBA). The juvenile prawns that migrate offshore to the fishery come from mangrove nursery habitats from the Victoria River in the east of the JBG, to the Ord River and Cambridge Gulf in the west, forming a very extensive migration throughout the lower region of the JBG. This migration is likely to be from February to April and October to December. Migration of the juveniles is thought to be triggered by rainfall and river discharge. The areas most intensely fished for prawns are located in the Gulf of Carpentaria (over 900 km east of the impacts EMBA).

Prawns

There are several prawn species present in the JBG that occupy benthic habitats and prey on micro-organisms, small shellfish, worms and decaying organic matter. Several of the species develop their juveniles in nearshore estuarine and mangrove habitat before moving further offshore in adulthood. Based on information from the NPFI, commercial prawn species such as banana, tiger and endeavour prawns may spawn within the activity area during the warmer months of the year. The habitat, distribution and reproduction of these species is presented in Table 5.6 based on several sources of literature, and Figure 5.15 illustrates the spawning periods for the key commercial prawn species.

Based on information from the NPFI, commercial prawn species such as banana, tiger and endeavour prawns may spawn within the impacts EMBA during the warmer months of the year. Banana prawns spawn offshore throughout the year with two spawning peaks: the late dry season (September-November) and the late wet season (March-May).

Endeavour prawns spawn throughout the year, with blue endeavour prawns having spawning peaks in March and September and red endeavour prawns have a spawning peak in September to December. Based on the endeavour prawn spawning habitat preferences it is unlikely that they would spawn in the impacts EMBA.

Brown tiger prawns peak spawning period is between July and October. A twelve-month-old female prawn can produce hundreds of thousands of eggs at a single spawning and may spawn more than once in a season. The eggs sink to the bottom after release, where they hatch into larvae within about 24 hours. Less than 1% of these offspring survive the two-to-four-week planktonic larval phase to reach suitable coastal nursery habitats where they may settle. After one to three months on the nursery grounds, the young prawns move offshore onto the fishing grounds. See Section 5.7.1 for more information.

Molluscs

The JBG has relatively low mollusc species diversity due to the restricted number of habitats available and silty conditions, with less than 100 species (mainly bivalves) recorded in the region (Walker *et al*., 1996). Many different types of molluscs are found in the mangroves, including clams (Walker *et al*., 1996). The soft sediment infaunal plains habitat that dominates the impacts EMBA does not provide extensive hard substrate for bivalve molluscs or other fixed invertebrates to attach and reproduce (Przeslawski *et al*., 2011).

Silver lipped pearl oysters are known to be sparsely distributed in the JBG up to the 100 m isobath. Primary spawning occurs from the middle of October to December, with a smaller secondary spawning occurring in February and March (Hart *et al*., 2015). Pearling licensees have not raised any concerns with EOG regarding the presence of pearl oysters or pearling activities in and around the impacts EMBA.

During in-person meetings held in mid-2023 at Broome and Kalumburu as part of the relevant persons consultation process for the Beehive-1 drilling activity, some individuals raised concerns about the potential impacts of drilling on scallops. As the multi-well activity area encompasses the Beehive-1 location, it is inferred that this concern remains applicable to this EP. The available literature indicates that scallops are scarce within the project activity area and surrounds. Marine ecological surveys of the Joseph Bonaparte Gulf AMP (10 km east of the impacts EMBA) conducted in 2023 did not report the presence of scallops (Udyawer *et al.,* 2023). Additionally, the eco-narrative of Joseph Bonaparte Gulf AMP (Galaiduk *et al.,* 2019) also did not indicate the presence of scallops. The only scallop species that are abundant enough to be commercially fished in WA waters are saucer scallops (*Amusium balloti*), which are found between Broome and east of Esperance and are particularly abundant in Shark Bay and Abrolhos Islands (outside of the impacts EMBA and the spill EMBA) (DPIRD, 2013).

Reefs, Shoals and Banks

Coral reefs are habitats with high diversity of corals, associated fish and other species of both commercial and conservation importance. No reef habitats have been identified within the impacts EMBA. The closest identified coral reef habitat is located within the JBG Australian Marine Park (JBG AMP). Reefs, shoals and banks present within the spill EMBA are described in Section 11.3.1 of **Appendix 11**.

Table 5.6. Key prawn species habitat, distribution, and reproduction in the JBG

Species	Habitat	Stock structure & distribution	Spawning
Banana prawns Redleg banana prawn (*Penaeus indicus)* White banana prawn (*P. merguiensis*)	Banana prawns live in tropical and sub-tropical coastal waters and are found over muddy and sandy bottoms in coastal waters and estuaries (AFMA, 2021). White banana prawns can generally be found at depths of 16-25 m but can occur to depths of 45 m, while red-legged banana prawns are found at depths of 35-90 m (AFMA, 2021). Juvenile redleg banana prawns are found in estuarine habitats up to 120 km south and 240 km east-southeast of the southern and eastern limits of the *P. indicus* fishery in the JBG. Although mangrove habitats are the closest inshore habitats to the fishery, they are not used by *P. indicus.* Given the habitat preference for *P. indicus*, the larvae resulting from spawning in the fishing grounds rely on tides and currents. Move large distances to the south and east to their nursery habitats (Loneragan *et al.,* 2002). This implies that the emigrating juveniles and sub-adults migrate from the mangrove nursery habitats, north and west, across shallower sand substrates (30-40 m deep) to the deep-water fishery (on mud substrates about 50-80 m deep). Juvenile white banana prawns are found in estuarine habitats in the western part of JBG, about 50 km to the southwest of the *P. indicus* fishery.	Banana prawn species are mainly found in tropical and sub-tropical waters around Australia from Shark Bay in WA to the NT and Queensland coastlines (including waters in Torres Strait between Australia and Papua New Guinea) (AFMA, 2021). The86ertebrical stock structure of banana prawn is uncertain. Redleg banana prawns are widely distributed across the Indo-West Pacific Ocean. In the JBG, a single separate stock is assumed for stock assessment and management purposes (Patterson *et al*., 2021). In the NPF, there is some evidence of white banana prawn sub-stock structuring associated with significant river catchments and their annual flow regimes; however, there is an absence of clear evidence on biological stock structure, status is determined for a single fishery-level stock (Patterson *et al*., 2021).	Banana prawns reach reproductive maturity at approximately 6 months of age (AFMA, 2021). They spawn offshore throughout the year with two spawning peaks: the late dry season (September – November) and the late wet season (March – May) (AFMA, 2021) (see Figure 5.12). Banana prawns are serial spawners. Each female lays several egg batches each year. Females produce 100,000 to 450,000 eggs per year. Eggs hatch within 24 hours of fertilisation (AFMA, 2021). Less than 1% of larvae survive the 2-4 week planktonic larval phase to reach suitable coastal nursery habitats where they settle, however there are no written records to verify these statistics other than postlarval and juvenile mortality are known to be high (Rob Kenyon CSIRO Division of Marine Research, pers.comm. February 2022). After 1-3 months in the nursery grounds, the young prawns migrate offshore. Migration of the main cohort occurs November-March. A possible second cohort migrates April-June. Migration is thought to be triggered by rainfall and river discharge. Juveniles reach sexual maturity at 6 months and have a lifespan of 1-2 years (Yearsley *et al.,* 1999).

Species	Habitat	Stock structure & distribution	Spawning
Tiger prawns Brown tiger prawn (*Penaeus esculentus*) Grooved tiger prawn (*P. semisulcatus*).	Tiger prawns live in coastal waters to depths of 200 m (AFMA, 2021). Adult brown tiger prawns are found over coarse sediments and adult grooved tiger prawns are found in fine mud sediments (AFMA, 2021). Juvenile tiger prawns are found in shallow waters, often where seagrass beds are present, and sometimes on top of coral reef platforms (AFMA, 2021).	Brown tiger prawns are endemic to tropical and subtropical waters of Australia, while grooved tiger prawns have a wider Indo–West Pacific distribution. There is some genetic evidence of separation of brown tiger prawn stocks from the east and west coasts of Australia (Patterson *et al*., 2021). Assessment of stock status for the brown tiger and grooved tiger is undertaken at the management unit level – NPF (Commonwealth) (Patterson *et al*., 2021).	For brown tiger prawns, spawning occurs throughout the year, in both inshore and offshore areas, while grooved tiger prawns spawn in offshore areas (AFMA, 2021). Brown tiger prawns have a spawning peak between July and October (see Figure 5.12) (AFMA, 2021). Grooved tiger prawns have a spawning peak in August-September, with a secondary peak in February (see Figure 5.12) (AFMA, 2021). Females produce about 186,000 eggs (brown tiger prawns) and 365,000 eggs (grooved tiger prawns) per year depending on their body size. Eggs hatch within 24 hours of fertilisation (AFMA, 2021). There is little to no information available on the spawning locations of tiger prawns (Rob Kenyon CSIRO Division of Marine Research, pers.comm. February 2022). Juveniles reach sexual maturity at about 6 months and have a lifespan of 2 years (Yearsley *et al.,* 1999).
Endeavour prawns Blue endeavour prawn (*Metapenaeus endeavouri*) Red endeavour prawn (*M. ensis*).	Endeavour prawns live in tropical coastal waters (AFMA, 2021). Blue endeavour prawns are found over sandy or mud-sand substrates to depths of about 60 m, while red endeavour prawns prefer muddy substrates and have been found to depths of 95 m (AFMA, 2021). Juvenile blue endeavour prawns are commonly associated with seagrass beds in shallow estuaries, while juvenile red endeavour prawns are more widely distributed across seagrass beds, mangrove banks, mud flats and open channels (AFMA, 2021).	Endeavour prawn fisheries are located in Shark Bay, Exmouth Gulf, the north coast of WA, the Gulf of Carpentaria, the Torres Strait and the east coast of Queensland. Little is known about the biological stock structure of the populations of blue and red endeavour prawns. Assessment of stock status for each species is undertaken at the NPF (Commonwealth) management level (Patterson *et al*., 2021).	Spawning occurs throughout the year (AFMA, 2021). Blue endeavour prawns have spawning peaks in March and September, while red endeavour prawns have a spawning peak in September to December (see Figure 5.12) (AFMA, 2021). There is little to no information available on the spawning locations of endeavour prawns (Rob Kenyon CSIRO Division of Marine Research, pers.comm. February 2022). Females produce about 296,000 eggs per year (AFMA, 2021). Juveniles reach sexual maturity at 6 months and have a lifespan of 1-2 years (Yearsley *et al.,* 1999).

Note: AFMA and CSIRO were contacted by EOG in February 2022 to verify gaps in information specifically spawning locations for banana prawns, tiger prawns and endeavour prawns. Where available, data is referenced within the table.

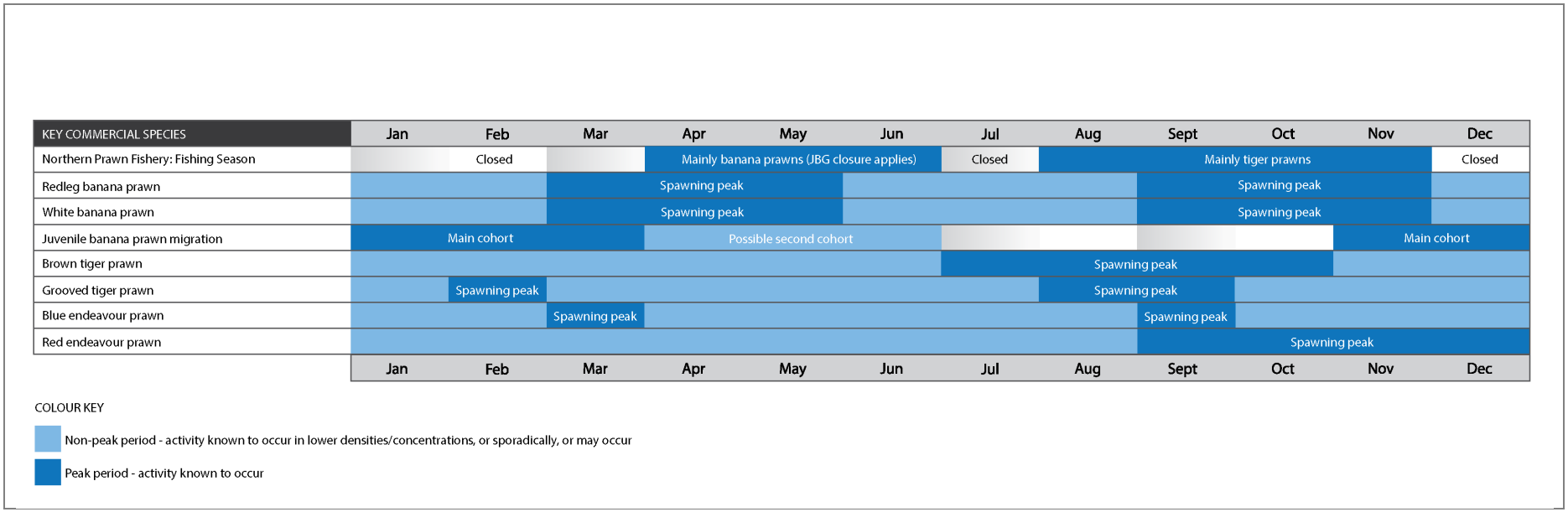


Figure 5.15. Commercial prawn species spawning periods

5.4.2. Flora

Marine flora, such as macroalgae, seagrass beds and mangroves occur in shallow waters outside the impacts EMBA. As such, these are described in Section 11.3.2 of **Appendix 11**.

5.4.3. Plankton

Phytoplankton

Phytoplankton (photosynthetic microalgae) comprise 13 divisions of mainly microscopic algae, including diatoms, dinoflagellates, gold-brown flagellates, green flagellates and cyanobacteria and prochlorophytes (McLeay *et al*., 2003). Phytoplankton drift with the currents, although some species have the ability to migrate short distances through the water column using ciliary hairs. Phytoplankton has the capacity to multiply rapidly in response to bursts of nutrient availability and are consumed by zooplankton that in turn are consumed by other marine fauna species.

Zooplankton

Zooplankton is the faunal component of plankton, comprising small crustaceans (such as krill), fish eggs and fish larvae. Zooplankton includes species that drift with the currents and also those that are motile. Nutrients and planktonic organisms (including many species of larval recruits) are transported to and from the JBG by the southerly movement of the Indonesian Throughflow and the southeast and northwest monsoonal wind-driven currents (Brewer *et al*., 2007).

5.4.4. Finfish, Sharks and Rays

There are 38 fish species listed under the EPBC Act that are known to occur, likely to occur or may occur in both the flaring and the impacts EMBA (Table 5.7) (DCCEEW, 2024a). Of these, there are seven shark, four sawfish, two rays and 24 sygnathiforme (seahorses, pipefishes and their relatives) species. Eight species are listed as threatened and 11 are migratory (five of the migratory species are also listed as threatened). Figure 5.16 illustrates the likely temporal presence and absence of these fish species in the impacts EMBA. The species listed as threatened or migratory are described in this section. The flaring EMBA PMST results for finfish, sharks and rays contained an additional four species of sygnathiforme.

Ranger-led marine ecological surveys were conducted at the Joseph Bonaparte Gulf AMP (10 km east of the impacts EMBA and 30 km east of the multi-well location) in 2021 and 2022. Seventy-nine (79) species across four locations, including 10 threatened (according to the IUCN) and endangered species, were identified.

Results of the survey were released in 2023 (Udyawer *et al*., 2023). Of the four sites where data was collected via BRUVs, Howland Shoals is the closest to the impacts EMBA (62 km east). The ten most abundant species recorded at Howland Shoals were the dusky-striped sea perch (*Lutjanus carponotatus*), oxeye scad (*Selar boops),* blacktip reef shark *(Carcharhinus melanopterus),* golden snapper (*Lutjanus johnii),* northwest threadfin bream *(Pentapodus porosus),* blue tuskfish *(Choerodon cyanodus),* goldspotted rockcod *(Epinephelus coioides),* brassy trevally *(Caranx papuensis),* pony fish *(Equulites leuciscus)* and darktail snapper (*Lutjanus lemniscatus*). Additionally, the shortfin batfish, (Zabidius novemaculeatus), barcheek coral trout (*Plectropomus maculatus)* and brown sweetlips *(Plectorhinchus gibbosus)* were also commonly recorded at Howland Shoals (Udyawer *et al*., 2023).

None of the species identified at Howland Shoals are listed as threatened under the EPBC Act, however, coral trout, tuskfish, trevally, sweetlips, and reef sharks are identified as important by the Thamarrur Rangers (Udyawer *et al.,* 2023). The species recorded at Howland Shoals may reflect those present within impacts EMBA.

Table 5.7. EPBC Act-listed finfish, sharks and rays that may occur in the impacts and flaring light EMBAs

Scientific name	Common name	EPBC Act Status			Type of presence in impacts EMBA	Type of presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Classed as sharks									
Anoxypristis cuspidate	Narrow sawfish	-	Yes	-	Likely	Likely	No	No	-
Carcharodon carcharias	Great white shark	V	Yes	-	May occur	May occur	No	No	RP
Carcharhinus longimanus	Oceanic whitetip shark	-	Yes	-	May occur	May occur	No	No	-
Glyphis garricki	Northern river shark	E	-	-	May occur	May occur	No	No	CA, RP
Isurus oxyrinchus	Shortfin mako	-	Yes	-	Likely	Likely	No	No	-
Isurus paucus	Longfin mako	-	Yes	-	Likely	Likely	No	No	-
Manta alfredi	Reef manta ray	-	Yes	-	Likely	Likely	No	No	-
Manta birostris	Giant manta ray	-	Yes	-	Likely	Likely	No	No	-
Pristis clavata	Dwarf sawfish	V	Yes	-	Known	Known	No	No	CA, RP
Pristis pristis	Largetooth sawfish	V	Yes	-	May occur	May occur	No	No	CA, RP
Pristis zijsron	Green sawfish	V	Yes	-	Known	Known	No	No	CA, RP
Rhincodon typus	Whale shark	V	Yes	-	May occur	May occur	No	No	CA
Sphyrna lewini	Scalloped hammerhead shark	CD	-	-	Likely	Likely	No	No	-
Classed as fish									
Campichthys tricarinatus	Three-keel pipefish	-	-	Yes	May occur	May occur	No	No	-

Scientific name	Common name	EPBC Act Status			Type of presence in impacts EMBA	Type of presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Choeroichthys brachysoma	Pacific short-bodied pipefish	-	-	Yes	May occur	May occur	No	No	-
Choeroichthys suillus	Pig-snouted pipefish	-	-	Yes	May occur	May occur	No	No	-
Corythoichthys amplexus	Fijian banded pipefish	-	-	Yes	May occur	May occur	No	No	-
Corythoichthys flavofasciatus	Reticulate pipefish	-	-	Yes	May occur	May occur	No	No	-
Corythoichthys haematopterus	Reef-top pipefish	-	-	Yes	-	May occur	No	No	-
Corythoichthys schultzi	Schultz's pipefish	-	-	Yes	May occur	May occur	No	No	-
Doryrhamphus excisus	Bluestripe pipefish	-	-	Yes	May occur	May occur	No	No	-
Doryrhamphus janssi	Cleaner pipefish	-	-	Yes	May occur	May occur	No	No	-
Festucalex cinctus	Girdled pipefish	-	-	Yes	-	May occur	No	No	-
Halicampus brocki	Brock's pipefish	-	-	Yes	May occur	May occur	No	No	-
Halicampus grayi	Mud pipefish	-	-	Yes	May occur	May occur	No	No	-
Halicampus spinirostris	Spiny-snout pipefish	-	-	Yes	May occur	May occur	No	No	-
Haliichthys taeniophorus	Ribboned pipehorse	-	-	Yes	May occur	May occur	No	No	-
Hippichthys cyanospilos	Blue-speckled pipefish	-	-	Yes	-	May occur	No	No	-
Hippichthys parvicarinatus	Short-keel pipefish	-	-	Yes	-	May occur	No	No	-
Hippichthys penicillus	Beady pipefish	-	-	Yes	May occur	May occur	No	No	-
Hippocampus histrix	Spiny seahorse	-	-	Yes	May occur	May occur	No	No	-

Scientific name	Common name	EPBC Act Status			Type of presence in impacts EMBA	Type of presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Hippocampus kuda	Spotted seahorse	-	-	Yes	May occur	May occur	No	No	-
Hippocampus planifrons	Flat-face seahorse	-	-	Yes	May occur	May occur	No	No	-
Hippocampus spinosissimus	Hedgehog seahorse	-	-	Yes	May occur	May occur	No	No	-
Micrognathus micronotopterus	Tidepool pipefish	-	-	Yes	May occur	May occur	No	No	-
Solegnathus hardwickii	Pallid pipehorse	-	-	Yes	May occur	May occur	No	No	-
Solegnathus lettiensis	Gunther's pipehorse	-	-	Yes	May occur	May occur	No	No	-
Solenostomus cyanopterus	Robust ghost pipefish	-	-	Yes	May occur	May occur	No	No	-
Syngnathoides biaculeatus	Double-end pipehorse	-	-	Yes	May occur	May occur	No	No	-
Thunnus maccoyii	Southern bluefin tuna	CD	-	-	May occur	May occur	No	No	LA
Trachyrhamphus bicoarctatus	Bentstick pipefish	-	-	Yes	May occur	May occur	No	No	-
Trachyrhamphus longirostris	Straightstick pipefish	-	-	Yes	May occur	May occur	No	No	-

Definitions

EPBC Act	Description
Listed threatened species	A native species listed in Section 178 of the *EPBC Act* as either extinct, extinct in the wild, critically endangered, endangered, and vulnerable or conservation dependent.

Listed migratory species	A native species that from time to time is included in the appendices to the Bonn Convention and the annexes of JAMBA, CAMBA and ROKAMBA, as listed in Section 209 of the *EPBC Act*.
Listed marine species	As listed in Section 248 of the *EPBC Act*.

Key

EPBC status (@ Sep 2023)	V	Vulnerable
	E	Endangered
	CE	Critically endangered
BIA	A	Aggregation
	D	Distribution (i.e., presence only)
	F	Foraging
	M	Migration
Recovery plans (under EPBC Act 1999)	CA	Conservation Advice
	CMP	Conservation Management Plan
	LA	Listing Advice
	RP	Recovery Plan
	WCP	Wildlife Conservation Plan

Type of presence	Known	Species or species habitat known to occur in area
	Likely	Species or species habitat likely to occur in area
	May occur	Species or species habitat may occur in area
	Congregate	Congregation/aggregation known to occur in area

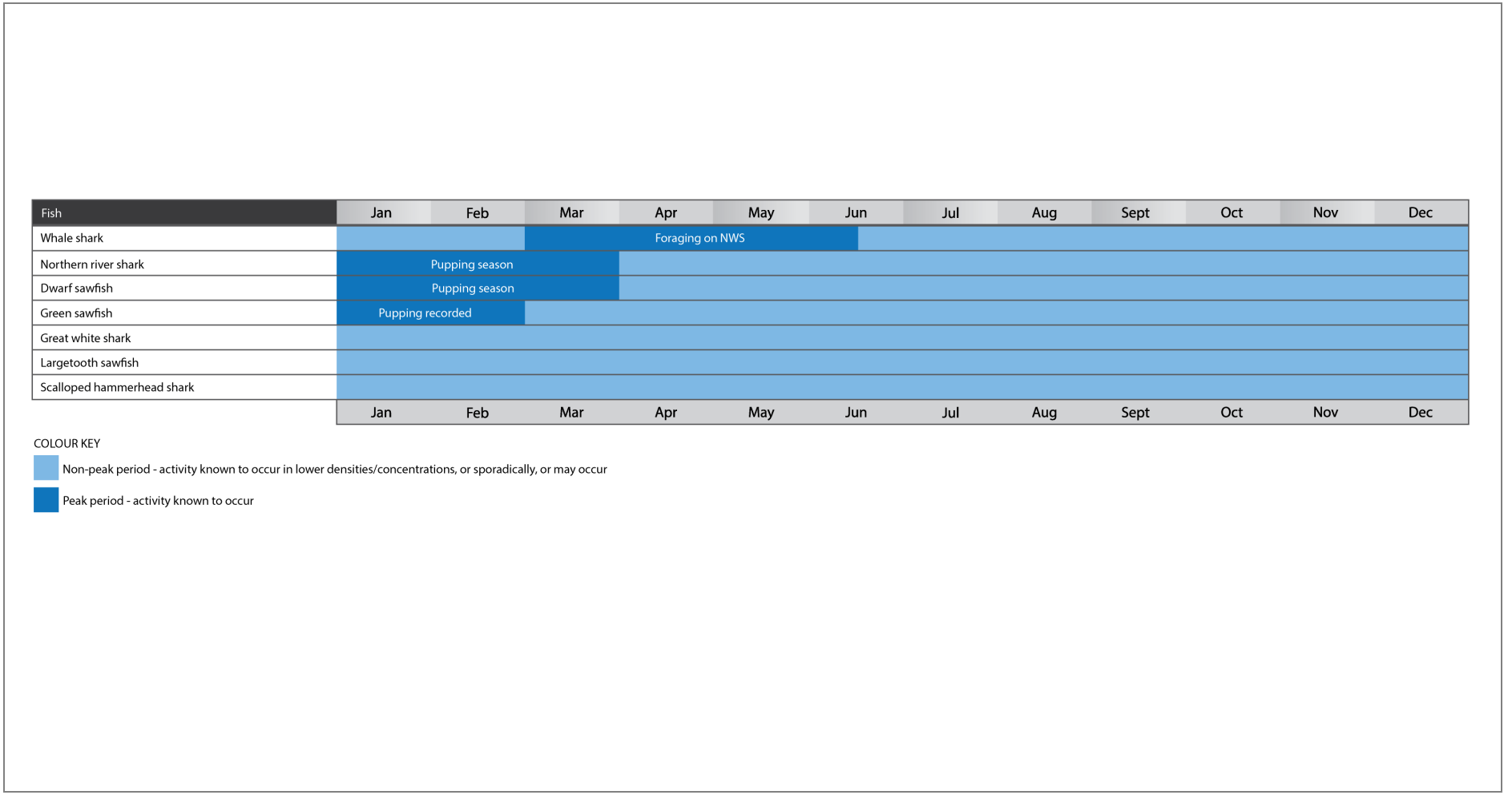


Figure 5.16. Likely temporal presence and absence of EPBC Act-listed threatened fish species in the impacts EMBA

The exact locations and timing of spawning and/or aggregations of fish and shark species are unknown, but the DPIRD provide an indication of species that may spawn within the North Coast bioregion, which includes the JBG (DoF, 2013a) (Table 5.8).

Table 5.8. Peak spawning/aggregation times for key commercial fish species in the North Coast Bioregion

Common name	Species name	Spawning / aggregation times
Blacktip shark	*Carcharhinus tilstoni* & *C.limbatus*	November – December
Goldband snapper	*Pristipomoides multidens*	January – April
Pink snapper	*Pagrus auratus*	May – July
Rankin cod	*Epinephelus multiinotatus*	August – October
Red emperor	*Lutjanus sebae*	October, January, March
Sandbar shark	*Carcharhinus plumbeus*	October – January
Spanish mackerel	*Scomberomorus commerson*	August – November

Threats and pressures on fish

Several of the fish species listed in Table 5.8 are subject to pressures, which are described in various recovery plans and conservation advice. Table 5.9 summarises the pressures listed in the plans/advice relevant to each of these species that could result from drilling activities.

Table 5.9. Summary of threats to fish species

Species	Recovery Plan, Management Plan or Conservation Advice	Key threat/s relevant to drilling
Great white shark	Recovery Plan for the White Shark (*Carcharodon carcharias*) (DSEWPC, 2013b)	Ecosystem effects as a result of habitat modification
Northern river shark	Approved conservation advice for Glyphis garricki (northern river shark) (TECC, 2014)	Habitat degradation and modification
	Sawfish and River Sharks Multispecies Recovery Plan (DoE, 2015a)	Habitat degradation and modification
Dwarf sawfish	Approved Conservation Advice for *Pristis clavata* (dwarf sawfish) (DEWHA, 2009)	Habitat degradation
	Sawfish and River Sharks Multispecies Recovery Plan (DoE, 2015a)	Habitat degradation and modification
Largetooth sawfish	Approved Conservation Advice for *Pristis pristis* (large sawfish) (DoE, 2014a)	Habitat degradation and modification
	Sawfish and River Sharks Multispecies Recovery Plan (DoE, 2015a)	Habitat degradation and modification
Green sawfish	Approved Conservation Advice for green sawfish (DEWHA, 2008c)	Habitat degradation and modification
	Sawfish and River Sharks Multispecies Recovery Plan (DoE, 2015a)	Habitat degradation and modification

Species	Recovery Plan, Management Plan or Conservation Advice	Key threat/s relevant to drilling
Whale shark	Conservation Advice for *Rhincodon typus* (whale shark) (TSSC, 2015d)	Boat strike Habitat disruption from mineral exploration Marine debris
Scalloped hammerhead shark	Listing Advice *Sphyrna lewini* (scalloped hammerhead) (TSSC, 2018a)	None. Historic and current fishing.

Great white shark (EPBC Act: Vulnerable, Listed migratory)

The great white shark (*Carcharodon carcharias*) is widely distributed and located throughout temperate and sub-tropical waters with their known range in Australian waters including all coastal areas except the NT (DCCEEW, 2024b). Studies of the great white shark indicates that they appear to be largely transient, with a few longer-term residents; however, individuals are known to return to feeding grounds on a seasonal basis (Klimey and Anderson, 1996). Observations of adult white sharks are more frequent around fur-seal and sea lion colonies whilst juveniles are known to congregate in certain key areas. There are no biologically important aggregation, breeding or foraging areas intersected by the impacts EMBA.

Shortfin mako shark (EPBC Act: Listed migratory)

The shortfin mako (*Isurus oxyrinchus*) is a pelagic species with a circumglobal, wide ranging oceanic distribution in tropical and temperate seas (Mollet *et al*., 2000). It is widespread in Australian waters, recorded in offshore waters all around the continent's coastline with exception of the Arafura Sea, the Gulf of Carpentaria and Torres Strait (DCCEEW, 2024b). Shortfin makos are also highly migratory and travel large distances (DCCEEW, 2024b). Due to their widespread distribution in Australian waters, their presence in the impacts EMBA is likely to be limited to transiting individuals.

Longfin mako shark (EPBC Act: Listed migratory)

The longfin mako is widely distributed; however, it is rarely encountered and can be found along the WA coastline as a far south as Geraldton (Last and Stevens, 2009). There is limited research into the species within Australian waters; however, Sepulveda et al (2004) recorded southern Californian juveniles favoured surface waters, while larger adults were frequently observed at depths of up to 250 m. Whilst assumed to be a deep-dwelling shark, sightings on the ocean surface, and the species' diet, suggest a greater depth range (Reardon *et al*., 2006). Though there is limited information about the longfin mako, their presence in the impacts EMBA is likely to be limited to transiting individuals.

Whale shark (EPBC Act: Vulnerable, listed migratory)

The whale shark (*Rhincodon typus*) is a filter-feeding shark and is the largest known species of fish in the world (DCCEEW, 2024b). It is considered to be an oceanic and coastal species, commonly seen far offshore but also closer inshore near coral atolls (DCCEEW, 2024b). Whale sharks generally prefer tropical to warm temperate waters where surface sea temperature ranges from 21° to 25 °C (DCCEEW, 2024b).

In Australian waters the whale shark is commonly seen in waters off northern WA, NT and Queensland with only very occasional sightings off Victoria and South Australia (Last and Stevens,

1994). The movements of whale sharks are not well documented; however, they are known to seasonally aggregate (March and April) in shallow tropical waters off the North West Cape in WA (DCCEEW, 2024b). While the whale shark foraging BIA is not intersected by the impacts EMBA, it may migrate through it.

Northern river shark (EPBC Act: Endangered)

The northern river shark (*Glyphis garricki*) is an elasmobranch capable of living and moving between freshwater and seawater. The species utilises rivers, tidal sections of large tropical estuarine systems, macro tidal embayments, inshore and offshore marine habitats. The species is listed as endangered under the EPBC Act, based partly on its limited geographic distribution (TSSC, 2014a). Within Australia, the northern river shark is known to occur in WA and the NT, occupying both marine and freshwater environments including the JBG, Daly River, Adelaide River and the South and East Alligator Rivers (TSSC, 2014a) (Figure 5.17). Whilst northern river sharks have been observed well offshore, the extent to which this occurs is unknown (TSSC, 2014a). Individuals may be present within the impacts EMBA.

Oceanic whitetip shark (EPBC Act: Listed migratory)

Within Australian waters, the oceanic whitetip shark (*Carcharhinus longimanus*) is found from Cape Leeuwin, WA, through parts of the NT and down the east coast of Queensland and NSW to Sydney (Last and Stevens, 2009). It has not been recorded within the Gulf of Carpentaria or the Arafura Sea. The oceanic whitetip shark is a circum-global deep-water pelagic species inhabiting tropical to warm-temperate waters (Compagno, 1984). Oceanic whitetip sharks prefer water temperatures above 20°C and can reach depths of >180 m (Castro *et al*., 1999). Given the species distribution in deep offshore waters, the species is unlikely to occur within the impacts EMBA.

Reef manta ray (EPBC Act: Listed migratory)

The reef manta ray (*Manta alfredi*) has a circum-global range in tropical and sub-tropical waters with sightings between waters off Perth, all along the northern coastline of Australia to the waters off the Solitary Islands, NSW (Marshall *et al*., 2011a). While this species tends to inhabit nearshore environments, it is known to occurs in waters as deep as 300 m and has been sighted around offshore coral reefs, rocky reefs and seamounts (Marshall *et al*., 2011a). In addition, it makes seasonal migrations of several hundred kilometres (Marshall *et al*., 2011a). Despite there being no known aggregation sites within close proximity to the operational, reef manta rays may be present in the impacts EMBA as transiting individuals.

Giant manta ray (EPBC Act: Listed migratory)

The giant manta ray (*Manta birostris*) has a widespread distribution along the coast of Australia and is known to seasonally migrate between aggregation sites (Marshall *et al*., 2011b). The giant manta ray is commonly sighted along productive coastlines with regular upwelling, oceanic island groups and particularly offshore pinnacles and seamounts (Marshall *et al*., 2011b).

This species has also been recorded within the Oceanic Shoals AMP, which is located 138 km north-northwest of the impacts EMBA (Nichol *et al*., 2013). Despite there being no known aggregation sites within close proximity to the impacts EMBA, giant manta rays may be present in it as transiting individuals.

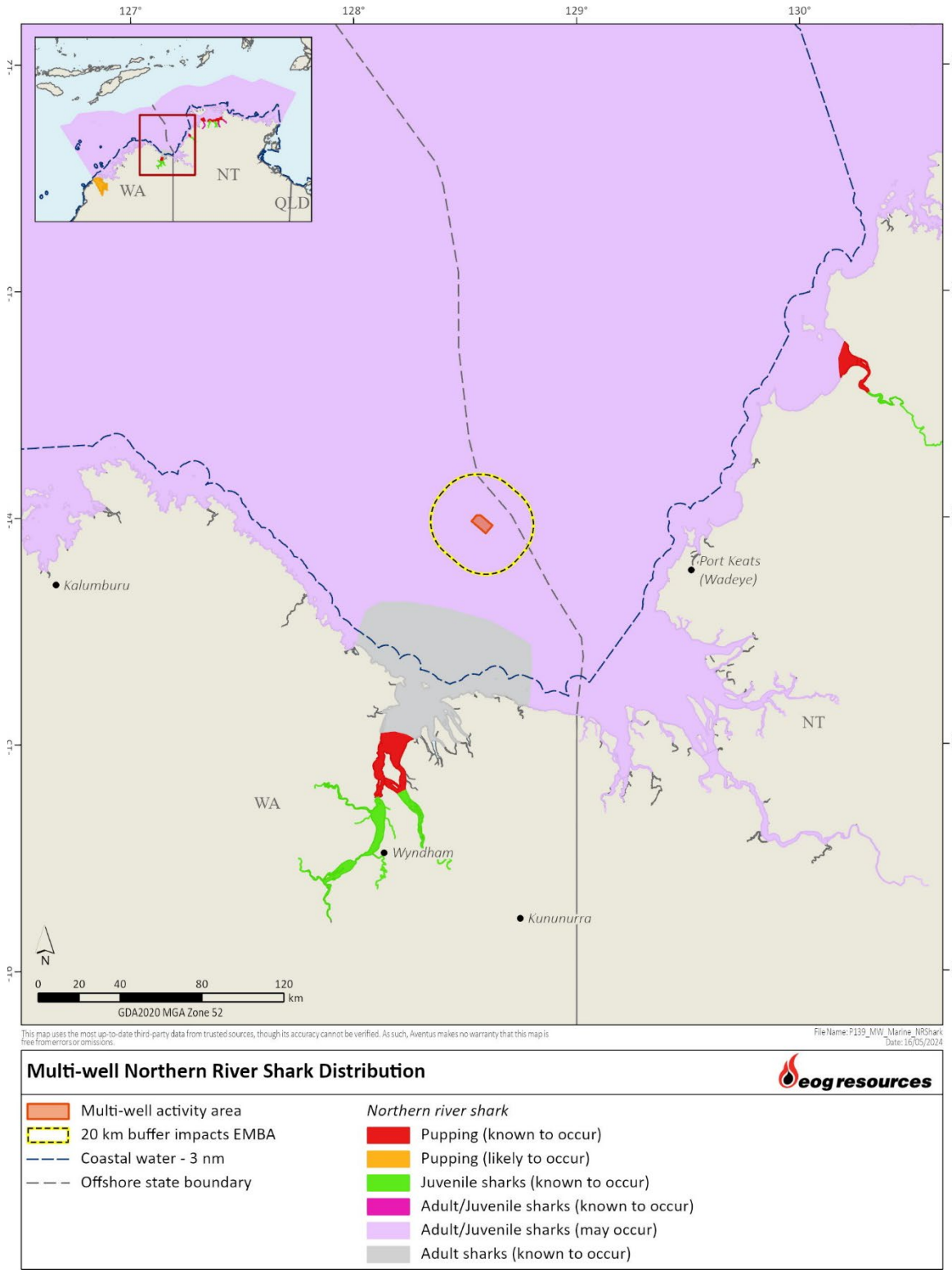


Figure 5.17. Northern river shark presence in the impacts EMBA and surrounds

Narrow sawfish (EPBC Act: Listed migratory)

The narrow sawfish lives in coastal and estuarine habitats across northern Australia and is generally restricted to shallow waters (less than 40 m) (D'Anastasi *et al*., 2013). The species is known to occur in the Gulf of Carpentaria but its distribution and migration is largely unknown. The narrow sawfish has the potential to occur within the impacts EMBA because it has been caught as bycatch by the NPF in these areas (Tonks *et al*., 2008).

Dwarf sawfish (EPBC Act: Vulnerable, Listed migratory)

The dwarf sawfish (*Pristis clavata*) usually inhabits shallow (2–3 m deep) coastal waters and estuarine habitats. Its distribution is considered to extend north from Cairns around the Cape York Peninsula in Queensland, across northern Australian waters to the Pilbara coast in WA (DCCEEW, 2024b). The dwarf sawfish uses its rostrum to stun schooling fish by sideswiping or threshing while swimming through a school. The main prey species is popeye mullet (*Rhinomugil nasutus*). The main threats to dwarf sawfish are habitat loss and entanglement in fishing nets. Adult dwarf sawfish are known to occur in the impacts EMBA (Figure 5.18) however, the marine surveys undertaken in 2021 and 2022 in the JBGMP did not record the dwarf sawfish (Udyawer *et al.,* 2023).

Largetooth sawfish (EPBC Act: Vulnerable, Listed migratory)

Largetooth sawfish (*Pristis pristis*) utilise both freshwater (juvenile) and marine (adult) environments during the different stages of its lifecycle (TSSC, 2014b). Within Australia, largetooth sawfish have been recorded in numerous drainage systems across northern WA, NT and northern Queensland (TSSC, 2014b). The freshwater sawfish feeds on fishes and benthic invertebrates. The saw is used to stun schooling fish, such as mullet, and for extracting molluscs and small crustaceans from the benthic sediment. The impacts EMBA overlaps areas where adult largetooth sawfish are known to occur (Figure 5.19), however, the marine surveys undertaken in 2021 and 2022 in the JBGMP did not record the largetooth sawfish (Udyawer *et al.,* 2023).

Green sawfish (EPBC Act: Vulnerable, Listed migratory)

The green sawfish (*Pristis zijsron*) occurs in both inshore and offshore marine coastal waters of northern Australia. Its current known distribution stretches from Broome, WA around northern Australia and down the east coast as far as Jervis Bay, NSW (DCCEEW, 2024b). The main threats to green sawfish are habitat loss and entanglement in fishing nets.

The impacts EMBA overlaps areas where adult sawfish are known to occur and is adjacent to waters where juveniles are known to occur (Figure 5.20). It has also been caught as bycatch from the NPF in the area overlapped by the impacts EMBA and therefore is likely to be present (Tonks *et al*., 2008).

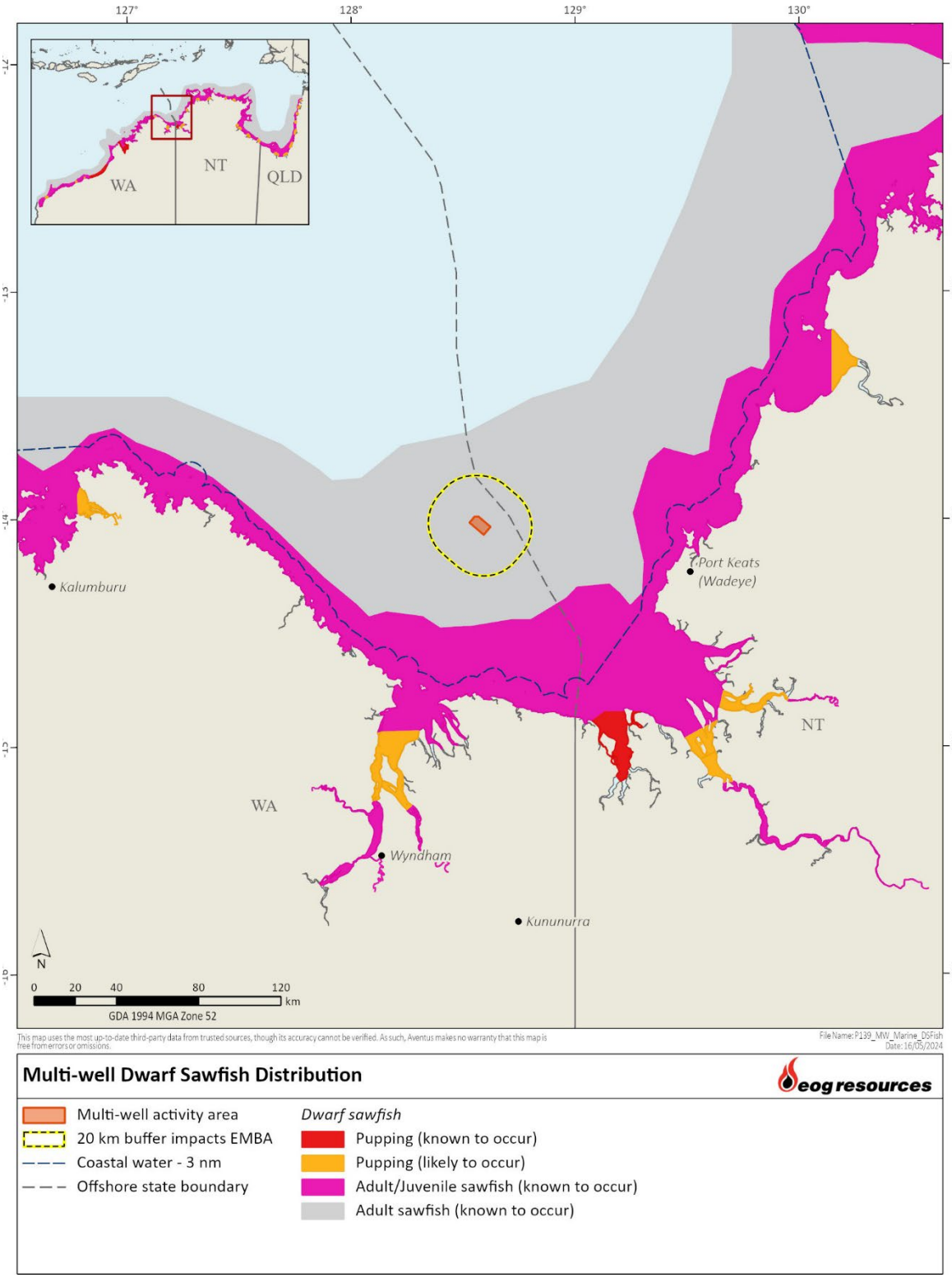


Figure 5.18. Dwarf sawfish presence in the impacts EMBA and surrounds

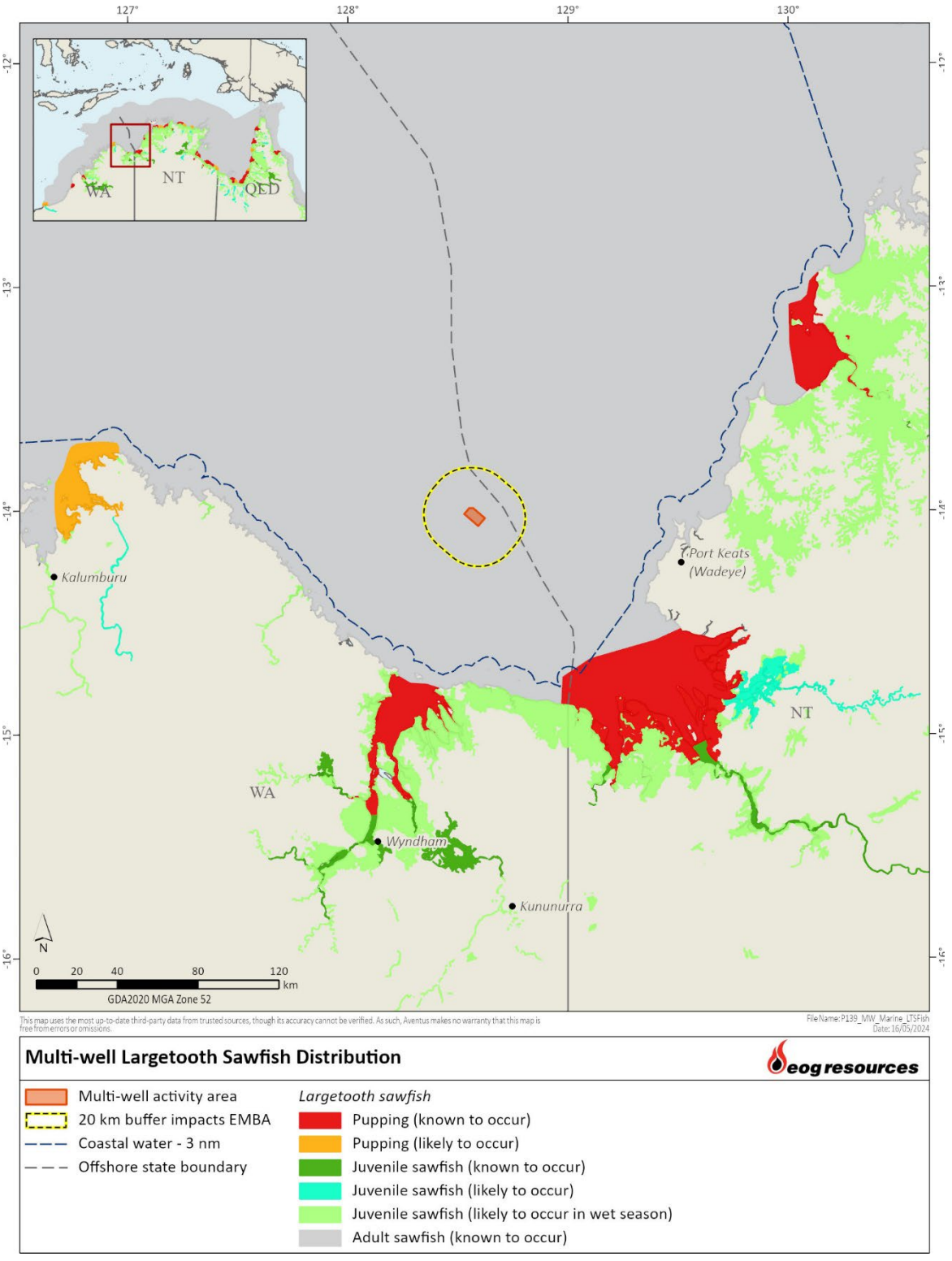


Figure 5.19. Largetooth sawfish presence in the impacts EMBA and surrounds

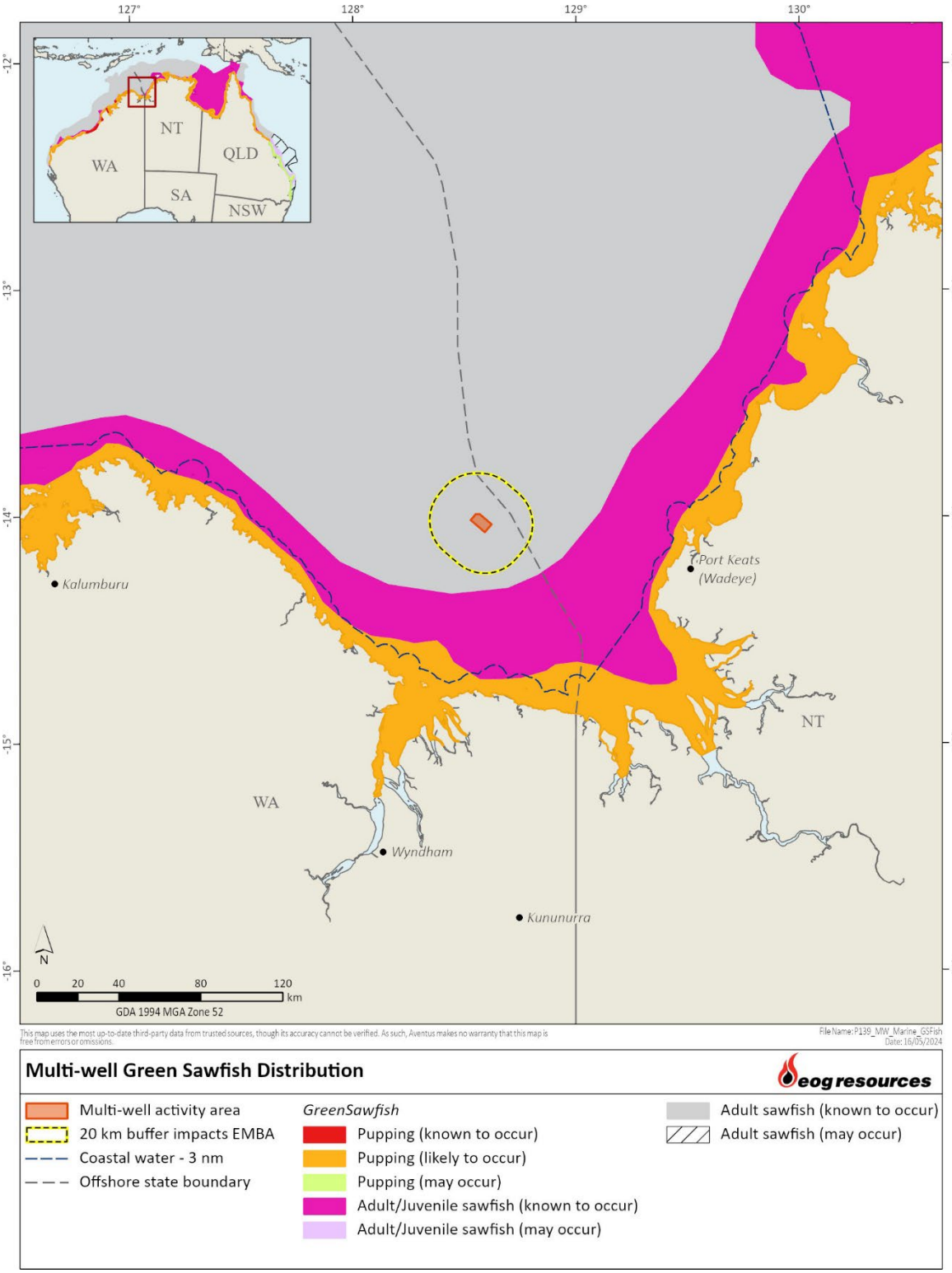


Figure 5.20. Green sawfish presence in the impacts EMBA and surrounds

Scalloped hammerhead shark (EPBC Act: Conservation Dependent)

The scalloped hammerhead shark (*Sphyrna lewini*) was listed as Conservation Dependent in 2018 (TSSC, 2018a). This species is a long-lived large slender shark (growing up to 3.5 m) with a laterally expanded skull shaped like a hammer, known as a cephalofoil (TSSC, 2018a).

The scalloped hammerhead shark has a circum-global distribution in tropical and sub-tropical waters, ranging widely over shallow coastal shelf waters but rarely venturing into or across deep ocean waters (TSSC, 2018a). In Australia, the species range occurs from the southern coast of WA, across the north coast and extending south along the Australian coast to south of Sydney (TSSC, 2018a). Little is known of the scalloped hammerhead's movements in Australia, though it is known to sometimes form large migratory schools (Last & Stevens, 2009). Their diet is reported to comprise ray-finned fish and cephalopods, suggesting a pelagic life (Last & Stevens, 2009). Adult females are rarely caught inshore and may live in deeper water, only moving into shallower coastal waters to mate and give birth (Last & Stevens, 2009). The pups remain in the shallow inshore waters for the first few years of their lives (TSSC, 2018a).

The scalloped hammerhead shark is threatened by fishing (TSSC, 2018a). Given the species' wide distribution in Australian tropical and sub-tropical waters and its preference for the continental shelf, it may occur within the impacts EMBA.

Southern bluefin tuna (EPBC Act: Conservation Dependent)

The Southern Bluefin Tuna (*Thunnus maccoyii*) is highly migratory, occurring globally in waters between 30–50° S, though the species is mainly found in the eastern Indian Ocean and in the south-west Pacific Ocean. There is a single known spawning ground between Java and northern WA (TSSC, 2010). In Australia, southern bluefin tuna ranges widely from northern WA to the southern region of the continent, including Tasmania, and to northern NSW, appearing in eastern Australian waters mainly during winter (DCCEEW, 2024b)

The species is currently under threatened listing assessment (current status is Conservation Dependent) which is due 30 October 2024.

Due to the known species range, it is unlikely the southern bluefin tuna will be encountered within the impacts EMBA.

Sygnathids (EPBC Act: Listed marine species)

Twenty-four (24) species identified in the EPBC Act PMST are sygnathiformes, which includes seahorses, seadragon, pipehorse and pipefish. They are all listed as 'may' occur within the impacts EMBA. The majority of these fish species are associated with seagrass meadows, macroalgal seabed habitats, reefs and sponge gardens located in shallow, inshore waters (e.g., protected coastal bays, harbours and jetties) less than 50 m deep. They are sometimes recorded in deeper offshore waters, where they depend on the protection of sponges and rafts of floating seaweed such as *Sargassum*. It is unlikely that sygnathid species occur in high numbers in the impacts EMBA given the likely absence of reef and seagrass habitat that they prefer.

5.4.5. Marine Mammals

The PMST indicates that five whale species, ten dolphin species and the dugong are likely to occur or may occur within or migrate through the impacts EMBA (DCCEEW, 2024a). These species are presented in Table 5.10 and a description focused on threatened or migratory species follows. Figure 5.21 illustrates the likely temporal presence and absence of cetaceans in the impacts EMBA.

Table 5.10. EPBC Act-listed marine mammals that may occur in the impacts and flaring light EMBAs

Scientific name	Common name	EPBC Act Status			Type of presence in impacts EMBA	Type of presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Whales									
Balaenoptera borealis	Sei whale	V	Yes	-	May occur	May occur	No	No	-
Balaenoptera edeni	Bryde's whale	-	Yes	-	May occur	May occur	No	No	-
Balaenoptera musculus	Blue whale	E	Yes	-	May occur	May occur	No	No	CMP
Balaenoptera physalus	Fin whale	V	Yes	-	May occur	May occur	No	No	CA
Megaptera novaeangliae	Humpback whale	-	Yes	-	Likely	Likely	No	No	LA
Dolphins									
Delphinus delphis	Common dolphin	-	-	-	May occur	May occur	No	No	-
Grampus griseus	Risso's dolphin	-	-	-	May occur	May occur	No	No	-
Orcaella heinsohni	Australian snubfin dolphin	-	Yes	Yes	May occur	May occur	No	No	-
Orcinus orca	Killer whale	-	Yes	-	May occur	May occur	No	No	-
Pseudorca crassidens	False killer whale	-	-	-	Likely	Likely	No	No	-
Sousa sahulensis	Australian humpback dolphin	-	Yes	-	Likely	Known	No	No	-
Stenella attenuata	Spotted dolphin	-	Yes	-	Likely	May occur	No	No	-
Tursiops aduncus	Spotted bottlenose dolphin	-	-	-	May occur	May occur	No	No	-

Scientific name	Common name	EPBC Act Status			Type of presence in impacts EMBA	Type of presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Tursiops aduncus (Arafura/Timor Sea populations)	Indian Ocean bottlenose dolphin *(Arafura/Timor Sea populations)*	-	Yes	-	Likely	Likely	No	No	-
Tursiops truncatus	Bottlenose dolphin	-	-	-	May occur	May occur	No	No	-
Other									
Dugong dugon	Dugong	-	Yes	Yes	May occur	May occur	No	No	-

Key is the same as per Table 5.8.

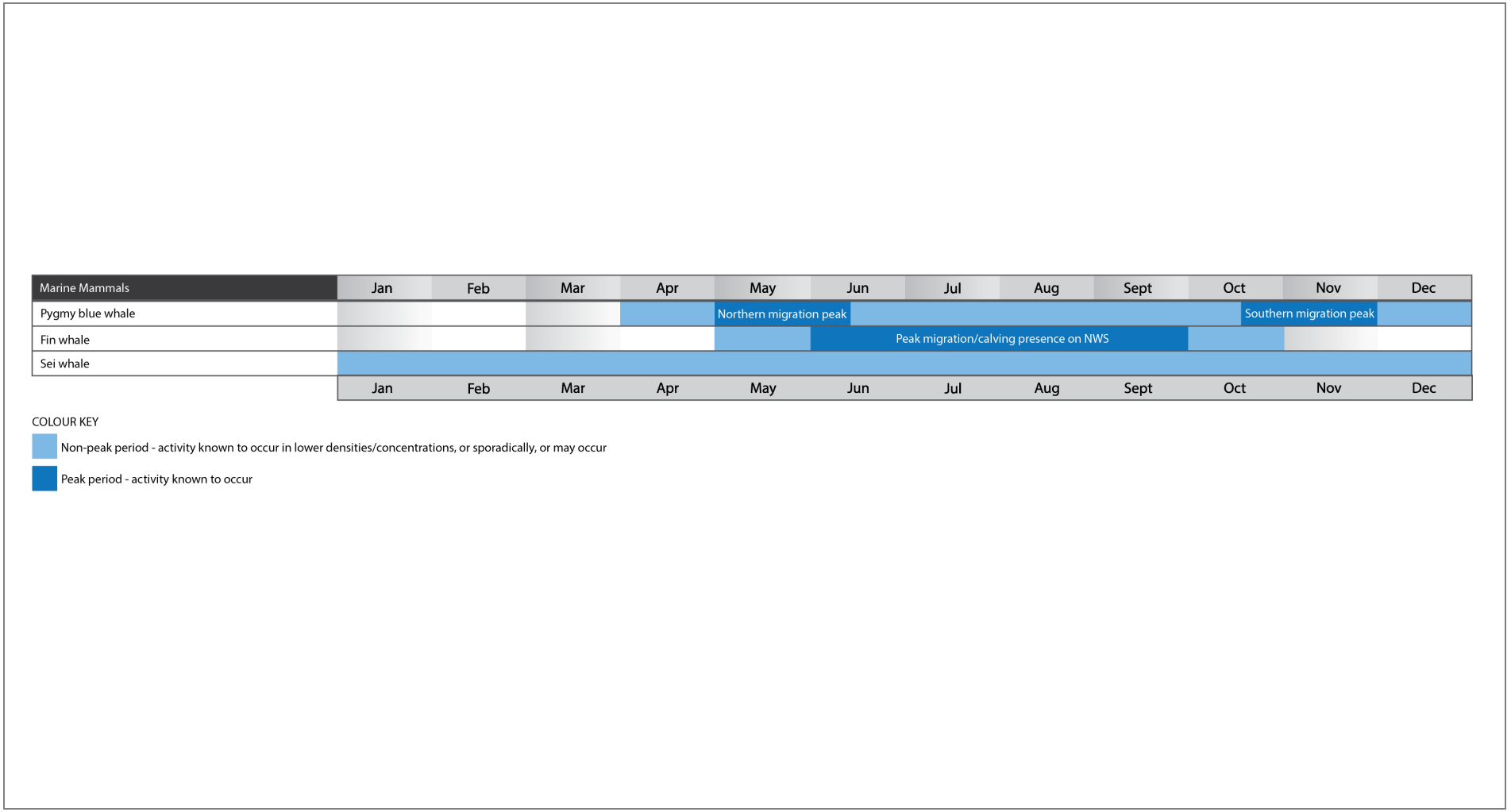


Figure 5.21. Likely temporal presence and absence of EPBC Act-listed threatened marine mammal species in the impacts EMBA

Threats and pressures on marine mammals

Four of the whale species listed in Table 5.10 are subject to pressures, which are described in various recovery plans and conservation advice. Table 5.11 summarises the pressures listed in the plans/advice relevant to each of these whale species relevant to drilling activities.

Table 5.11. Summary of threats to marine mammals

Species	Recovery Plan, Management Plan or Conservation Advice	Key threat/s relevant to drilling
Blue whale	Conservation management plan for the blue whale 2015-2025 (DoE, 2015b)	Noise interference Habitat modification (marine debris) Vessel disturbance (collisions)
Humpback whale	Conservation advice *Megaptera novaeangliae* (humpback whale) (TSSC, 2015a)	Noise interference Habitat degradation Vessel disturbance and strike
Sei whale	Conservation advice *Balaenoptera borealis* (sei whale) (TSSC, 2015b)	Noise interference Habitat degradation Pollution Vessel strike
Fin whale	Conservation advice *Balaenoptera physalus* (fin whale) (TSSC, 2015c)	

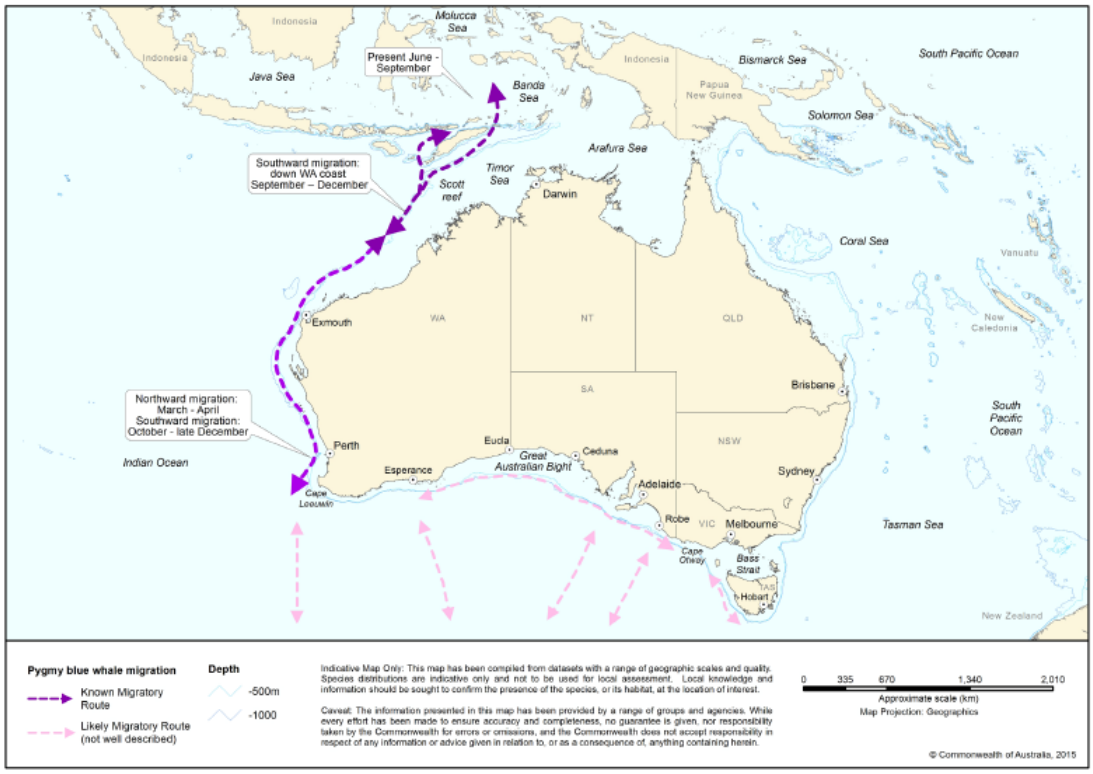
Blue whale (EPBC Act: Endangered, Listed migratory)

Blue whales (*Balaenoptera musculus*) are the largest living animals, growing to a length of over 30 m and weighing up to 180 tonnes (DoE, 2015b). In Australia, there are two recognised sub-species of blue whale; the Antarctic blue whale (*Balaenoptera musculus intermedia*) and the pygmy blue whale (*B. m. brevicauda*).

Blue whales have a worldwide distribution but tend to move between warm water (low latitudes) for breeding and cold water (high latitudes) for feeding. Pygmy blue whales are thought to migrate from Australian feeding areas to breeding grounds that include Indonesia (based on sightings in Indonesia in the austral winter), while Antarctic blue whale winter migratory destinations include lower latitudes of the Pacific and Indian Oceans (DoE, 2015b). Thus, the pygmy blue whale is more likely to be encountered in tropical waters and hence the information provided herein is based on the pygmy blue whale.

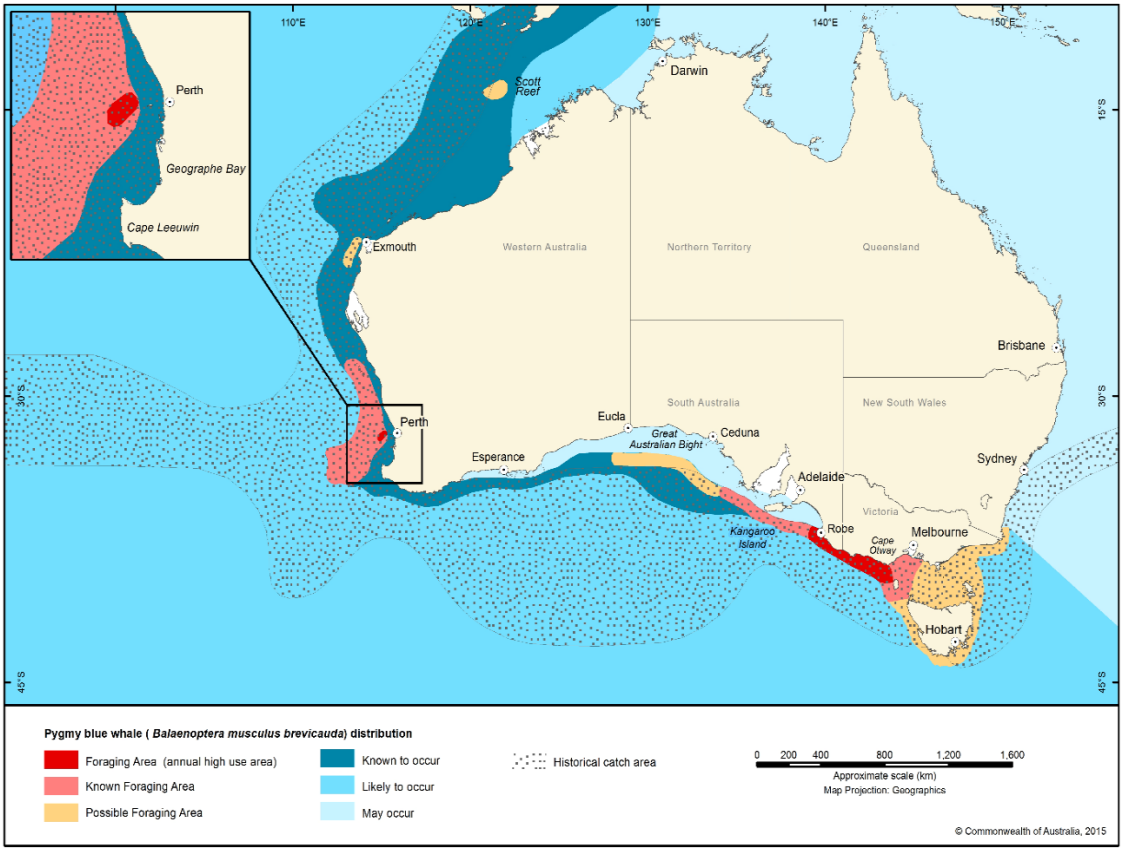
Tracking of pygmy blue whales identified that they migrate north from the Perth Canyon (known feeding area) in March/April reaching Indonesia by June where they remain until at least September (DoE, 2015b). Southern migration from Indonesia may occur from September and finish by December after which the animals may make their way slowly northwards towards the Perth Canyon by March/April (Double *et al*., 2014). Blue whale migration is thought to follow deep oceanic routes, and a tagging study by Double et al (2014) identified that the shallowest waters occupied was ~1,300 m. Figure 5.22 shows the migration of pygmy blue whales around Australia.

There is a foraging, migration and distribution BIA located off the North West Shelf (Figure 5.23), which is not intersected by the impacts EMBA. Though there are no BIAs that are intersected by the impacts EMBA, the impacts EMBA occurs within the 'may occur' distribution of the species (DoE, 2015b).



Source: DoE (2015a)

Figure 5.22. Pygmy blue whale migration routes



Source: DoE (2015a)

Figure 5.23. Pygmy blue whale BIAs

Sei whale (EPBC Act: Vulnerable, Listed migratory)

Sei whales (*B. borealis*) are primarily found in deep water oceanic habitats and their distribution, abundance and latitudinal migrations are largely determined by seasonal feeding and breeding cycles (TSSC, 2015b). The global population is estimated to have declined by 80% over the previous three generation period (TSSC, 2015b). Sei whales were the most commonly observed whales during Australian National Antarctic Research Expedition voyages in the 1960s and 1970s, with the majority recorded south of 60°S in the Southern Ocean (TSSC, 2015b).

These whales are thought to complete long annual seasonal migrations from subpolar summer feeding grounds to lower latitude winter breeding grounds (TSSC, 2015b); details of this migration and whether it involves the entire population are unknown. There are no defined foraging and feeding areas nor are there known mating or calving areas in Australian waters.

In the Australian region, sei whales occur within Australian Antarctic Territory waters and Commonwealth waters, and have been infrequently recorded off Tasmania, NSW, Queensland, the Great Australian Bight, NT and WA (TSSC, 2015b). There are no known mating or calving areas in Australia.

Based upon the species preference for deep offshore waters, the wide-ranging nature of this species, and the small number of sei whale sightings in Australia, there is likely to be a low likelihood of sei whales migrating through the impacts EMBA.

Fin whale (EPBC Act: Vulnerable, Listed migratory)

The fin whale (*B. physalus*) is the second largest whale species after the blue whale, growing up to 27 m long and weighing up to 70 tonnes (TSSC, 2015c). Fin whales are considered a cosmopolitan species and occur from polar to tropical waters, and rarely in inshore waters. The full extent of their distribution in Australian waters is uncertain but they occur within Commonwealth waters and have been recorded in most state waters and from Australian Antarctic Territory waters (TSSC, 2015c).

Fin whales are generally thought to undertake long annual migrations from higher latitude summer feeding grounds to lower latitude winter breeding grounds (TSSC, 2015c). It is likely they migrate in November – May between Australian waters and Antarctic feeding areas (the Southern Ocean), sub-Antarctic feeding areas (the Southern Subtropical Front) and tropical breeding areas (Indonesia, the northern Indian Ocean and south-west South Pacific Ocean waters) (TSSC, 2015c). Migration patterns are not well understood. In Australia, there are confirmed records of fin whales for all coastal waters except in NSW and the NT, but the available information suggests that the species is more commonly present in deeper water (DEH, 2005a) of the Indonesian Archipelago, using north western Australia as a migration route.

Based on the fin whale preference for deep offshore waters, there is likely to be a low likelihood of fin whales migrating through the impacts EMBA.

Bryde's whale (EPBC Act: Listed migratory)

The Bryde's whale (*Balaenoptera edeni*) is restricted to tropical and temperate waters and has been recorded off all Australian states with exception of the NT (Bannister *et al*., 1996). Bryde's whales can be found in both oceanic (500 to 1,000 m isobath) and inshore waters (<200 m isobath) (DCCEEW, 2024b). Population estimates are not available for Bryde's whales, globally or in Australia, and no migration patterns have been documented in Australian waters (DCCEEW, 2024b). Bryde's whale is considered to be a fairly opportunistic feeder and it appears that the

coastal and offshore forms may be distinguished by their prey preferences, with the smaller coastal form feeding on schooling fishes, such as pilchard, anchovy, sardine, mackerel, herring and others. In contrast, the larger offshore form appears to feed on small crustaceans, such as euphausids, copepods, pelagic red crabs and cephalopods.

There are no feeding or breeding BIAs within the impacts EMBA for this species, and there is a low likelihood of Bryde's whale migrating through the impacts EMBA.

Humpback whale (EPBC Act: migratory)

Humpback whales (*Megaptera novaeangliae*) have a global distribution. In Australia, they occur along the east and west coasts during their annual migrations. The whales migrate north from their Antarctic feeding grounds around May each year, and reach the tropical calving grounds in the NWMR in early June (DCCEEW, 2024b). The exact timing of migration varies each year by up to six weeks in response to water temperature, sea ice distribution, predation risk, prey abundance and the location of feeding grounds (DEWR, 2007).

Humpback whales travel northbound from North West Cape, along the continental shelf and pass the west of the Muiron, Barrow and Montebello Islands, peaking in late July (Jenner *et al*., 2001). Southbound migrations are more diffuse and irregular with no obvious peak. The southerly migration extends parallel to the coast on the 20-30 m depth contour from Lacepede Islands (north of Broome) (Jenner *et al*., 2001; DEWHA, 2008a). An increase in southerly migrating individuals may be observed between the North West Cape and the Montebello Islands around November (Jenner *et al*., 2001).

In the NWMR, humpback whales are known to have breeding and foraging grounds between Broome and the northern end of Camden Sound, with the highest concentrations occurring between June and September (DEWHA, 2008b). Camden Sound appears to be the northern most limit for the majority of the west coast whales (Jenner *et al*., 2001).

Given the well-known distribution of humpback whales in Australia, it is unlikely that this species migrates through the impacts EMBA.

Omura's whale (EPBC Act: not listed)

Omura's whale (*Balaenoptera omurai*) may occur in and around the impacts EMBA but is not listed under the EPBC Act. It is understood that DCCEEW is considering listing this species and as such, it is described briefly here. It is listed under the International Union for the Conservation of Nature (IUCN) Red list as 'data deficient.'

Omura's whale was first described in 2003 and is morphologically similar to but genetically distinct from the Bryde's and sei whales (Cerchio *et al*., 2019). This species is widely distributed in tropical and warm-temperate locations in all ocean basins except the central and eastern Pacific Ocean. Field research indicates Omura's whale has a strong preference for shallow water, on-shelf habitat, with only short ventures into adjacent deep waters (Cerchio *et al*., 2019).

Cerchio et al (2019) report that there have been several accounts of Omura's whale along Australia's northwest coast, from Exmouth (WA) into the Timor Sea. McPherson et al (2016) recorded Omura's whale calls around the Barossa and Caldita gas fields (440-470 km northeast of the impacts EMBA) in 2014-15 as part of the monitoring undertaken for ConocoPhillips Australia's Barossa Development proposal. The calls were primarily observed from May to August, with no detection of the species' calls from November to late December.

Given the limited information available for this species, it is assumed that it may migrate through the impacts EMBA.

Killer whale (EPBC Act: Listed migratory)

The killer whale (*Orcinus orca*) (the largest member of the dolphin family) is thought to be the most cosmopolitan of all cetaceans and appear to be more common in cold, deep waters, though they have often been observed along the continental slope and shelf particularly near seal colonies (Bannister *et al*., 1996). The killer whale is widely distributed from polar to equatorial regions and has been recorded in all Australian waters with concentrations around Tasmania. The only recognised key locality in Australia is Macquarie Island and Heard Island in the Southern Ocean (outside the EMBA) (Bannister *et al*., 1996).

The habitat of killer whales includes oceanic, pelagic and neritic (relatively shallow waters over the continental shelf) regions, in both warm and cold waters (DCCEEW, 2024b). The breeding season is variable, and the species moves seasonally to areas of food supply (Bannister *et al*., 1996; Morrice *et al*., 2004). The impacts EMBA and EMBA are unlikely to represent important habitat for this species. Therefore, killer whales are unlikely to be present in the impacts EMBA or EMBA.

Australian humpback dolphin (EPBC Act: Listed migratory)

Australian humpback dolphins (*Sousa sahulensis*) are found primarily in coastal waters and feed mainly on fish associated with coastal-estuarine waters (DCCEEW, 2024b). In Queensland and the NT, Australian humpback dolphins are mainly found in water less than 20 km from the nearest river mouth, and in water less than 15–20 m deep (DCCEEW, 2024b). They are generally found in river mouths, mangroves, seagrass beds, tidal channels and inshore reefs. They are known to have resident groups that forage, feed, breed and calve in state and territory waters. Calves may be born throughout the year, but peaks in summer and spring have been reported.

Humpback dolphin foraging BIAs are located along the Kimberley coastline, including breeding, and calving. A breeding BIA for the species are also located in Darwin Harbour (approximately 300 km north-east of the drill site). Foraging BIAs are also located in Van Diemen Gulf and Port Essington (Cobourg Peninsula). Given their habitat preferences, it is unlikely that this species occurs in the impacts EMBA.

Indian Ocean bottlenose dolphin (Arafura/Timor Sea populations) (EPBC Act: Listed migratory)

The Indian Ocean bottlenose dolphin (Arafura/Timor Sea) (*Tursiops aduncus*) resemble common bottlenose dolphins (*T. truncatus*) in their general colour pattern, but can be differentiated from the *T.truncatus* by the absence of a blaze on the dorsal cape and by the presence of ventral spotting in sexually mature individuals (DCCEEW, 2024b).

Indian ocean bottlenose dolphins occur in tropical and sub-tropical coastal and shallow offshore waters of the Indian Ocean, Indo-Pacific Region and the western Pacific Ocean and occur in estuarine and coastal waters of northern Australia, including the eastern Indian Ocean and Arafura/Timor Seas (DCCEEW, 2024b). The total population size of this species is not known, though it is likely that this species is common in inshore and nearshore waters of eastern, western and northern Australia where they feed on a range of fish and cephalopods (DCCEEW, 2024b). There is limited information regarding the Arafura/Timor Sea populations of the Indian ocean bottlenose dolphin, the EPBC Act recognises them as a separate population and lists them as migratory. Additionally, the Arafura/Timor Sea populations are listed on Appendix II of the *review of small cetaceans* (Culik, 2004), where insufficient data was reported regarding present knowledge about the population, and their migration patterns were reported as ‘possible’. Culik

(2004) emphasise that more research is needed to establish the range and importance of different species, subspecies and their populations of the Indian ocean bottlenose dolphin. Although there is a sparsity of research available on the Arafura/Timor Sea populations, it is likely they will be encountered within the impacts EMBA due to the location of the EMBA being within the Timor Sea. Movement patterns in Australia are variable, and include year-round residency in small areas, long-range movements and migration (DCCEEW, 2024b). The largest threat to the species is bycatch in trawl nets and gillnets and habitat degradation (DCCEEW, 2024b).

It is likely that spotted bottlenose dolphins occur in the impacts EMBA, either residing in the area or migrating through.

Australian snubfin dolphin (EPBC Act: listed migratory, listed marine)

Australian snubfin dolphins (*Orcaella brevirostris*) occur mostly in protected shallow waters close to the coast, and close to river and creek mouths, including the shallow coastal waters and estuaries along the Kimberley coast and Cambridge Gulf (DCCEEW, 2024b). Within Australian waters, Australian snubfin dolphins have been recorded almost exclusively in coastal and estuarine waters (DCCEEW, 2024b). All available data on the distribution and habitat preferences of Australian snubfin dolphins indicate that they mainly occur in one location: shallow coastal and estuarine waters of Queensland, NT and northern WA (DCCEEW, 2024b). Australian snubfin dolphins share similar habitat preference with Australian humpback dolphins, with these two species potentially occurring in the same area through most of their Australian range (DCCEEW, 2024b).

Feeding primarily occurs in shallow waters (less than 20 m) close to river mouths and creeks (DCCEEW, 2024b). This includes a variety of habitats, from mangroves to sandy bottom estuaries and embayments, to rock and/or coral reefs. Prey for this species includes fish of the families Engraulidae, Clupeidae, Chirocentridae, Anguillidae, Hemirhampidae, Leiognathidae, Apogonidae, Pomadasydae, Terapontidae and Sillaginidae, typically associated with shallow coastal waters and estuaries in tropical regions (DCCEEW, 2024b).

Off the WA Kimberley coast, the development of infrastructure, mostly associated with the petroleum industry and iron ore activities, and seismic surveys and petroleum explorations are of concern and are suspected to have an impact at the local level at all affected sites. This threat to Australian snubfin dolphins is considered likely to continue into the future, with the potential to increase its impact as habitat degradation and loss increase with increased human population requirements (DCCEEW, 2024b).

Dugong (EPBC Act: Listed migratory, Listed marine)

Dugongs (*Dugong dugon*) inhabit protected shallow coastal areas, such as wide shallow bays and mangrove channels. They feed on seagrass, and major concentrations of dugongs tend to coincide with sizeable seagrass beds. Research undertaken in the NT, including aerial surveys, has focused on dugong populations in the Gulf of Carpentaria and in the northern parts of the NT, such as the Tiwi Islands and Coburg Peninsula. No surveys have been undertaken in the JBG, therefore little is known about the distribution of dugongs in the Gulf. However, as high turbidity in the JBG limits the development of seagrass beds, dugongs are not expected to be abundant (Woodside, 2004).

Though not abundant in the JBG, dugongs have been reported to occur along the coastline from Cape Hay to Pearce Point with the main populations concentrated around Dorcherty Island (Woodside, 2004), approximately 102 km east of the drill site. The closest dugong foraging BIA is

located south of Ashmore Reef (585 km to the west of the impacts EMBA), with additional foraging BIA on the Kimberley coastline off the Dampier Archipelago.

During the relevant persons consultation process for the Beehive-1 EP, the cultural significance of dugongs was brought to EOG's attention during in person meetings in June 2023, by the Yawuru People and Ardyaloon community. As the multi-well activity area encompasses the Beehive-1 location, it is inferred this concern remains applicable to this EP. The cultural significance of the dugong is described in Section 11.3.5 of Appendix 11.

Based on their habitat preferences, dugongs are unlikely to be present in the impacts EMBA.

5.4.6. Marine Reptiles

Six species of marine turtle are listed is the PMST results as known or likely to occur within both the impacts EMBA and flaring EMBA (Table 5.12) (DCCEEW, 2024a). Three of the turtle species are listed as endangered with the other three listed as vulnerable. Additionally, 17 species of sea snake are identified as 'may occur' in the impacts EMBA, along with the saltwater crocodile being 'likely to occur.' The flaring EMBA detected an additional two species of sea snake, both of which have a presence of 'may occur' and are not threatened. The species listed as threatened or migratory are described in this section. Ecological stages and temporal occupation of the turtle species is presented in Figure 5.24. The flaring EMBA is considered within the species discussion due to their sensitivity to artificial light.

Habitat critical to the survival of a species is defined by the MNES (2013) as areas that are necessary for activities such as foraging, breeding, roosting, or dispersal, areas necessary for the long-term maintenance of the species, areas necessary to maintain genetic diversity and long-term evolutionary development, or areas necessary for the reintroduction of populations or recovery of the species. Such habitat may be but is not limited to habitat identified in a recovery plan for the species as habitat critical for that species, and/or habitat listed on the Register of Critical Habitat maintained by the minister under the EPBC Act (Commonwealth of Australia, 2013).

No "critical habitat" as defined under Section 207A of the EPBC Act (Register of Critical Habitat) has been identified and listed for marine turtles. However, the Recovery Plan for Marine Turtles in Australia 2017-2027 (Commonwealth of Australia, 2017) identifies 'nesting and interesting habitat critical to the to the survival of marine turtles' (hereafter referred to as 'habitat critical').

During the relevant persons consultation process for the Beehive-1 EP, the cultural significance of sea turtles was brought to EOG's attention during in-person meetings in June 2023, by the Tiwi Land Council, Yawuru People, and both the Ardyaloon and Kalumburu community. As the multi-well activity area encompasses the Beehive-1 location, it is inferred this concern remains applicable to this EP.The cultural significance of turtles is described is Section 11.3.6 of **Appendix 11**.

Table 5.12. EPBC Act-listed marine reptiles that may occur in the impacts and flaring light EMBAs

Scientific name	Common name	EPBC Act Status			Habitat type/ presence in impacts EMBA	Habitat type/ presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Turtles									
Caretta caretta	Loggerhead turtle	E	Yes	Yes	Likely	Likely	No	No	RP for all turtles in Australia
Chelonia mydas	Green turtle	V	Yes	Yes	Known	Known	Yes	Yes	
Dermochelys coriacea	Leatherback turtle	E	Yes	Yes	Likely	Likely	No	No	
Eretmochelys imbricate	Hawksbill turtle	V	Yes	Yes	Likely	Likely	No	No	
Lepidochelys olivacea	Olive ridley turtle	E	Yes	Yes	Known	Known	Yes	Yes	
Natator depressus	Flatback turtle	V	Yes	Yes	Known	Known	Yes	Yes	
Sea snakes									
Aipysurus duboisii	Dubois' sea snake	-	-	Yes	May occur	May occur	No	No	-
Aipysurus foliosquama	Leaf-scaled sea snake	CE	-	Yes	May occur	May occur	No	No	-
Aipysurus laevis	Olive sea snake	-	-	Yes	May occur	May occur	No	No	-
Aipysurus mosaicus	Mosaic sea snake	-	-	Yes	May occur	May occur	No	No	-
Emydocephalus annulatus	Eastern turtle-headed sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrelaps darwiniensis	Port Darwin sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis atriceps	Black-headed sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis elegans	Elegant sea snake	-	-	Yes	May occur	May occur	No	No	-

Scientific name	Common name	EPBC Act Status			Habitat type/ presence in impacts EMBA	Habitat type/ presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Hydrophis hardwickii	Spine-bellied sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis inornatus	Plain sea snake	-	-	Yes	-	May occur	No	No	
Hydrophis kingii	Spectacled sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis macdowelli	MacDowell's sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis major	Olive-headed sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis ornata	Spotted sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis pacificus	Pacific sea snake	-	-	Yes	-	May occur	No	No	No
Acalyptophis peronii	Horned sea snake	-	-	Yes	May occur	May occur	No	No	-
Hydrophis platura	Yellow-bellied sea snake	-	-	Yes	May occur	May occur	No	No	-
Astrotia stokesii	Stokes' sea snake	-	-	Yes	May occur	May occur	No	No	-
Enhydrina schistosa	Australian beaked sea snake	-	-	Yes	May occur	May occur	No	No	-
Crocodiles									
Crocodylus porosus	Salt-water crocodile	-	Yes	Yes	Likely	Likely	No	No	-

Key is the same as per Table 5.8.

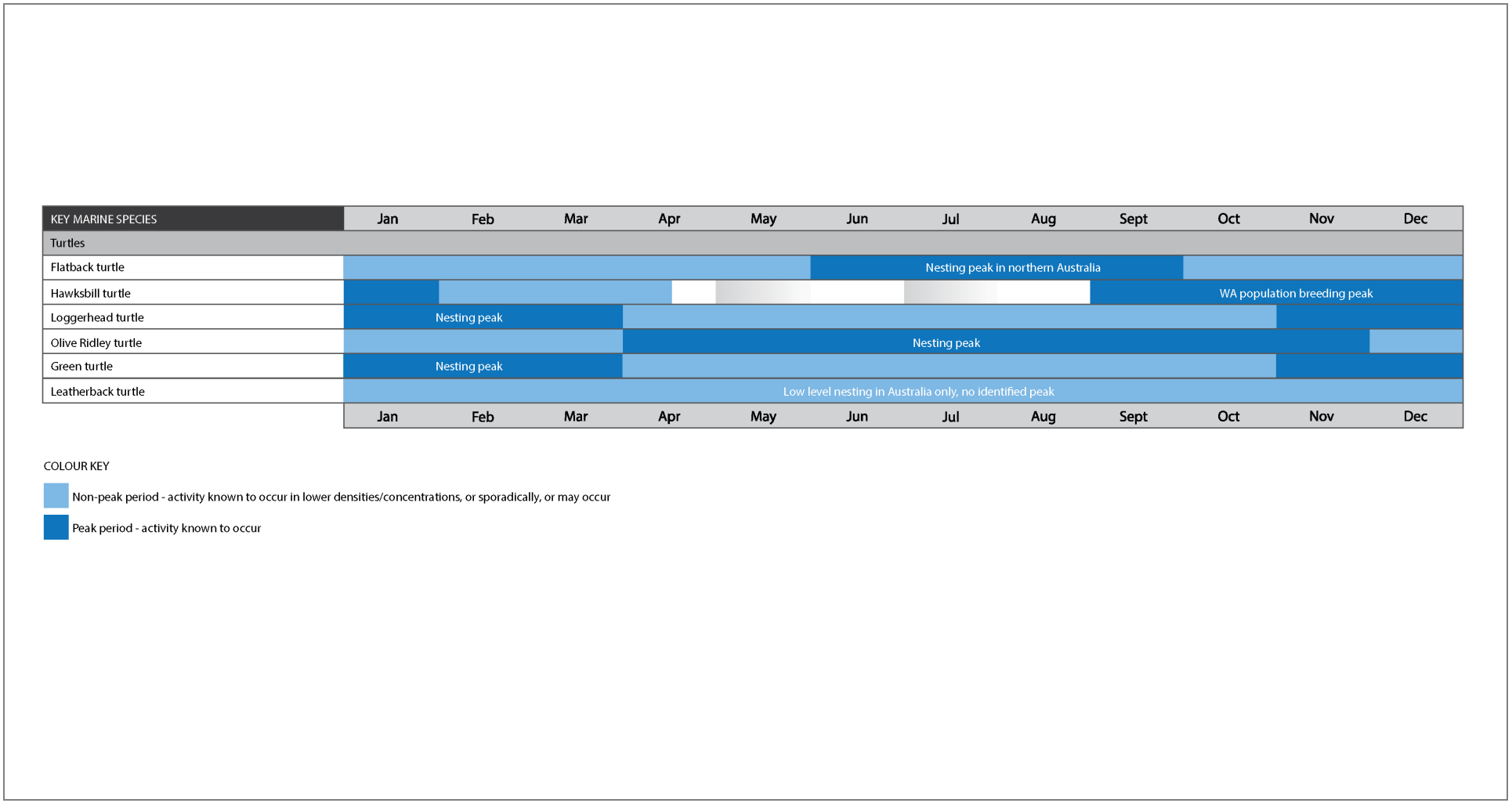


Figure 5.24. Likely temporal presence and absence of EPBC Act-listed threatened turtle species in the impacts and flaring light EMBAs

Threats and pressures on marine reptiles

Five of the turtle species listed in Table 5.12 are subject to pressures, which are described in various recovery plans and conservation advice. Table 5.13 summarises the pressures listed in the plans/advice relevant to each of these species relevant to drilling activities.

Table 5.13. Summary of threats to marine reptiles

Species	Recovery Plan, Management Plan or Conservation Advice	Key threat/s relevant to drilling
Loggerhead turtle	Recovery Plan for Marine Turtles in Australia 2017-2027 (DoEE, 2017c)	Marine debris Light pollution Habitat modification Vessel disturbance Noise interference
Green turtle		
Leatherback turtle		
Hawksbill turtle		
Flatback turtle		
All turtles	Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans (DoEE, 2018)	Marine debris (plastics)
	National Light Pollution Guidelines for Wildlife including marine turtles, seabirds and migratory shorebirds	Artificial light

Leatherback turtle (EPBC Act; Endangered, listed migratory)

The leatherback turtle (*Dermochelys coriacea*) is a pelagic feeder found in tropical, sub-tropical, and temperate waters throughout the world. Whilst it is less abundant off the northern Australian continental shelf, it is occasionally sighted in the Gulf of Carpentaria and near the Cobourg Peninsula (460 km northeast of the impacts EMBA) (DSEWPC, 2012).

No major nesting has been recorded in Australia, with isolated nesting recorded in Queensland and the NT (DSEWPC, 2012). The closest confirmed inter-nesting site for the leatherback turtle is at Cobourg Peninsula (DCCEEW, 2024b).

Leatherback turtles forage on pelagic soft bodied creatures (such as jellyfish, squid, salps, siphonophores and tunicates) all year round in Australian waters (DCCEEW, 2024b). No habitat critical to the survival of the leatherback turtle or BIAs occurs within the impacts or flaring EMBA.

Loggerhead turtle (EPBC Act: Endangered, listed migratory)

The loggerhead turtle (*Caretta caretta*) has a global distribution throughout tropical, sub-tropical and temperate waters. In Australia, the loggerhead turtle occurs in waters of coral and rocky reefs, seagrass beds, and muddy bays throughout eastern, northern and WA (DCCEEW, 2024b).

While nesting is mainly concentrated on sub-tropical beaches in southern Queensland and from Shark Bay to the North West Cape in WA between November and March, foraging is more widespread. Loggerhead turtles show fidelity to both their foraging and breeding areas and can migrate over 2,600 km between the two (DCCEEW, 2024b). The WA stock forage from Shark Bay through to Arnhem Land, NT (DCCEEW, 2024b).

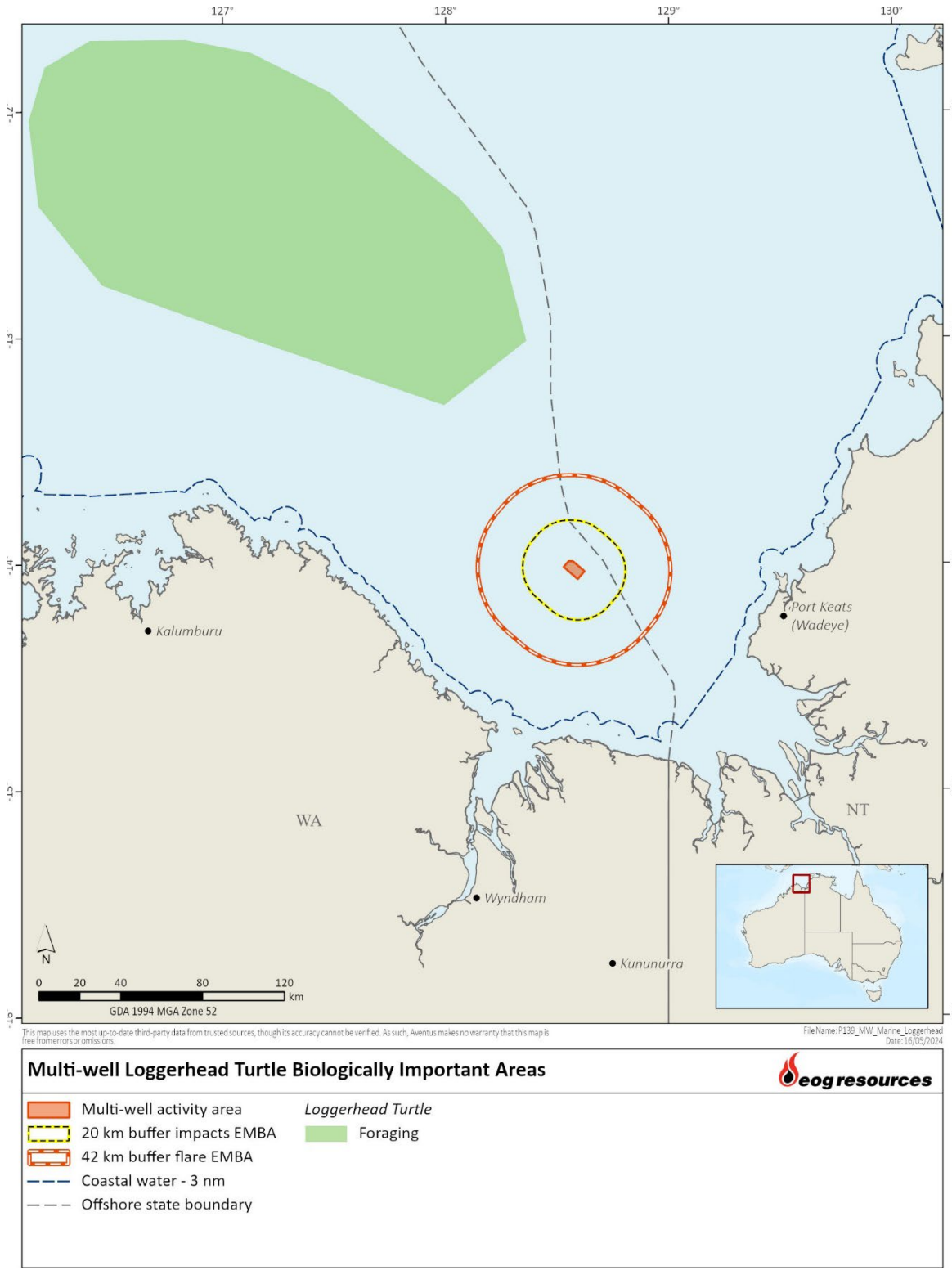


Figure 5.25. Loggerhead turtle BIA near the impacts and flaring light EMBAs

Juveniles feed on algae, pelagic crustaceans, molluscs and flotsam, whilst as an adult the species feeds on gastropod molluscs, clams, jellyfish, starfish, coral, crabs and fish (DCCEEW, 2024b). Loggerhead turtles are known to forage around the pinnacles of the Bonaparte Basin and the carbonate bank and terrace system of the Sahul Shelf KEFs. The foraging BIA for the loggerhead turtle is not intersected by the flaring or impacts EMBA (Figure 5.25).

No habitat critical to the survival of the loggerhead turtle occurs within the impacts or flaring EMBA. Given the proximity of the foraging BIA, it is likely that loggerhead turtles will be present in both the impacts and flaring EMBA.

Green turtle (EPBC Act: Vulnerable, listed migratory)

Green turtles (*Chelonia mydas*) nest, forage and migrate across tropical northern Australia (DCCEEW, 2024b) and are commonly found foraging and nesting in the Gulf of Carpentaria (DSEWPC, 2012). In WA, nesting is between November and March and green turtles can migrate over 2,600 km between their feeding and nesting grounds (DCCEEW, 2024b). The pinnacles of the Bonaparte Basin are thought to be a KEF where green turtles move between foraging and nesting grounds (DSEWPC, 2012). The species primarily forages in shallow benthic habitats (<10 m) such as tropical tidal and subtidal coral and rocky reef habitat or inshore seagrass beds, feeding on seagrass beds or algae mats (Hazel *et al*., 2009; DCCEEW, 2024b). Large feeding aggregations of green turtles are present at Ashmore Reef and is the only reef recorded on the Sahul Shelf where such large numbers of green turtles gather to feed.

The NCVA identifies that the impact and flaring EMBAs overlap with a foraging BIA for this species (Figure 5.26). The closest nesting and inter-nesting BIAs are located 286 km west of the impacts EMBA along the northwest Kimberley coastline. Within foraging areas, adult green turtles feed on seagrass, sponges and algae (DCCEEW, 2024b).

No habitat critical to the survival of the green turtle occurs within the impacts or flaring EMBA.

Flatback turtle (EPBC Act: Vulnerable, listed migratory)

The flatback turtle (*Natador depressus*) is only found in Australian waters and some nearby waters in Indonesia and Papua New Guinea. It nests and forages in northern Australia. Breeding occurs all year round; however, in northern Australia most nesting occurs between June and August (DCCEEW, 2024b). Flatback turtle nesting is widespread across the islands and mainland beaches east of Dampier Peninsula in winter, with Cape Domett (87 km south of the impacts EMBA) reported to support the highest density (Whiting *et al*., 2008). Flatback turtles nest at Cape Domett throughout the year. The Recovery Plan for Marine Turtles in Australia 2017 -2027 (DoEE, 2017c) notes that the peak nesting period at Cape Domett is July to September. The Cape Domett nesting population appears to be one of the largest known nesting populations of this species, with an estimated yearly population in the order of several thousand turtles (Whiting *et al*., 2008).

The 60 km inter-nesting buffer for flatback turtles in the Recovery Plan for Marine Turtles in Australia (DoEE, 2017c) is based primarily on the movements of tagged inter-nesting flatback turtles along the North West Shelf reported by Whittock et al (2014). However, these movements were confined to longshore movements in nearshore coastal waters or travel between island rookeries and the adjacent mainland (Whittock *et al*., 2014).

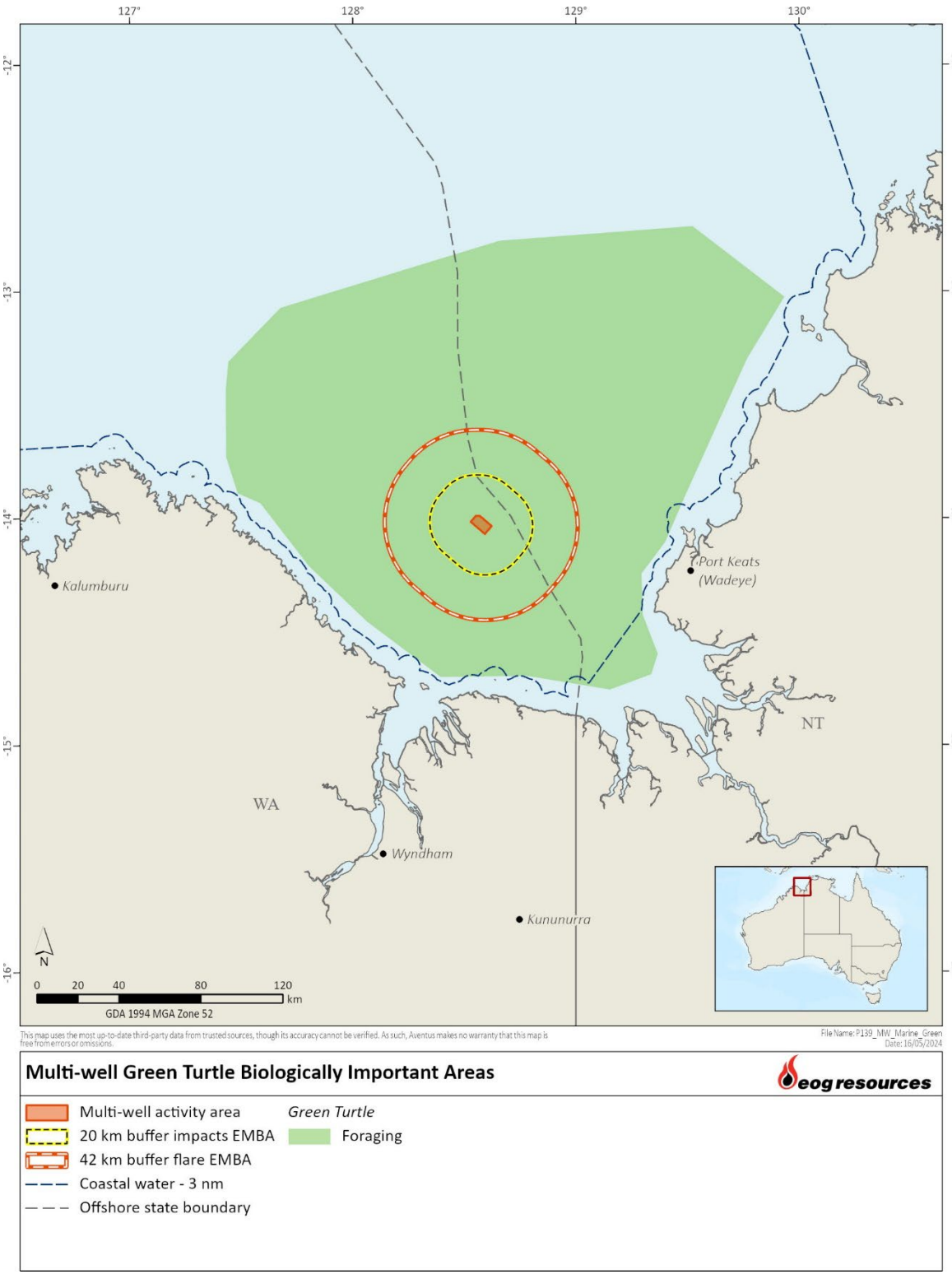


Figure 5.26. Green turtle BIA overlapped by the impacts and flaring light EMBAs

There is no evidence to date to indicate flatback turtles swim out into deep offshore waters during the inter-nesting period. Flatback turtle hatchlings do not have an offshore pelagic phase. Instead, hatchlings grow to maturity in shallow coastal waters thought to be close to their natal beaches (DoEE, 2017c). Flatback turtle hatchlings do not undertake oceanic migrations like the juveniles of other turtle species do, but spend their juvenile life phase within continental shelf waters. Both the impacts and flaring EMBAs intersect an inter-nesting BIA, as illustrated in Figure 5.27.

Adult flatback turtles are primarily carnivorous, feeding on soft-bodied invertebrates. Juveniles eat gastropod molluscs, squid, siphonophores, and limited data indicate that cuttlefish, hydroids, soft corals, crinoids, molluscs and jellyfish are also eaten (DCCEEW, 2024b). The species has been recorded foraging in depths less than 10 m to over 40 m on the carbonate bank and terrace system of the Sahul Shelf KEF and around the pinnacles of the Bonaparte Basin KEF.

The impacts EMBA is on the cusp of an area identified as habitat critical to the survival of the flatback turtle, and the flaring EMBA overlaps a small portion of habitat critical to the survival of the flatback turtle as illustrated in Figure 5.27. The habitat critical to the survival of the flatback turtle refers to nesting activity that occurs between August to September.

Olive Ridley turtle (EPBC Act: Endangered, listed migratory)

The olive ridley turtle (*Lepidochelys olivacea*) has a worldwide tropical and sub-tropical distribution and is known to occur in both WA and the NT (DSEWPC, 2012c). While nesting has been recorded in WA, it is far more common in the NT (DSEWPC, 2012).

Although olive ridley turtles nest all year round, nesting activity peaks around April to November, with the majority of nesting occurring from the Arnhem Land coast (including Bathurst Island, outside the EMBA) to the northwest coast of Cape York Peninsula (outside of the EMBA) (DSEWPC, 2012). After nesting, Olive Ridley turtles are known to migrate up to 1,050 km to various foraging areas (DCCEEW, 2024b), including the pinnacles of the Bonaparte Basin and the carbonate bank and terrace system of the Sahul Shelf KEF (DSEWPC, 2012).

The olive ridley turtle is known to primarily forage in soft-bottom habitats ranging in depths from 6 – 35 m, though they are also known to forage in pelagic waters (DEWHA 2008a). Adult turtles forage for crabs, shrimp, tunicates, jellyfish, salps and algae in depths ranging from several metres to over 100 m (DCCEEW, 2024b). The impacts and flaring EMBAs do not overlap with any identified habitat critical to the survival of the olive ridley turtle (Figure 5.28) with the waters surrounding Bathurst Island being the closest area of habitat critical to the survival of this species. The NCVA identifies that the impacts and flaring EMBAs overlap with a foraging BIA for this species (Figure 5.28); hence it is possible that individuals could be encountered in the impacts and flaring EMBAs, though nesting is unlikely to occur in the coastal sections of the impacts and flaring EMBAs.

Hawksbill turtle (EPBC Act: Vulnerable, listed migratory)

Hawksbill turtles (*Eretmochelys imbricate*) are found in tropical, sub-tropical and temperate waters in all the oceans of the world (DoEE, 2019e). The hawksbill turtle is commonly found in the NWMR, nesting extensively along the coasts and foraging in the region.

As a juvenile, the hawksbill turtle feeds on plankton and then feeds on sponges, hydroids, cephalopods, gastropods, jellyfish, seagrass and algae as an adult (DCCEEW, 2024b). The species is also highly migratory, moving up to 2,400 km between foraging and breeding areas (DSEWPC, 2012).

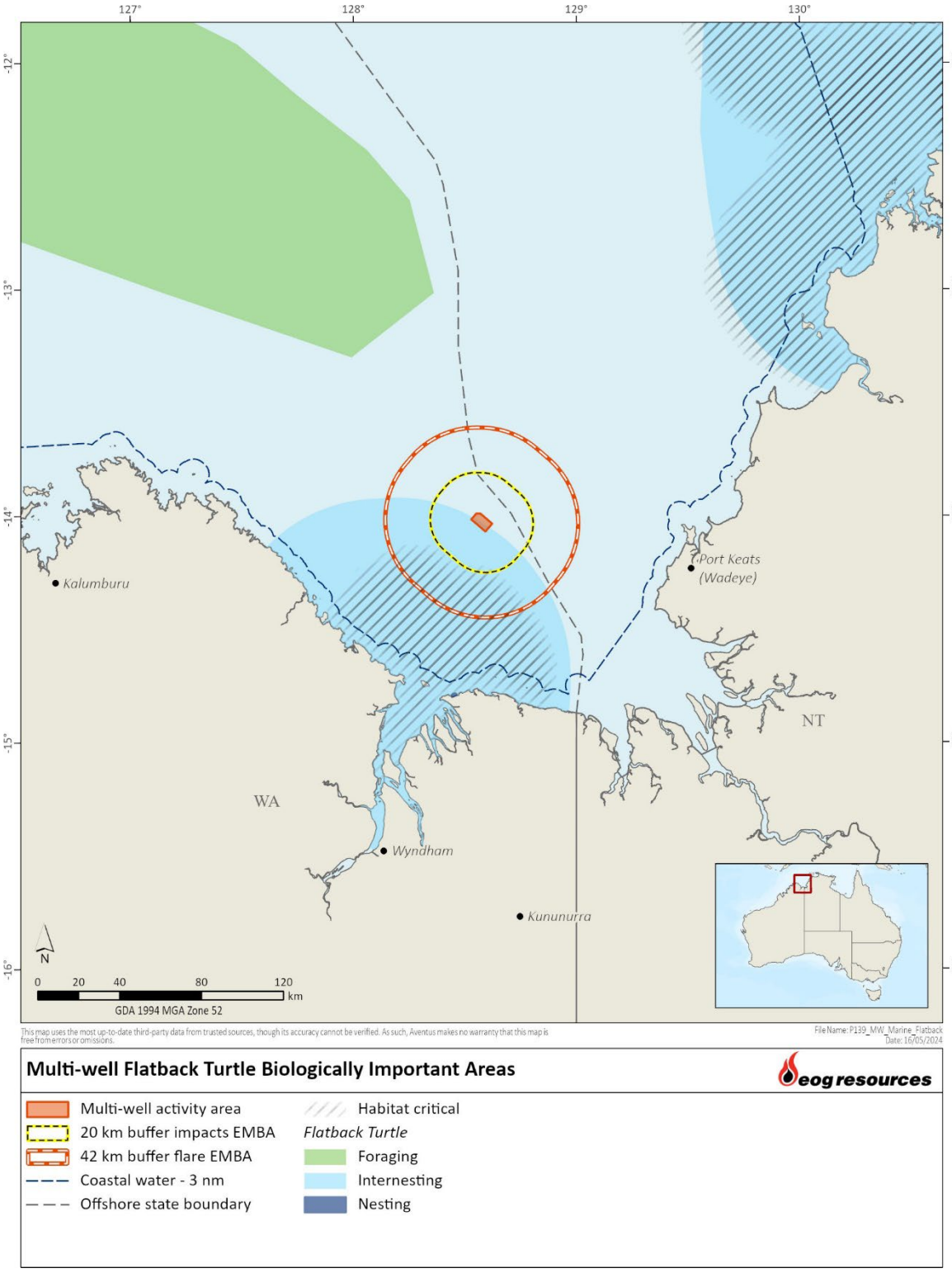


Figure 5.27. Flatback turtle BIA and habitat critical overlapped by the impacts and flaring light EMBAs

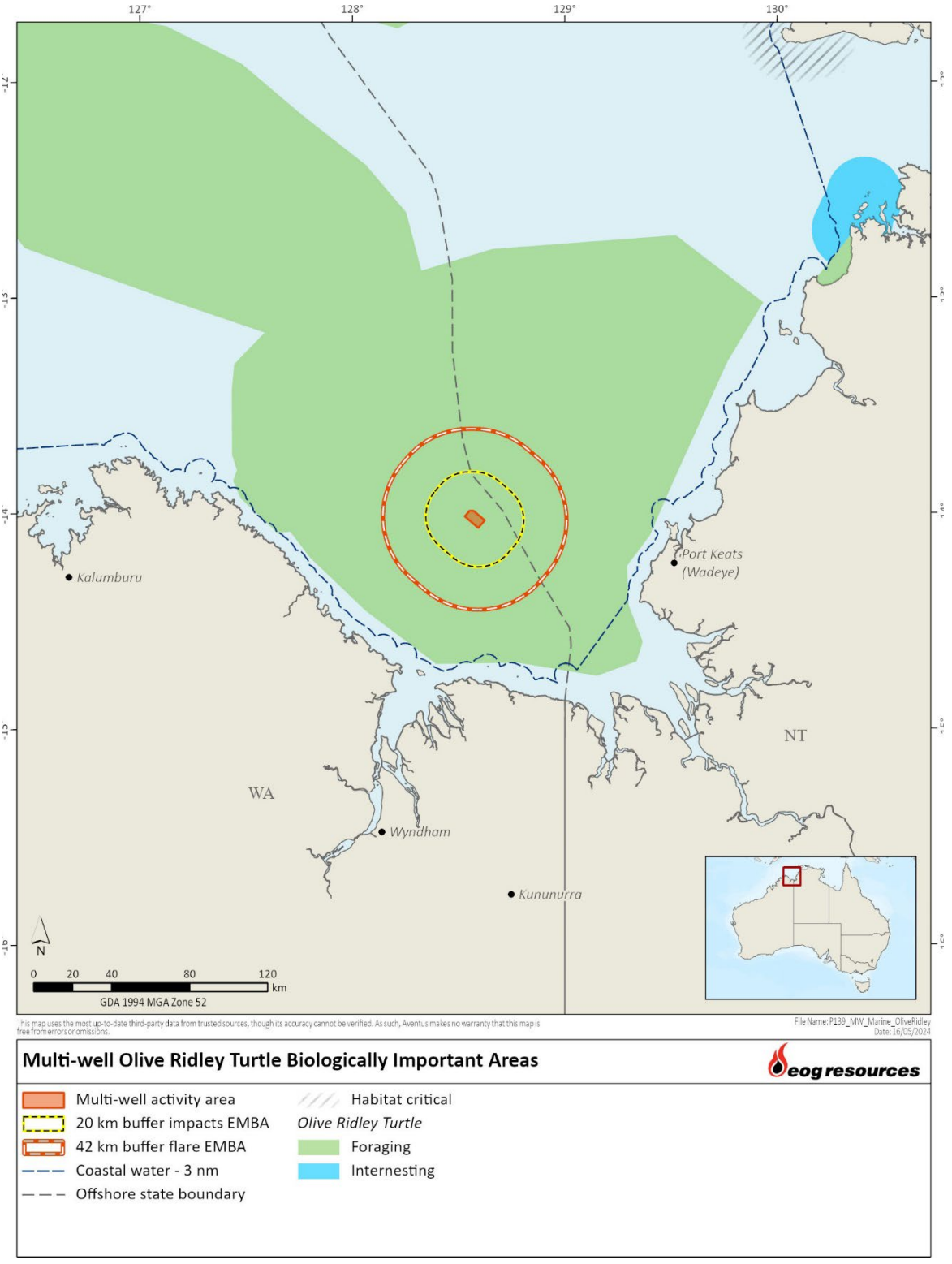


Figure 5.28. Olive Ridley turtle BIA and habitat critical overlapped by the impacts and flaring light EMBAs

Due to genetic variability, Australia's population is considered to comprise two distinct stocks; one in WA and the other in the northeast of Australia (DSEWPC, 2012). These distinct populations are also known to have significantly different breeding seasons.

Hawksbill turtles forage in waters ranging from 1.5 m to 84 m deep, and Fossette et al (2021) report that 17% of satellite tagged turtles (total n=42) foraged in waters greater than 20 m. Fossette et al (2021) reported less than a quarter of foraging area overlapped with designated foraging BIAs for hawksbill turtles (none of which are intersected by the flaring or impacts EMBA) and/or Commonwealth and State-managed protected areas.

The northeast sub-population breeds throughout the year with a peak nesting period during July to October (DSEWPC, 2012), while in the WA population breeding peaks around October to January. There are no BIAs or habitat critical to the survival for the species located within the impacts or flaring EMBAs. The species may be encountered in the impacts and flaring EMBAs as transient individuals.

Saltwater crocodile (EPBC Act: Listed migratory)

The saltwater crocodile (*Crocodylus porosus*) is distributed from King Sound, WA throughout coastal NT to Rockhampton in Queensland, where it can be found in coastal waters, estuaries, lakes, inland swamps and marshes up to 150 km inland from the coast (DCCEEW, 2024b).

Preferred nesting habitat of the saltwater crocodile includes elevated, isolated freshwater swamps that do not experience the influence of tidal movements. Floating rafts of vegetation also provide important nesting habitat. In the NT, most nest sites are found on the northwest banks of rivers (DCCEEW, 2024b). The species nest during the wet season with peak nesting during January and February. While sightings of saltwater crocodiles far out to sea have been recorded, it is more likely to be encountered in coastal areas than in the impacts EMBA.

Sea snakes

Sea snakes occur in tropical and subtropical waters around the world and are reported to occur in offshore and nearshore waters in northern Australia, mostly in shallower waters around reefs and inshore environments (DEWHA, 2008b).

Of the 17 species of sea snake listed in the PMST that may occur in the impacts area, the leaf-scaled sea snake (*Aipyurus foliosquama*) is listed as Critically Endangered due to its restricted geographic range and severe reduction in numbers from 2000-2010 caused by coral reef bleaching, which reduces fish diversity and abundance and therefore a food source (DSEWPC, 2010). Unsustainable and illegal fishing are reported as the most significant direct threat to this species (DSEWPC, 2010).

This species is most likely to occur along the WA coast from Shark Bay north to the Eighty Mile Beach (outside the impacts EMBA), and less likely from there north to the western part of the JBG (also outside the impacts EMBA). The leaf-scaled sea snake occurs mostly on reef flats or in shallow waters of outer reef edges to depths of 10 m, and is known from Ashmore and Hibernia reefs (600 km west of the impacts EMBA) (DSEWPC, 2010). The habitat preferences of the leaf-scaled sea snake means it is not likely to occur in the impacts EMBA.

5.4.7. Avifauna

There are 12 bird species listed in the PMST that may or likely will occur within the impacts EMBA (Table 5.14), and the flaring EMBA includes an additional species; the lesser crested tern (*Thalasseus bengalensis*) (DCCEEW, 2024a). Five of the birds are listed as threatened. The birds

listed in Table 5.14 are listed in the following international conventions that aim to protect the birds themselves and their habitat:

- Republic of Korea Migratory Birds Agreement 2006 (ROKAMBA);
- Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment 1986 (CAMBA);
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979;
- Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment 1974 (JAMBA); and
- Convention on Wetlands of International Important especially as Waterfowl Habitat 1971 ('Ramsar Convention', see also Section 5.4.4).

Seabirds that occur within Australia or migrate regularly are considered in the Wildlife Conservation Plan (WCP) for Seabirds 2020 (Commonwealth of Australia, 2020). The plan seeks to facilitate the protection and conservation of EPBC Act listed seabirds (excluding those that are threatened).

Figure 5.29 illustrates the likely temporal presence and absence and ecological stages of these bird species in the impacts EMBA. The species listed as threatened are described here. In brief, the six seabird species listed in Table 5.14 (the frigatebirds, common noddy, tropic birds and streaked shearwater) are birds with widespread global distributions and no breeding in or near the impacts EMBA. The flaring EMBA is in proximity to a breeding BIA for the lesser crested tern which is described in this section.

Red-tailed tropicbird (EPBC Act: Endangered, Listed Migratory)

In December of 2023 the red-tailed tropic bird (*Phaethon rubricauda westralis*) became listed as endangered. The red-tailed tropic bird is a medium-sized seabird with a body length of around 100 cm. Adult birds are mainly white with a bright red bill and very long red tail streamers. The red-tailed tropicbird is pelagic and can be found in tropical and subtropic parts of the Indian Ocean, preferring water salinity to be less than 35% and surface temperatures between 24 to 30 °C. They feed on fish and cephalopods, foraging by plunging into the water, or capturing flying fish in flight (DCCEEW, 2023a). The red-tailed tropic bird has a wide distribution across eastern Indian Ocean when not breeding.

Major threats include predation of eggs and climate change (including extreme weather events) (DCCEEW, 2023a). The red-tailed tropic bird may be present within the impacts or flaring EMBA.

Sharp-tailed sandpiper (EPBC Act: Vulnerable, Listed Migratory)

In January of 2024 the sharp-tailed sandpiper (Calidris acuminata) became listed as vulnerable.

Sharp-tailed sandpipers are small birds only weighing around 65 g. The species utilises fresh and hypersaline environments, feeding along the edge of water on mudflats, coastal and inland wetlands, and sewage ponds. Their diet comprises mostly of seeds, worms, molluscs, crustaceans, and insects, which they prey on by pecking and jabbing their beak into muddy substrate. The

sharp-tailed sandpiper is migratory, breeding in northern Siberia and moving to non-breeding areas south of the Equator. Sharp-tailed sandpipers breed from June to August (DCCEEW, 2024d).

In Australia, the major threat to sharp-tailed sandpipers is the increasing frequency and severity of drought. Due to their habitat preferences, it is unlikely that that the Sharp-tailed sandpiper will be present within the impacts or flaring EMBA (DCCEEW, 2024d).

Red knot (EPBC Act: Vulnerable, Listed Migratory)

The red knot (*Calidris canutus*) is a small migratory shorebird that is common in all the main suitable habitats around the coast of Australia and with a global distribution and extremely large range (TSSCa, 2016). Very large numbers are regularly recorded in northwest Australia, with Eighty Mile Beach and Roebuck Bay being particular strongholds. In WA, it is widespread on the coast from Ningaloo Reef and Barrow Island to the southwest Kimberley coastline. In the NT it is mainly recorded in Darwin. Red knots feed in intertidal mudflats or sandflats exposed during low tide and during high tide, they feed in lakes and other inundated areas (TSSCa, 2016). They roost on sandy beaches, spits and islets and mudflat (TSSCa, 2016).

The species does not breed in Australia. Based on its habitat preferences, this species is not likely to occur within the impacts or flaring EMBAs but may fly over them.

Curlew sandpiper (EPBC Act: Critically Endangered, Listed Migratory)

The curlew sandpiper (*Calidris ferruginea*) is a migratory species with a global distribution and in Australia, they occur around the coasts and is also quite widespread inland, though in smaller numbers (TSSC, 2015e). They are rarely recorded in the northwest Kimberley, around Wyndham and Lake Argyle, and in the NT, they are mostly recorded around Darwin, north to Melville Island and Cobourg Peninsula (TSSC, 2015e). Curlew sandpiper habitat in Australia occurs in intertidal mudflats in sheltered coastal areas and non-tidal swamps, lakes and lagoons close to the coast, where they feed on invertebrates and seeds (TSSC, 2015e). The main threats to the species are human disturbance, habitat loss and degradation from pollution, altered water regimes and invasive plants (TSSC, 2015e).

The species does not breed in Australia. Based on its habitat preferences, this species is not likely to occur within the impacts or flaring EMBAs but may fly over them.

Eastern curlew (EPBC Act: Critically Endangered, Listed Migratory)

The eastern curlew (*Numenius madagascariensis*) is the world's largest migratory shorebird, with a wingspan of 110 cm (DoE, 2015c). It does not breed in Australia and while here, it has a coastal distribution around the whole country (DoE, 2015c). Eastern curlews feed on crustaceans and insects in soft sheltered intertidal sandflats or mudflats, open and without vegetation or covered with seagrass, often near mangroves, on saltflats and in saltmarsh, rockpools and among rubble on coral reefs, and on ocean beaches near the tideline (DoE, 2015c). They typically roost in large flocks on sandy spits, sandbars and islets and among coastal vegetation (DoE, 2015c). During the non-breeding season in Australia, they feed mainly on crustaceans and insects (DoE, 2015c). Based on its habitat preferences, the eastern curlew is not likely to occur within the impacts or flaring EMBAs but may fly over them.

Lesser crested tern (EPBC Act: Listed Migratory)

The lesser crested tern (*Sterna bengalensis*) inhabits tropical and sub-tropical sandy and coral coasts and estuaries (DSEWPC, 2012). In Australia, lesser crested terns are found on coasts and in

coastal waters, primarily in northern Australia. The species occurs around most of the NT, with the highest density of confirmed sightings along the coast to the south-west of Darwin (DSEWPC, 2012).

The species breeds on low-lying islands, coral flats, sandbanks and flat sandy beaches, and may move nesting sites from one year to the next (DSEWPC, 2012). Lesser crested terns forage for small pelagic fish and prawns in the surf and over offshore waters in areas of reef and deeper shelf waters (DSEWPC, 2012). The lesser crested tern is listed as having a 'known occurrence' within the flaring EMBA, and a breeding BIA is also present in proximity (approximately 12 km west) of the flaring EMBA (Figure 5.30). It is likely the lesser crested tern occurs within the flaring EMBA but not the impacts EMBA.

Table 5.14. EPBC Act-listed bird species that may occur in the impacts EMBA

Scientific name	Common name	EPBC Act Status			Type of presence in impacts EMBA	Type of presence in flaring EMBA	BIA intersected by impacts EMBA?	BIA intersected by flaring EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine					
Seabirds									
Anous stolidus	Common noddy	-	Yes	Yes	May occur	May occur	No	No	WCP
Calonectris leucomelas	Streaked shearwater	-	Yes	Yes	Likely	Likely	No	No	WCP
Fregata ariel	Lesser frigatebird	-	Yes	Yes	Likely	Likely	No	No	WCP
Fregata minor	Great frigatebird	-	Yes	Yes	May occur	May occur	No	No	WCP
Phaethon lepturus	White-tailed tropicbird	-	Yes	Yes	May occur	May occur	No	No	WCP
Phaethon rubricauda westralis	Red-tailed tropicbird	E	-	-	May occur	Likely	No	No	WCP
Shorebirds/wetland species									
Actitis hypoleucos	Common sandpiper	-	Yes	Yes	May occur	May occur	No	No	-
Calidris acuminata	Sharp-tailed sandpiper	V	Yes	Yes	May occur	May occur	No	No	CA
Calidris canutus	Red knot	V	Yes	Yes	May occur	May occur	No	No	CA
Calidris ferruginea	Curlew sandpiper	CE	Yes	Yes	May occur	May occur	No	No	CA
Calidris melanotos	Pectoral sandpiper	-	Yes	Yes	May occur	May occur	No	No	-
Numenius madagascariensis	Eastern curlew	CE	Yes	Yes	May occur	May occur	No	No	CA
Thalasseus bengalensis	Lesser crested tern	-	-	Yes	-	Known	No	Yes*	-

Key is the same as per Table 5.8.

**a breeding BIA for the lesser crested tern was detected by the PMST within the flaring EMBA, however, the NCVA & GIS data determined that the BIA is not overlapped, but within proximity see Figure 5.30.*

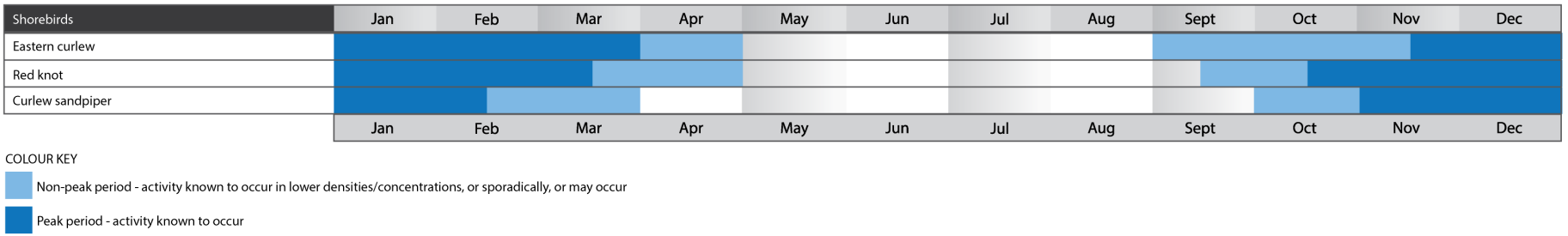


Figure 5.29. Likely temporal presence and absence of EPBC Act-listed threatened seabird species in the impacts EMBA

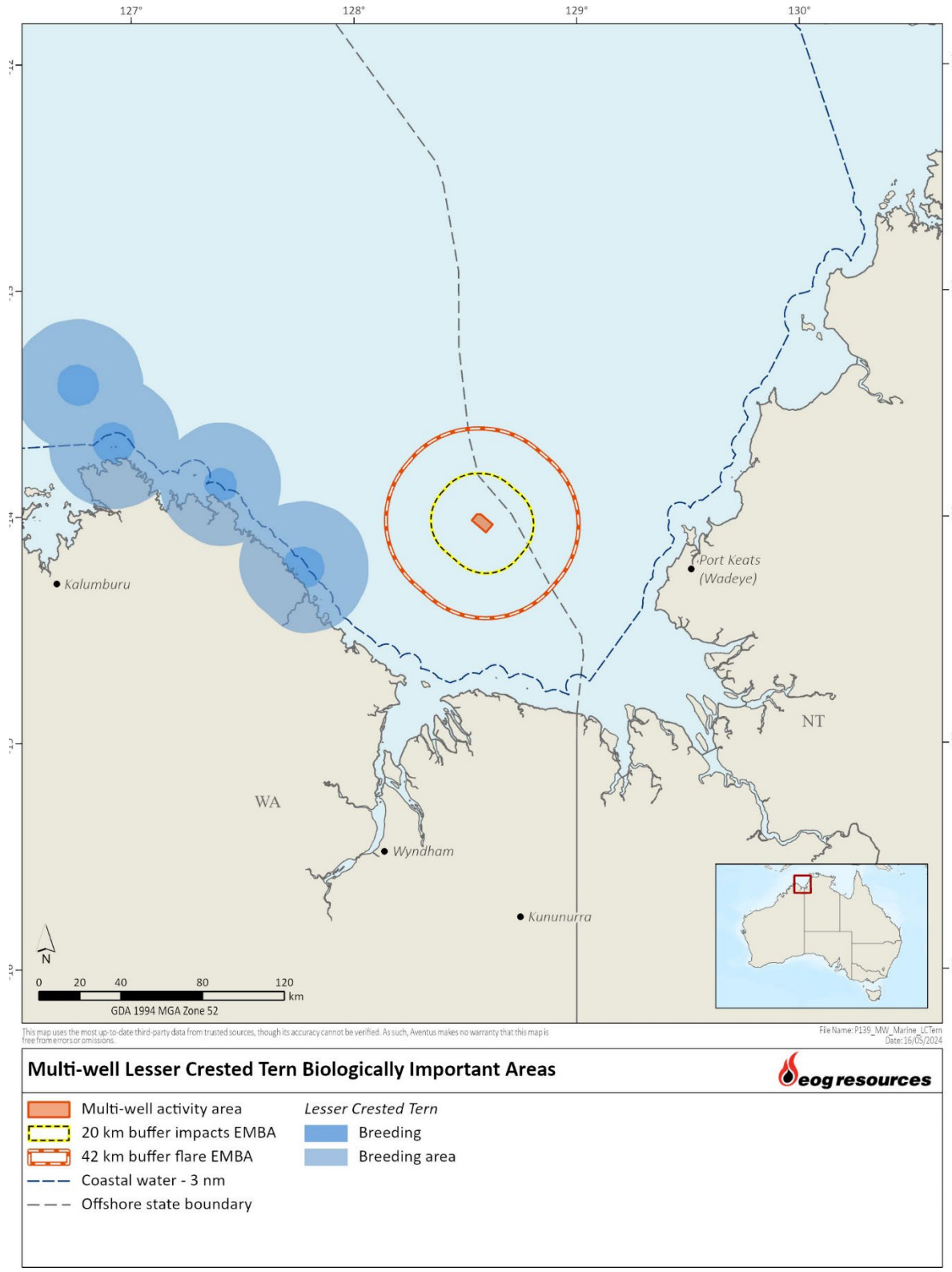


Figure 5.30. Lesser crested tern BIA in relation to the impacts and flaring light EMBA

Threats and pressures on birds

Three of the shorebirds listed in Table 5.14 are subject to pressures, which are described in various recovery plans and conservation advice. Table 5.15 summarises the pressures listed in the plans/advice relevant to each of these species that could result from drilling activities.

Table 5.15. Summary of threats to birds

Species	Recovery Plan, Management Plan or Conservation Advice	Key threat/s relevant to drilling
Red knot	Conservation advice for *Calidris canutus* (red knot) (TSSC, 2016a)	Pollution/contamination Disturbance Direct mortality (bird strike from aircraft)
Curlew sandpiper	Conservation advice for *Calidris ferruginea* (curlew sandpiper) (TSSC, 2015e)	Human disturbance Degradation from pollution
Eastern curlew	Conservation advice for *Numenius madagascariensis* (eastern curlew) (DoE, 2015c)	Human disturbance Degradation from pollution
All seabirds and shorebirds	Threat Abatement Plan for the impacts of marine debris on the 131 vertebrate wildlife of Australia's coasts and oceans (DoEE, 2018)	Marine debris (plastics)
	National Light Pollution Guidelines for Wildlife including marine turtles, seabirds and migratory shorebirds	Artificial light
All EPBC Act listed seabirds (excluding those that are threatened)	Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020)	Light pollution Acute pollution Chronic pollution Climate change Shipping

5.4.8. Marine Pests

It is widely recognised that marine pests can become invasive and cause significant impacts on economic, ecological, social and cultural values of marine environments. Impacts can include the introduction of new diseases, altering ecosystem processes and reducing biodiversity, causing major economic loss and disrupting human activities (Brusati and Grosholz, 2007).

The Marine Pests Interactive Map (DAFF, 2024) indicates that the major port likely to be used to support the activity (e.g., Darwin) is not known to harbour any marine pests. However, DAFF (2024) notes that the following species are listed to keep watch for in the Port of Darwin due to their high potential for accidental introduction:

- Asian green mussel (*Perna viridis*) – typically inhabits soft sediment bottoms from the low tide mark to shallow waters up to 42 m deep. Juveniles are bright green than turn brown in adults.
- American slipper limpet (*Crepidula fornicate*) – competes with native species for food and space and may alter sediment characteristics by removing suspended sediments from the

water column. Its likely habitat includes mud, rocks and sand within shores and shallow waters.

- Black striped false mussel (*Mytilopsis sallei*) – affects the productivity of commercial fisheries and aquaculture by competing with native species for food and space. The species usually inhabits shallow waters up to a few metres deep.
- Charru mussel (*Mytella charruana*) – successful invasive species globally due to its great dispersal ability and tolerance for a wide variety of habitats. Typically found on rocky or hard substrates in shallow waters.

5.5. Conservation Values and Sensitivities

The conservation values and sensitivities within the impacts EMBA are described in this section, with Table 5.16 providing an outline of the conservation categories described.

Table 5.16. Conservation values in the impacts EMBA

Category	Conservation classification	EP section
MNES under the EPBC Act	Australian Marine Parks (AMP)	5.5.1
	World Heritage-listed properties	5.5.2
	National Heritage-listed places	5.5.3
	Wetlands of international importance	5.5.4
	Nationally threatened species and threatened ecological communities	5.4
	Migratory species	5.4
	Great Barrier Reef Marine Park	Not applicable.
	Nuclear actions	Not applicable.
	A water resource, in relation to coal seam gas development and large coal mining development	Not applicable.
Other areas of national importance	Commonwealth heritage-listed places	5.5.6
	Key Ecological Features (KEF)	5.5.7
	Nationally important wetlands (NIW)	5.5.8
State protected areas	State/territory protected areas	5.5.9

5.5.1. Australian Marine Parks

The impacts EMBA does not overlap any AMPs. The closest AMP is the JBG AMP, located 10 km to the east of the impacts EMBA and 30 km east of the activity area. AMPs in the spill EMBA are described in Section 11.4.1 of **Appendix 11**.

5.5.2. World Heritage-Listed Properties

World Heritage Listed properties are examples of sites that represent the best examples of the world's cultural and heritage values, of which Australia has 20 properties (DCCEEW, 2024e). In Australia, these properties are protected under Chapter 5, Part 15 of the EPBC Act.

There are no World Heritage Properties within or adjacent to the impacts EMBA. The closest World Heritage Property is Kakadu National Park (onshore), which is located approximately 400 km northeast of the impacts EMBA. World Heritage-listed places intersected by the spill EMBA are described in Section 11.4.2 of **Appendix 11**.

5.5.3. National Heritage-Listed Properties

The National Heritage List is Australia's list of natural, historic and Indigenous places of outstanding significance to the nation (DCCEEW, 2024f). These places are protected under Chapter 5, Part 15 of the EPBC Act.

There are no National Heritage-listed places within or adjacent to the impacts EMBA. The closest National Heritage Place is the 'West Kimberley', which is located 50 km south-southwest of the impacts EMBA and 70 km south-southwest of the activity area.

National Heritage-listed places intersected by the spill EMBA are described in Section 11.4.3 of **Appendix 11**.

5.5.4. Wetlands of International Importance

Australia has 66 wetlands of international importance ('Ramsar wetlands') that cover more than 8.3 million hectares (as of September 2021) (DCCEEW, 2024g). Ramsar wetlands are those that are representative, rare, or unique wetlands, or are important for conserving biological diversity, and are included on the List of Wetlands of International Importance developed under the Ramsar Convention. These wetlands are protected under Chapter 5, Part 15 of the EPBC Act.

There are no Ramsar wetlands within or adjacent to the impacts EMBA. The closest Ramsar wetland is the 'Ord River Floodplain', which is located 66 km south of the impacts EMBA and 85 km south of the activity area.

Ramsar wetlands intersected by the spill EMBA are described in Section 11.4.4 of **Appendix 11**.

5.5.5. Threatened Ecological Communities

The Australian Government is responsible for identifying and protecting MNES through the EPBC Act. Threatened Ecological Communities (TECs) are a MNES under the EPBC Act. TECs provide wildlife corridors and/or habitat refuges for many plant and animal species, and listing a TEC provides a form of landscape or systems-level conservation (including threatened species).

There are no TECs within or adjacent to the impacts EMBA. The closest TEC is the 'Arnhem Plateau Sandstone Shrubland Complex' (located onshore), which is located 340 km east of the impacts EMBA and 360 km east of the activity area.

TECs intersected by the spill EMBA are described in Section 11.4.5 of **Appendix 11**.

5.5.6. Commonwealth Heritage-listed Places

Commonwealth Heritage-listed places are natural, indigenous and historic heritage places owned or controlled by the Commonwealth (DCCEEW, 2022h). In Australia, these properties are protected under Chapter 5, Part 15 of the EPBC Act.

There are no Commonwealth Heritage-listed places within or adjacent to the impacts EMBA. Commonwealth Heritage-listed places intersected by the spill EMBA are described in Section 11.4.6 of **Appendix 11**.

5.5.7. Key Ecological Features

KEFs are components of the marine ecosystem that are considered to be important for biodiversity or ecosystem function and integrity of the Commonwealth Marine Area. There are no KEFs within or adjacent to the impacts EMBA. The closest KEF is the 'Carbonate bank and terrace system of the Sahul Shelf', which is located 1 km west of the impacts EMBA and 21 km west of the activity area. KEFs intersected by the spill EMBA are described in Section 11.4.7 of **Appendix 11**.

5.5.8. Nationally Important Wetlands

NIWs are considered significant for a variety of reasons, including their importance for maintaining ecological and hydrological roles in wetland systems, providing important habitat for animals at a vulnerable or particular stage in their life cycle, supporting 1% or more of the national population of any native plant or animal taxa or for its outstanding historical or cultural significance (DCCEEW, 2022i).

There are no NIWs within or adjacent to the impacts EMBA. The closest NIW is the Ord Estuary System, which is located 68 km south west of the impacts EMBA and 88 km south west of the activity area.

NIWs intersected by the spill EMBA are described in Section 11.4.8 of **Appendix 11**.

5.5.9. State/Territory Protected Areas

The impacts EMBA does not overlap any State- or Territory-managed protected areas. State and territory marine protected areas intersected by the spill EMBA are described in Section 11.4.9 of **Appendix 11**.

5.6. Cultural Heritage Values

Cultural heritage includes both tangible and intangible values. Non-tangible cultural heritage includes oral traditions, performing arts, social practices, rituals, festive events, knowledge, and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts (UNESCO, 2022). Tangible cultural heritage includes artefacts, monuments, a group of buildings and sites and museums that have a diversity of values including symbolic, historic, artistic, aesthetic, ethnological or anthropological, scientific, and social significance. Cultural heritage also captures natural heritage such as culturally significant landscapes (UNESCO, 2009).

A search of the WA inHerit cultural heritage database (Government of Western Australia, 2021) and the NT Heritage Register (NT Heritage Council, 2023) does not identify any cultural heritage places within the proposed location of the activity area or within the impacts EMBA. A description of cultural heritage sites within the spill EMBA based on these database searches is presented in Section 11.5 of **Appendix 11**.

This section describes the cultural heritage values of the impacts EMBA, which are broadly categorised as Indigenous and non-Indigenous (maritime archaeology).

The spill EMBA has the potential to encounter areas containing important cultural features to First Nations peoples. There are many HCPs that encompass the spill EMBA, and information from those HCPs is included in Section 11.5.3 of **Appendix 11**.

5.6.1. Underwater Cultural Heritage

The World Heritage Convention (UNESCO, 2011) defines cultural heritage as:

- Monuments - architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations, which are of Outstanding Universal Value from the point of view of history, art or science.
- Groups of buildings - groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of Outstanding Universal Value from the point of view of history, art or science.
- Sites - works of man or the combined works of nature and man, and areas including archaeological sites which are of Outstanding Universal Value from the historical, aesthetic, ethnological or anthropological point of view.

Underwater cultural heritage as defined under section 15 of *the Underwater Cultural Heritage Act 2018* (Cth) means any trace of human existence that has a cultural, historical, or archaeological character; and is located under water. A trace of human existence includes: sites, structures, buildings, artefacts and human and animal remains, together with their archaeological and natural context, and vessels, aircraft and other vehicles or any part thereof, together with their archaeological and natural context, and articles associated with vessels, aircraft or other vehicles, together with their archaeological and natural context.

First Nations Underwater Cultural Heritage (FNUCH) is defined in the draft *Guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage* (DCCEEW, 2023b) as any trace of human existence that has a cultural, historical, or archaeological character, is located underwater, and relates to the Aboriginal or Torres Strait Islander occupation of Australia.

In July 2022, EOG undertook a geophysical survey in proximity to the multi-well location. EOG subsequently commissioned Cosmos Archaeology to undertake a desktop-based assessment of First Nations tangible underwater cultural heritage (UCH) (Cosmos Archaeology, 2023), in part using data from the geophysical survey. This report is available in **Appendix 12** and the following information is derived from this report.

Around the time of first human arrival around 65,000 years ago, the sea level was about 80 m lower than present, and the multi-well activity area was about 83 km inland of the ancient coastline. The multi-well activity area became a coastal environment for a period between 60,000 and 50,000 years before present and gradually become situated further inland as sea level continued to fall until the peak of the last glacial maximum around 18,000 years before present. At this time, the multi-well activity area was situated 450 km from open marine coastal environments, however it was proximal to (approximately 100 km) a large lacustrine system. The termination of the last glacial maximum saw rapid sea level rise, resulting in the multi-well location becoming inundated about 13,500 years before present.

There are no prominent positive relief features present within the vicinity of the multi-well activity area, which suggests that the palaeolandscape was subdued and likely dominated by negative relief features.

A terrestrial landform analogue to the interpreted multi-well activity area meander belt complex can be found in the lower reaches of the Ord River system, which is located approximately 168 km south of the multi-well activity area. As the land surface slope decreases, the river begins to meander with evidence of an active meander bends with advancing scroll bars and eroding cut banks. There is also evidence of older abandoned channels forming oxbow lakes. As a result of this particular geomorphic system, archaeological material situated within a meaner belt should

equally be relatively young. The Department of Planning, Land and Heritage (DPLH) archaeological site database identified a total of 8 archaeological sites along a 20 km section of the Ord River meander belt. All sites are registered as artifact scatters and would be considered to have a very low site density.

Given that multi-well activity area is located within an interpreted meander belt, which has likely been an active fluvial system across the period of occupation, this would suggest that the natural down-stream migration of these meanders would have resulted in multiple phases of erosion and deposition (recycling) of the fluvial flood plain. This would mean that archaeological material periodically deposited within a meander belt system would eventually erode and be transported downstream, or in the case of larger lithics, simply deposited at the foot of the cut bank and buried by the advancing scroll bar. This type of fluvial process might explain the very low density of archaeological sites within the lower reaches of the Ord River and if used as an analogue for the multi-well activity area meander belt, it would equally suggest a very low density of archaeological sites having formed around the multi-well activity area.

Due to the exposed nature of the multi-well activity area, the process of inundation wave and tidal energy may have further mobilised the lithic artefacts that comprised the more 'recent' sites, either dispersing or concentrating them depending on their exposure, rate of burial and micro-geomorphological context. As such, it is possible that some sites may have undergone relatively low levels of disturbance as has been demonstrated at the Dampier Archipelago (Murujuga), thereby retaining a relatively high level of archaeological integrity.

However, for the majority of exposed sites composed of artefact scatters, it can be expected that they have been dispersed or dissipated and for the most part have moved from an archaeological context towards a geomorphological/sedimentological context. This would reduce but not eliminate the archaeological/scientific values associated with these artefacts. The inherent cultural heritage values of the artefacts themselves that may be identified by the relevant First Nations stakeholders would not be diminished.

5.6.2. Information from Consultation

This section draws on information derived from the relevant persons consultation process undertaken for the Beehive-1 EP. Given the multi-well activity area encompasses the Beehive-1 location, the information gathered regarding cultural heritage values remains applicable to this activity.

Consultation specifically undertaken during the development of the Beehive-1 EP included several in-person information sessions. These meetings identified a number of particular values and sensitivities, and concerns relevant to this EP.

The Broome meeting (7 June 2023) identified that:

- Introduced species pest management (particularly example of cane toads) is an issue of importance; and
- Turtle and dugong are migratory species and important cultural animals to manage in the activity area.

The Ardyaloon meeting (8 June 2023) did not identify any concerns with this activity but did identify concerns related to offshore oil and gas in general, including:

- Hunting resources – Could an event impact freshwater hunting resources – "this is our food bowl". This includes sea country – fishing and dugong and turtle (including cultural significance of the resources).

The Kalumburu meeting (13 June 2023) identified:

- Important fishing areas for oysters, scallops, fish, crabs and sting rays;
- That marine life needs to be protected, particularly turtles, whales and mangroves;
- There are important cultural heritage resources in the area, including rock art, marine resources and camping locations along the shore; and
- That EOG should ensure that there are no negative impacts on tourism.

The Aboriginal Sea Company requested information on the processes of reporting:

- Accidental waste discharges; and
- Damage to sea life on the sea floor, such as, giant clam and any other protected or endangered species.

During the relevant persons consultation process for the Beehive-1 EP, a Tiwi Islands Land Council anthropologist stated that due to the proposed location of Beehive-1, there are no cultural impacts relating to the Tiwi Islands. As the multi-well activity area encompasses the Beehive-1 location this comment remains applicable to this activity.

EOG has sent project information to all other relevant persons and invited comments, including Native Title determination group representatives, Aboriginal land councils and other Aboriginal relevant persons intersected by the spill EMBA. To date, no information from these groups regarding the values and sensitivities of sea country have been obtained.

5.6.3. Aboriginal Heritage

First Nations people have a strong continuing connection with the area that extends back some 50,000 years. The existence of any unknown Aboriginal sites or artefacts of significance within the offshore waters of northern Australia is considered highly unlikely.

A search of the WA Department of Aboriginal Affairs' Aboriginal Heritage Inquiry System (AHIS) does not identify any registered Aboriginal heritage sites, other heritage sites or Aboriginal heritage survey areas within the proposed activity area location or impacts EMBA.

Aboriginal heritage sites within the spill EMBA are listed in Section 11.5 of Appendix 11. Information on the values and sensitivities of First Nations people closer to the coast (outside the impacts EMBA) is described in Sections 11.5.3 of Appendix 11.

Sea Country is described in Section 11.5.5 of **Appendix 11**.

5.6.4. Healthy Country Plans

There are no HCPs or publicly available data that describe the marine values within the activity area or impacts EMBA in relation to First Nation's perspective. The HCP that covers the area closest to the activity area and impacts EMBA is the Balanggarra HCP, which describes an area approximately 66 km south of the impacts EMBA.

The Balanggarra HCP 2012-2022 (BAC/KLC, 2011) describes how Balanggarra people want to look after their country. Some of the Balanggarra country has 'blue water'; from roughly north of the Forrest River drainage system and west to Kalumburu including Cape Londonderry, the Lyne, Berkeley and King George rivers, the lower Drysdale River, plus all the saltwater, the reef, and

offshore islands, including Sir Graham Moore and Governor Islands. The rest of their country is called 'brown water', which is in the southern part of their claim and takes in all the land drained by the Forrest River system, and the muddy waters and some offshore islands of the Cambridge Gulf, like Adolphus and Lacrosse Islands. Balanggarra law and culture provides the rules and responsibilities for looking after Balanggarra culture, plants, animals, people and country.

The plan identifies the most important things to be looked after as:

- Balanggarra law and culture;
- Our gra (our land and sea country);
- Cultural sites (rock art sites, burial sites, heritage places);
- Right way fire;
- Native animals (all the culturally important land animals);
- Accessible bush tucker / medicine plants;
- Freshwater (places and freshwater fish);
- Saltwater fish and seafood; and
- Migratory saltwater species (turtle, dugong, whales, dolphins).

In addition to the Balanggarra HCP, the ecological character description of the Ord River Floodplain Ramsar Site (Hale, 2008), located 70 km south of the impacts EMBA, lists the following significant Aboriginal sites within the Ramsarsite:

- Burial sites;
- Artefact scatters;
- Mythological sites;
- Quarries;
- Paintings; and
- Ceremonial sites.

Past and present socio-cultural values of the Ord River Floodplain Ramsar Site and the Balanggarra HCP are described in Section 11.5.3 of Appendix 11.

5.6.5. Maritime Archaeological Heritage

Historic shipwrecks are recognised and protected under the *Underwater Cultural Heritage Act* 2018, which aims to protect historic wrecks and associated relics. Under the Act, all wrecks more than 75 years old are protected, together with their associated relics regardless of whether their actual locations are known.

A search of the National Shipwreck and Relic database identifies no shipwrecks within the impacts EMBA. Shipwrecks within the spill EMBA are listed in Section 11.5.8 of **Appendix 11**.

5.6.6. Native Title

According to the National Native Title Tribunal (NNTT) Register, there are no Native Title determination or application areas within the impacts EMBA. The Native Title areas within the spill EMBA are described in Section 11.5.4 of Appendix 11.

5.7. Socio-economic environment

This section describes the social and economic environment of the impacts EMBA.

5.7.1. Commercial Fishing

Several Commonwealth, WA and NT commercial fisheries are licensed to operate in the impacts EMBA. These are described in the following sections.

Commonwealth-managed Fisheries

Commonwealth fisheries are managed by AFMA under the *Fisheries Management Act 1991* (Cth). Their jurisdiction covers the area of ocean from 3 nm from the coast out to the 200 nm limit (the extent of the Australian Fishing Zone [AFZ]). Commonwealth commercial fisheries with jurisdictions to fish in the impacts EMBA are the:

- Northern Prawn Fishery (NPF).
- North West Slope Trawl Fishery;
- Southern Bluefin Tuna (SBT) Fishery;
- Western Tuna and Billfish Fishery (WTBF); and
- Western Skipjack Tuna Fishery (WSTF).

Of these fisheries, only the NPF has evidence of recent (within the last three years) fishing activity in the impacts EMBA. During the relevant persons consultation process for the Beehive-1 EP, AFMA stated that the NPF has a historic catch and effort around the Beehive-1 location, catching red-legged banana prawns. The NPFI and CSIRO confirmed during the relevant persons consultation process for the Beehive-1 EP, that there is a low fishing effort/catch in the proposed Beehive-1 location, with most fishing occurring north and northwest of the proposed Beehive-1 location for adult prawns. In the absence of feedback on the multi-well activity area, and because the multi-well activity area encompasses the Beehive-1 location, these comments remain applicable to this activity.

Table 5.17 summarises the key facts and figures of the NPF and Figures 5.31(a-c) illustrates the fishery's recent fishing activity and the impacts EMBA. The multi-well activity area overlaps 0.01% of the total fishery and the impacts EMBA overlaps 0.24% of the total fishery. Commonwealth-managed fisheries intersected by the spill EMBA are described in Section 11.6.1 of **Appendix 11**.

Table 5.17. Commonwealth-managed NPF

Target species	Redleg banana prawn (*Fenneropenaeus indicus)* White banana prawn (*F. merguiensis*) Brown tiger prawn (*Penaeus esculentus*) Grooved tiger prawn (*P. semisulcatus*) Blue endeavour prawn (*Metapenaeus endeavouri*) Red endeavour prawn (*M. ensis*)
Fishing season	The NPF operates in two seasons; • First – April to June, when banana prawns are the key catch species. • Second – August to November, when tiger prawns are the key catch species.
Fishing methods, vessels and licences	Otter trawl is the primary fishing method. In the 2022 fishing season, there were 54 active vessels in the fishery. An increase of two vessels compared to 2020. The primary landing ports are Darwin (NT), Cairns and Karumba (Qld).
Catch data and other information	Catch data and economic value available for the last five years: • 2022 – 5,325 tonnes valued at $91.7 million. • 2021 – 5,390 tonnes valued at $76.6 million. • 2020 – 4,767 tonnes valued at $84.9 million. • 2019 – 8,581 tonnes valued at $117.1 million. • 2018 – 6,778 tonnes valued at $98.2 million.

Sources: Butler et al (2023), Patterson et al (2022, 2021; 2020; 2019; 2018).

Northern Prawn Fishery

Prawn species reach a commercial size at six months of age and can live for up to two years. Growth rates vary considerably between species and sexes, with females generally growing faster and to a larger size than males. The larger the prawn, the higher the price.

Most species are sexually mature at six months, but fertility increases with age. Females can produce hundreds of thousands of eggs at a single spawning at twelve months old and may spawn more than once in a season. After spawning in offshore waters, the eggs sink to the bottom after release, where they hatch into larvae within about 24 hours. Usually <1% of these offspring survive the two-to-four-week planktonic larval phase to reach suitable coastal nursery habitats where they may settle. After one to three months in the nursery grounds, the young prawns move offshore into the fishing grounds.

NPF catch in the JBG is comprised primarily of banana prawns (mainly *F. indicus* and some *F. merguiensis*), with banana prawn catch being more than double that of tiger prawns and endeavour prawns in 2019 combined (Patterson *et al*., 2020). The JBG comprises about 30,000 km^2 of the westernmost portion of the NPF (see Figure 5.31). Fishing for *F. indicus* is permitted day and night in both NPF fishing seasons. Fishing takes place in waters 35–70 m deep,

with most fishing effort between 50 m and 60 m. The trawling regime for this species is similar to the tiger prawn sub-fishery in other regions of the NPF, where the total duration of individual trawls is usually about 3 hours long. Although the JBG fishery comprises less than 5% of the area of the NPF, it contributes about 65% of the NPF's redleg banana prawn catch and around 20% of the NPF's total banana prawn catch (combined *F. merguensis* and *F. indicus*) (Loneragan *et al*., 2002).

Research to date indicates that *F. indicus* prawns spawn offshore near to the fishing area throughout the year with two spawning peaks: the late dry season (September to November) and the late wet season (March to May). The larvae move inshore and then wash out as juveniles with the wet season floods. The migration of juvenile *F. indicus* in the JBG (as described in Table 5.5) is illustrated in Figure 5.32. Loneragan et al (2002) reported that the offshore fishery for *F. indicus* occurs in water depths of 50 – 80 m in the northwestern offshore waters of the JBG, deeper than the majority of the waters of the impacts EMBA.

During the relevant persons consultation process for the Beehive-1 EP, the NPFI stated that the redleg banana prawn moves within the proposed Beehive-1 location throughout its life cycle. Larvae and postlarvae are transported south and southeast from their offshore spawning grounds where they are fished, towards their coastal nursery habitats in mangrove forest and mudbanks. The Victoria River and Forsyth Creek, along with other rivers feeding into the Cambridge Gulf, support prime estuarine habitats for prawns. Juvenile prawns then migrate back to adult prawn habitats in the northwest central region of the JBG at depths of around 60-80 m deep. In the absnce of feedback on the multi-well activity area, and because the multi-well activity area encompasses the Beehive-1 location, this comment remains applicable to this activity.

Figures 5.31a-c show the NPF fishing intensity in relation to the impacts EMBA for the past three fishing seasons with publicly available data (2020, 2021 & 2022). All three years demonstrate low fishing intensity occurs within the impacts EMBA, and 2021 demonstrates a medium fishing intensity also occurs within the impacts EMBA.

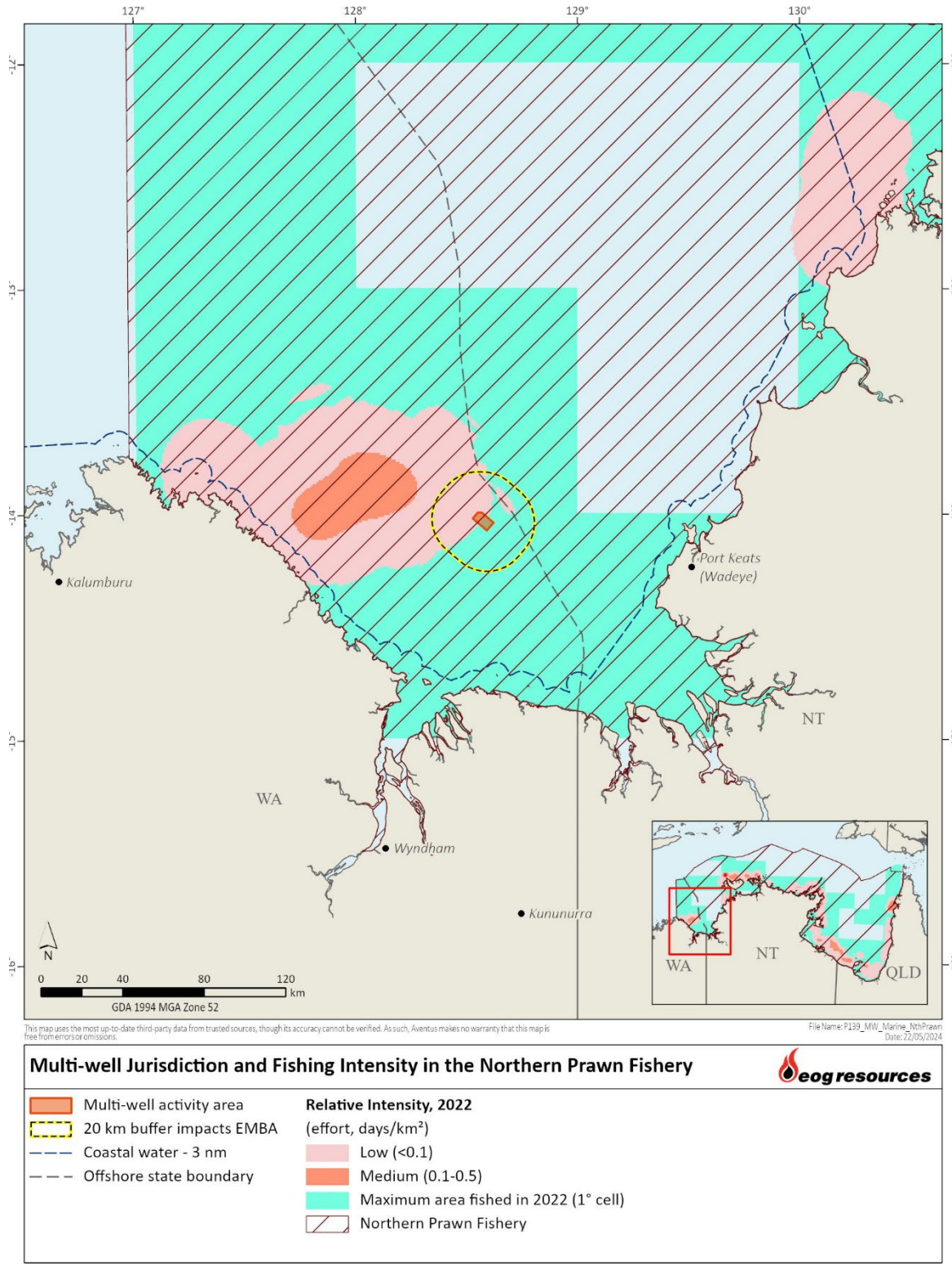


Figure 5.31a. NPF fishing intensity in the impacts EMBA (2022)

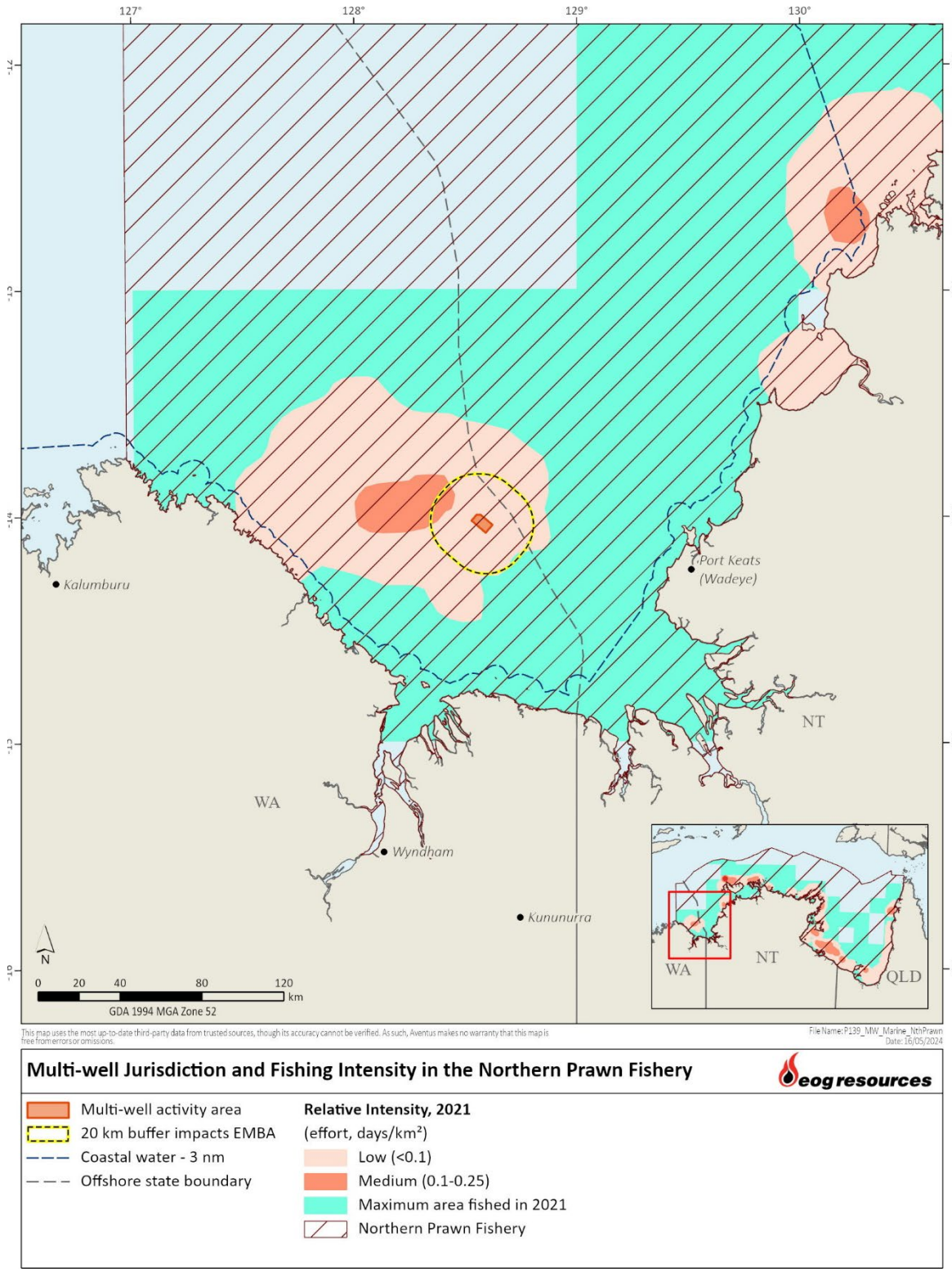


Figure 5.31b. NPF fishing intensity in the impacts EMBA (2021)

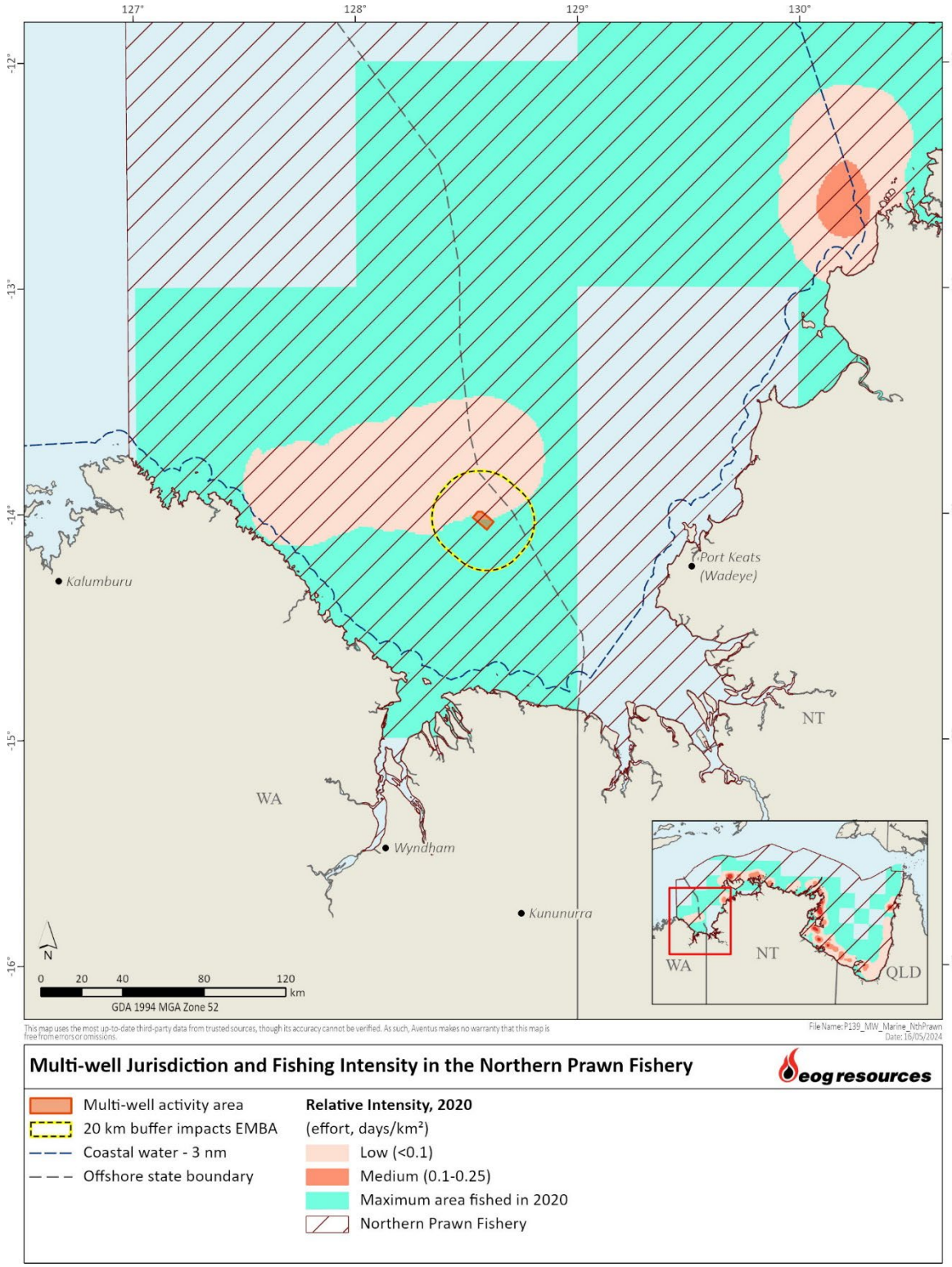
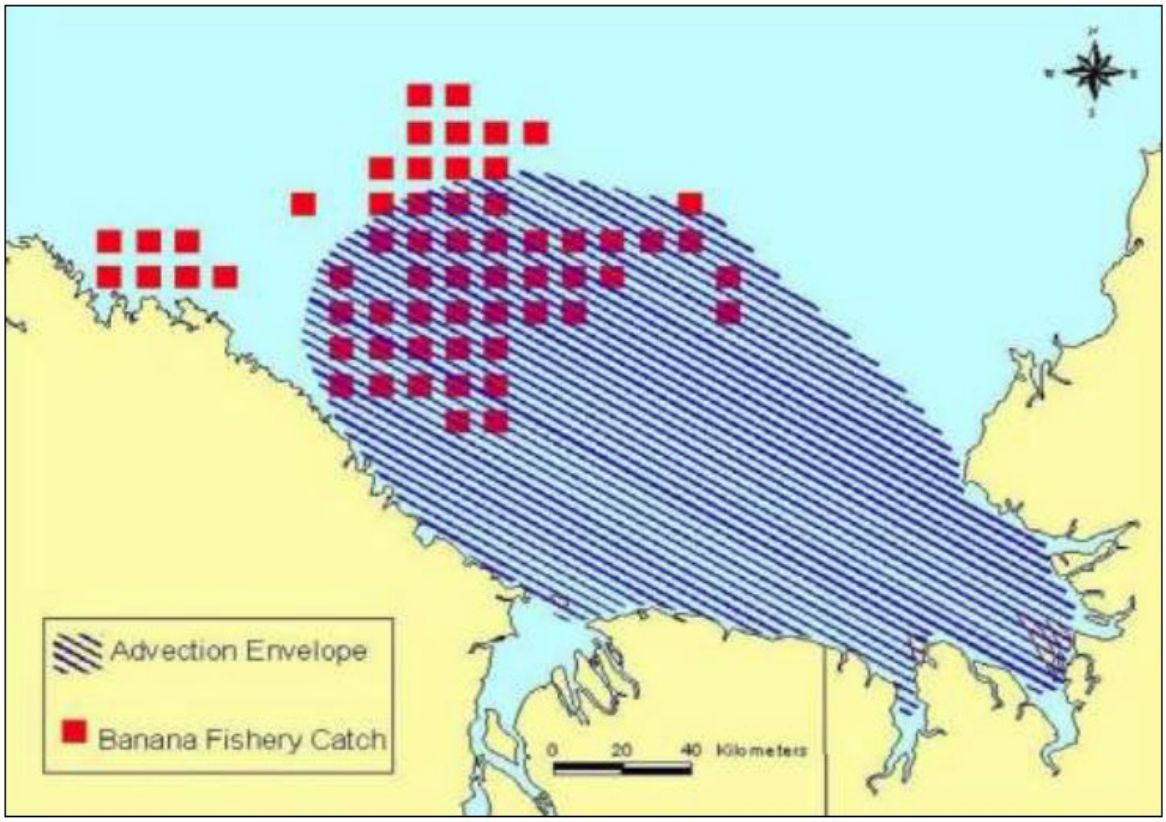


Figure 5.31c. NPF fishing intensity in the impacts EMBA (2020)



Source: Loneragan et al (2002).

Figure 5.32. Size and the probable advection envelope for post-larval redleg banana prawn (*Fenneropenaeus indicus*) in the JBG

A seasonal closure for the NPF in the JBG exists in the period 31 March –15 June (Figure 5.33) (AFMA, 2021). The seasonal closure is an exclusion zone in place for all licence holders within the NPF, and the purpose of this closure is to protect small juvenile prawns as they migrate offshore to deeper waters in the southern JBG, where the adults are targeted during the trawling operations (AFMA, 2021). Any catch south of the seasonal closure line is taken in the second fishing season only (August to November), whereas catch taken north of the closure line is taken during both the first and second seasons. The impacts EMBA is located within this exclusion zone.

Due to the large tidal range (6–8 m) in the JBG and its reputed influence on prawn abundance in the region, red-legged banana prawns are fished on the neap tides, when tidal range and currents are minimal (Tonks *et al*., 2008). Thus, over a tide cycle, fishing effort is high on the late spring-neap, neap and early neap-spring tides, and low to non-existent at other times when the fleet moves to fishing grounds north of Melville Island and Port Essington, outside the JBG. The extra steaming time that this fishing pattern generates, together with the remoteness of the JBG and the lower price of redleg banana prawns in comparison to other species of prawns, makes the JBG a less attractive area to fish than other parts of the NPF. As a result, the annual fishing effort in the JBG fishery is mostly dependent on the catch levels elsewhere in the NPF; if catches are good elsewhere, effort in the JBG is low (Loneragan *et al*., 2002).

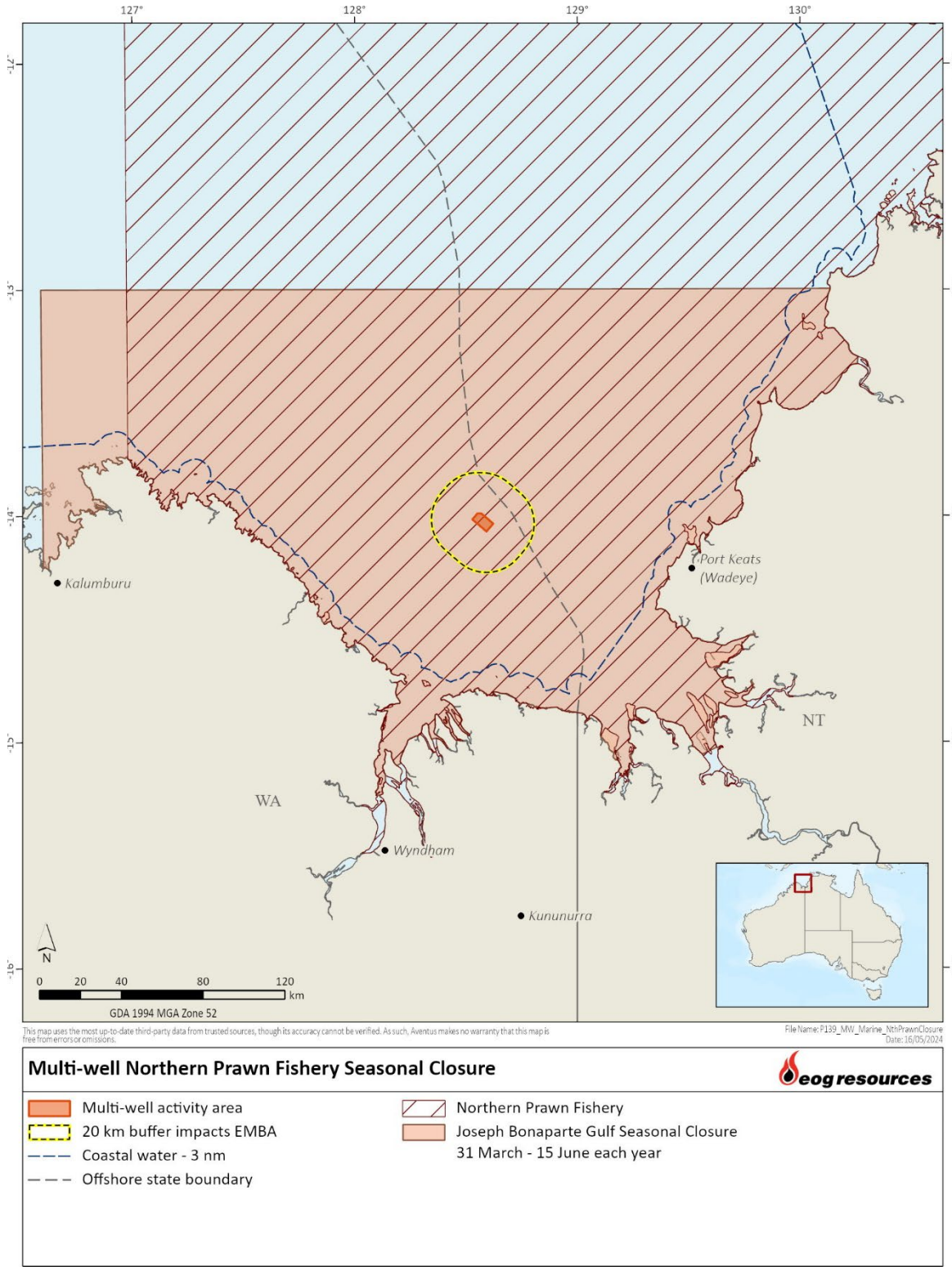


Figure 5.33. JBG closure area of the NPF

Western Australia-managed Fisheries

Western Australian-managed commercial fisheries that are authorised to harvest in the waters of the impacts EMBA include the following (noting that not all actively fish):

- Northern Demersal Scalefish Managed Fishery (NDSMF);
- Mackerel Managed Fisheries (MMF) (Area 1 – Kimberley);
- Kimberley Crab Managed Fishery (North Coast Crab Fishery) (KCMF);
- Kimberly Prawn Managed Fishery;
- Kimberley Gillnet and Barramundi Fishery;
- Pearl Oyster Managed Fishery (Zone 3)
- Abalone Managed fishery (Area 8);
- Marine Aquarium Fish Fishery; and
- Specimen Shell Fishery.

Through the consultation process with the WA DPIRD for the Beehive-1 EP, EOG identified that only the NDSMF and MMF may fish in the impacts EMBA. The multi-well activity area encompasses the Beehive-1 location, therefore, this comment remains applicable to this activity.

Table 5.18 presents information for the fisheries that have recent evidence of fishing in the impacts EMBA. Western Australian-managed fisheries intersected by the spill EMBA are described in Section 11.6.1 of **Appendix 11**.

Northern Territory-managed Fisheries

The NT DITT confirms there are no NT-managed commercial fisheries that fish within the impacts EMBA. Throughout the relevant persons consultation process, the NT demersal fishery confirmed that no NT fisheries operate in within the impacts EMBA due to the location being wholly within a WA waters.

Northern Territory-managed fisheries intersected by the spill EMBA are described in Section 11.6.1 of **Appendix 11**.

Table 5.18. Western Australian-managed commercial fisheries with recent fishing effort in the impacts EMBA

Fishery	Target species	Fishing activity in the impacts EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
NDSMF – Kimberley sector, Fishing Area 2, Zone A (Figure 5.34)	Targets predominately goldband snapper (*Pristipomoides multidens*), crimson snapper, red emperor (*Lutjanus sebae*) bluespotted emperor (*Lethrinus punctulatus*), saddletail snapper (*L. malabaricus*), rankin cod (*Epinephelus multinotatus*), brownstripe snapper (*L. vitta*), rosy threadfin bream (*Nemipterus furcosus*) and spangled emperor (*Lethrinus nebulosus*).	Yes - 1,544 tonnes were caught in the Kimberley sector in 2021, with the majority of the catch (1,406t) was landed in Zone B, 325 km west of the impacts EMBA. The multi-well activity area overlaps 0.03% of the Kimberley Zone A of the fishery and the impacts EMBA overlaps 1.01%.	Assumed to be year-round.	Although permitted to use handlines, droplines and traplines, since 2002 the fishery has been essentially trap based. Seven vessels actively fished in 2021 (employing at least 23 people).	Catch data available for the last five years* for the whole fishery: • 2022 – 1,458 t. • 2021 – 1,544 t. • 2020 – 1,419 t. • 2019 – 1,507 t. • 2018 – 1,297 t. The economic value of the fishery is $10-20 million.
MMF - Area 1 (Kimberley) (Figure 5.35)	Spanish mackerel (*Scomberomorus commerson*)	The WA DoF reports that catch rates in the Kimberley are generally decreasing, partially due to changes in operators but also a decline in spawning stock after the 2016 northern heat pulse during the spawning period. The multi-well activity area overlaps 0.01% of the Area 1 – Kimberley zone and the impacts EMBA overlaps 0.35%.	Fishing was primarily from May to November in 2019.	A total of 16 vessels operated during 2021 across the fishery, employing 30-40 people. In 2014, only three vessels operated in the Kimberley region. Trolling and handline are the only allowable fishing methods.	Catch data available for the last five years* for the whole fishery: • 2022 – 212 t. • 2021 – 248 t, valued at $2.5-3 million. • 2020 – 299 t. • 2019 – 291 t. • 2018 – 213 t.

Newman et al. (2023a; 2023b, 2021); Gaughan and Santoro (2021; 2020; 2018); Gaughan et al (2019).

** 2023 catch data was not available at the time of EP preparation.*

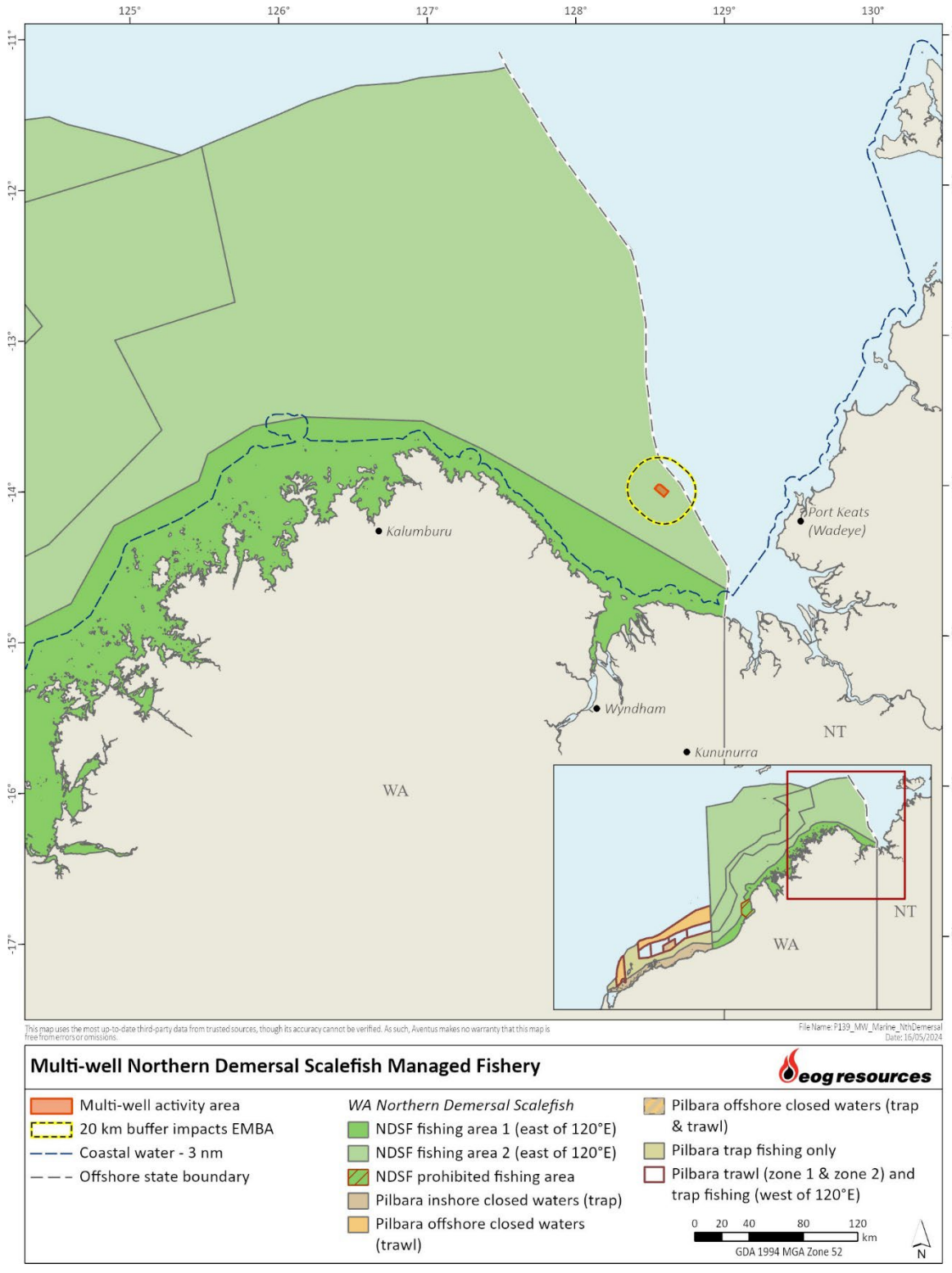


Figure 5.34. WA Northern Demersal Scalefish Fishery overlapped by the impacts EMBA

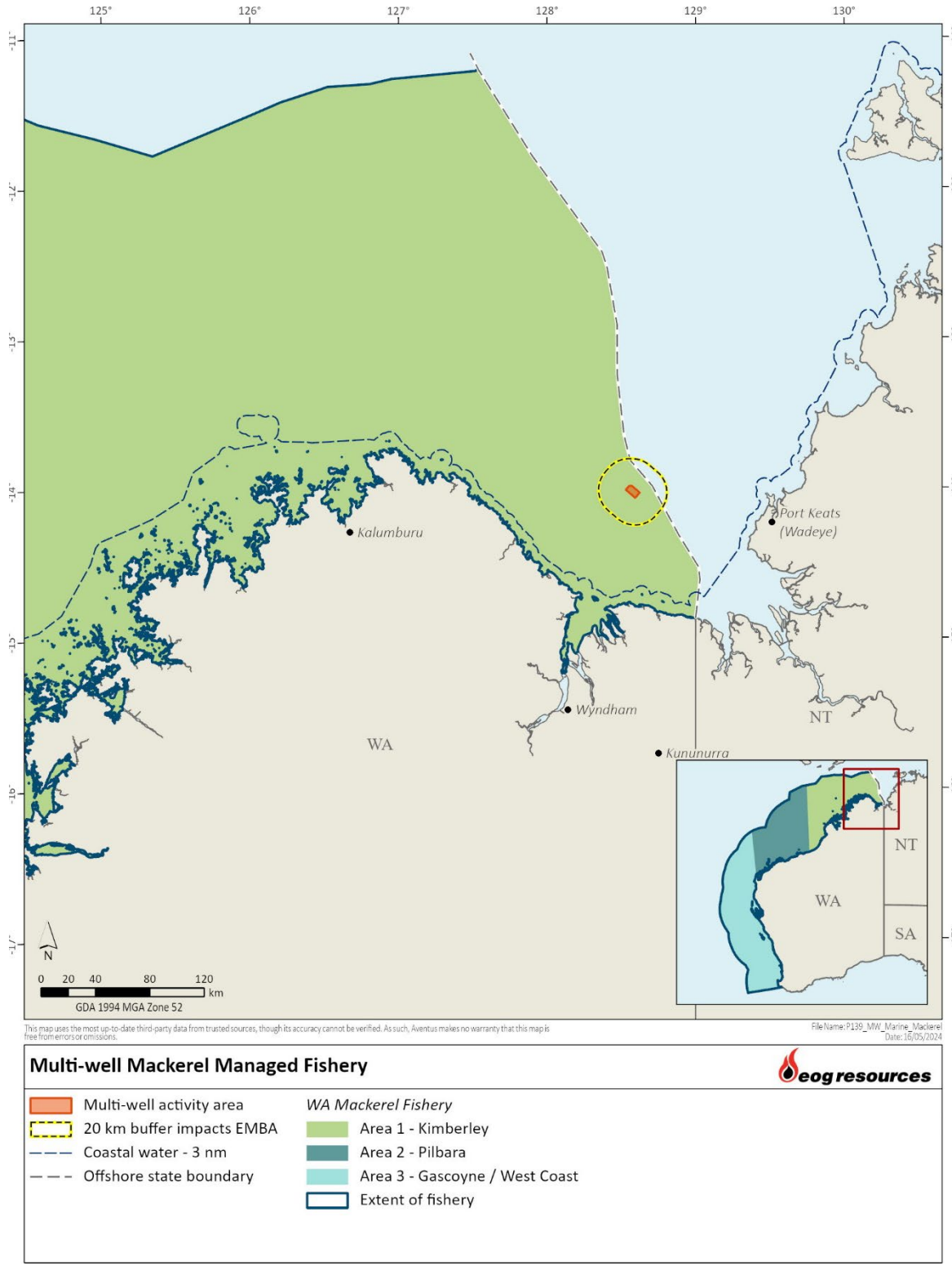


Figure 5.35. WA Mackerel Managed Fishery overlapped by the impacts EMBA

5.7.2. Recreational Fishing

Within the North Coast Bioregion, recreational fishing is experiencing significant growth, with a distinct seasonal peak in winter (Gaughan and Santoro, 2018). Offshore islands, coral reefs and continental shelf provide species of major recreational interest including tropical snapper, cods, coral and coronation trout, sharks, trevally, tuskfish, tunas, mackerels and billfish (Gaughan and Santoro, 2018).

Recreational fishing activities are primarily based out of Darwin, located 280 km northeast of the impacts EMBA. Given the long distance between the impacts EMBA and the mainland (60 km at its closest point) and main population areas (e.g., Wadeye), recreational fishing activities in the impacts EMBA are not expected.

During the relevant persons consultation process for the Beehive-1 EP, AFANT had not raised any issues regarding recreational fishing in or around the impacts EMBA. RecFish West had also confirmed during the relevant persons consultation process that their activities are unlikely to be impacted by the proposed Beehive-1 location. In the absence of feedback for the the multi-well activity, and because the multi-well activity area encompasses the Beehive-1 location, these comments remain applicable to this activity.

5.7.3. Traditional Aboriginal Fishing

Traditional Aboriginal fishing in NT waters predominately occurs within inshore tidal waters, outside the impacts EMBA. Approximately 85% of the NT's intertidal zone is recognised as Aboriginal land under the *Aboriginal Land Rights (Northern Territory) Act*. In the NT, there are generally three recognised Aboriginal fishery zones, which extend to 3 nm, 15 nm and 200 nm from the coast. Almost all Aboriginal fishing effort is concentrated within the 3 nm coastal waters boundary (93%) (65 km from the impacts EMBA at its closest point), with fishing spanning the entire coastline, though it is mostly focused around the Tiwi Islands (275 km northeast of the impacts EMBA). Aboriginal activities within the coastal waters of the Tiwi Islands includes fishing and hunting (including for turtles and dugongs) and gathering (e.g., turtle eggs).

Hunting, subsistence fishing and shell collecting are recognised as occurring in the Kimberley region (DNP 2018a; DpaW 2016b, Smyth 2007). The land and sea country of the Balanggarra people extends from Napier-Broome Bay to Cambridge Gulf and Wyndham in the JBG, inshore from where the impacts EMBA is located. In the past, the Balanggarra people speared fish along the rocky shoreline and in shallow waters. Saltwater fish, turtles, dugong, mud crabs and cockles continue to be important food sources for the Balanggarra people today (DpaW, 2016b). The Miriuwung Gajerrong land and sea country extends from the Cambridge Gulf to the NT. In the past, the Miriuwung Gajerrong people would hunt, fish and gather bush tucker in tidal areas such as mangroves, with fishing and hunting still practiced today (DpaW, 2016b).

5.7.4. Coastal Settlements

The coastline adjacent to the JBG is sparsely populated, with the townships of Wadeye, NT (85 km east) and Wyndham, WA (163 km south) being the closest and the city of Darwin (280 km northeast of the impacts EMBA) being the largest nearby city.

5.7.5. Tourism

The JBG is very remote and therefore has not been significantly developed for tourism. For up to five months of the year, access to the JBG region is restricted to boat or helicopter access due to wet season rains, and road access to areas of Aboriginal freehold land requires prior permission from the Northern Land Council (NLC) (Woodside, 2004).

There are no attractions (e.g., known reefs, shipwrecks, canyons) in the impacts EMBA or immediate surrounds to attract tourists. Charter boats operating out of Darwin and Broome/Derby may occasionally visit or pass through the JBG. No scuba diving or snorkelling sites or dive shops or clubs have been identified in the JBG or adjacent townsites. The presence of saltwater crocodiles and other potentially dangerous fauna generally makes these waters unsuitable for such activities.

During the relevant persons consultation process for the Beehive-1 EP, Oolin Sunday Island Cultural Tours confirmed that their operations will not be disrupted by the by the Beehive-1 drilling. In the absence of feedback for the multi-well activity area, and because the multi-well activity area encompasses the Beehive-1 location, this comment remains applicable to this activity.

5.7.6. Offshore Energy Exploration and Production

The Bonaparte Basin is an established hydrocarbon province with a number of commercial operations. The closest operation is the Blacktip Gas Field, located in adjacent permit WA-33-L and operated by ENI Australia (Figure 5.36). The Blacktip Gas Field consists of an unmanned WHP, two producing wells, flowlines, and a subsea gas export pipeline (GEP) that runs from the WHP to shore near Wadeye, NT. The Blacktip GEP is located 8 km north of the activity area and is overlapped by the impacts EMBA. Vessels servicing the Blacktip WHP and GEP may occasionally pass through the impacts EMBA. There are numerous exploration and production permits and leases throughout the WA, NT and Commonwealth waters within the spill EMBA, and these are described in Section 11.6.5 of **Appendix 11**.

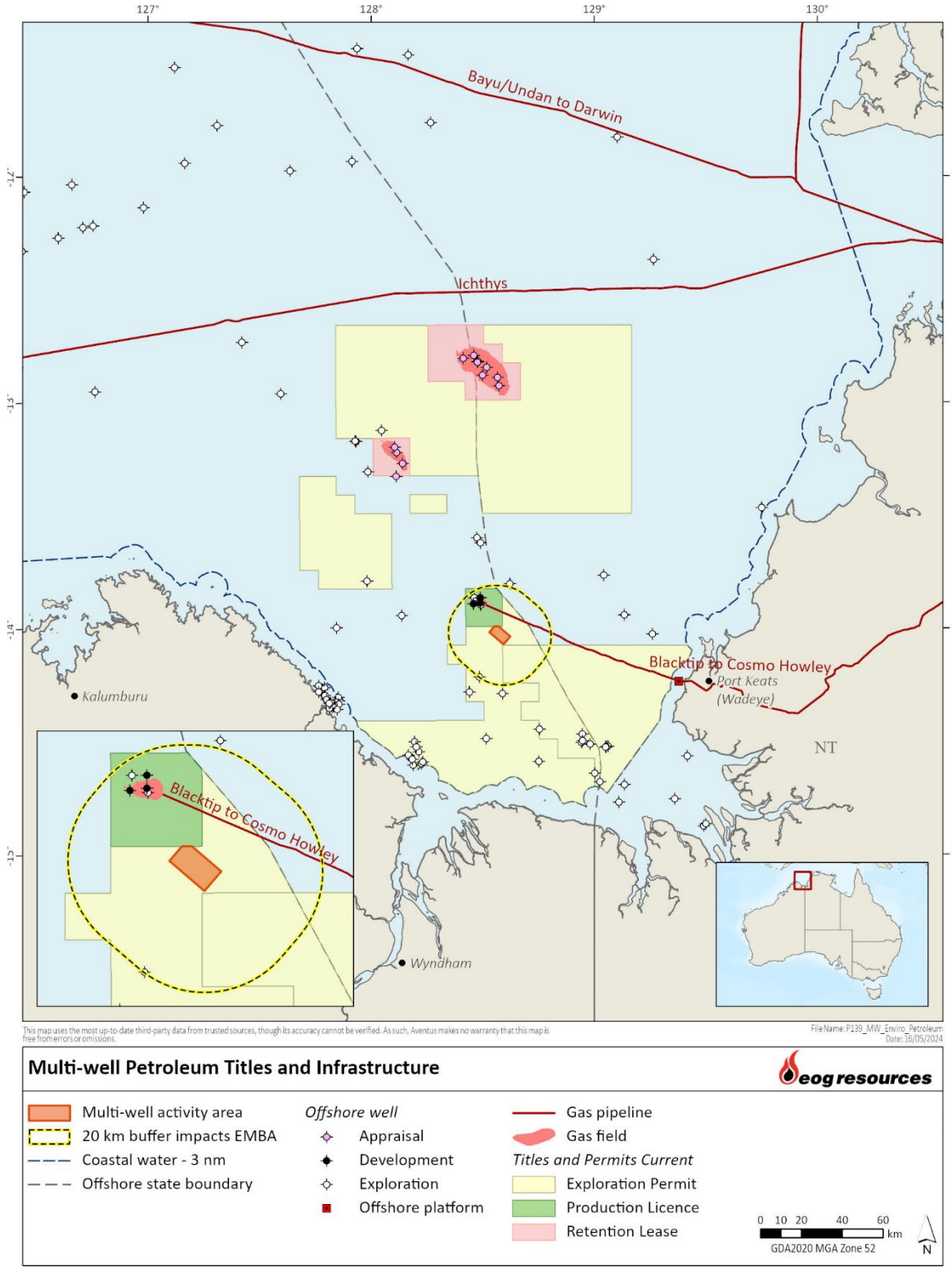


Figure 5.36. Petroleum activity in the impacts EMBA

5.7.7. Commercial Shipping

The closest major commercial shipping port is Darwin, located 280 km northeast of the impacts EMBA and 300 km northeast of activity area. The location of the Darwin Port relative to Asia and the region's offshore oil and gas fields makes the surrounding area a key shipping region. Very low levels of shipping traffic occur through the impacts EMBA. Using Automatic Identification System (AIS) data from AMSA and spatial analysis, it was determined that there is also a low level of shipping traffic in and immediately around the impacts EMBA and that vessels in this area are mainly transiting and not lingering.

An analysis of the shipping traffic from February 2023 to February 2024 recorded from the impacts EMBA (20-km radius around the activity area) is presented in Table 5.19. This shipping traffic is also illustrated in Figure 5.37, which shows that the impacts EMBA is located south of the major shipping lanes coming out of Darwin, which contributes to the very low level of shipping traffic recorded in the area. The concentration of shipping activity in the northwest part of the impacts EMBA is associated with the Blacktip WHP. The highest volume of traffic is recorded in the months of February to September.

Table 5.19. Commercial shipping traffic recorded in the impacts EMBA from February 2023 until February 2024.

Type	February 2023 – February 2024													
	Feb 23	Mar 23	Apr 23	May 23	Jun 23	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Total
Undefined	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Fishing	-	-	-	2	-	-	-	-	-	-	-	-	-	2
Other	2	1	1	3	1	-	1	2	1	-	-	-	-	12
Passenger ship	-	-	1	1	2	4	3	2	-	-	-	-	-	13
Pleasure craft	-	1	-	1	-	-	-	-	-	-	-	-	-	2
Saling	-	-	-	2	1	2	1	-	-	-	-	-	-	6
Reserved	1	1	1	1	-	-	-	1	1	-	-	-	-	6
Port tender	1	1	1	1	1	-	1	1	-	-	-	-	2	9
Tug	2	3	3	2	-	-	-	-	-	-	1	-	-	11
Cargo ship	-	1	-	-	-	-	1	1	1	-	-	-	-	4
Diving	-	-	-	1	-	-	-	-	-	-	-	-	-	1
Tanker	1	1	-	1	-	1	-	1	-	1	1	-	-	7
Total	**7**	**9**	**7**	**15**	**5**	**8**	**7**	**8**	**3**	**1**	**2**	**0**	**2**	**74**

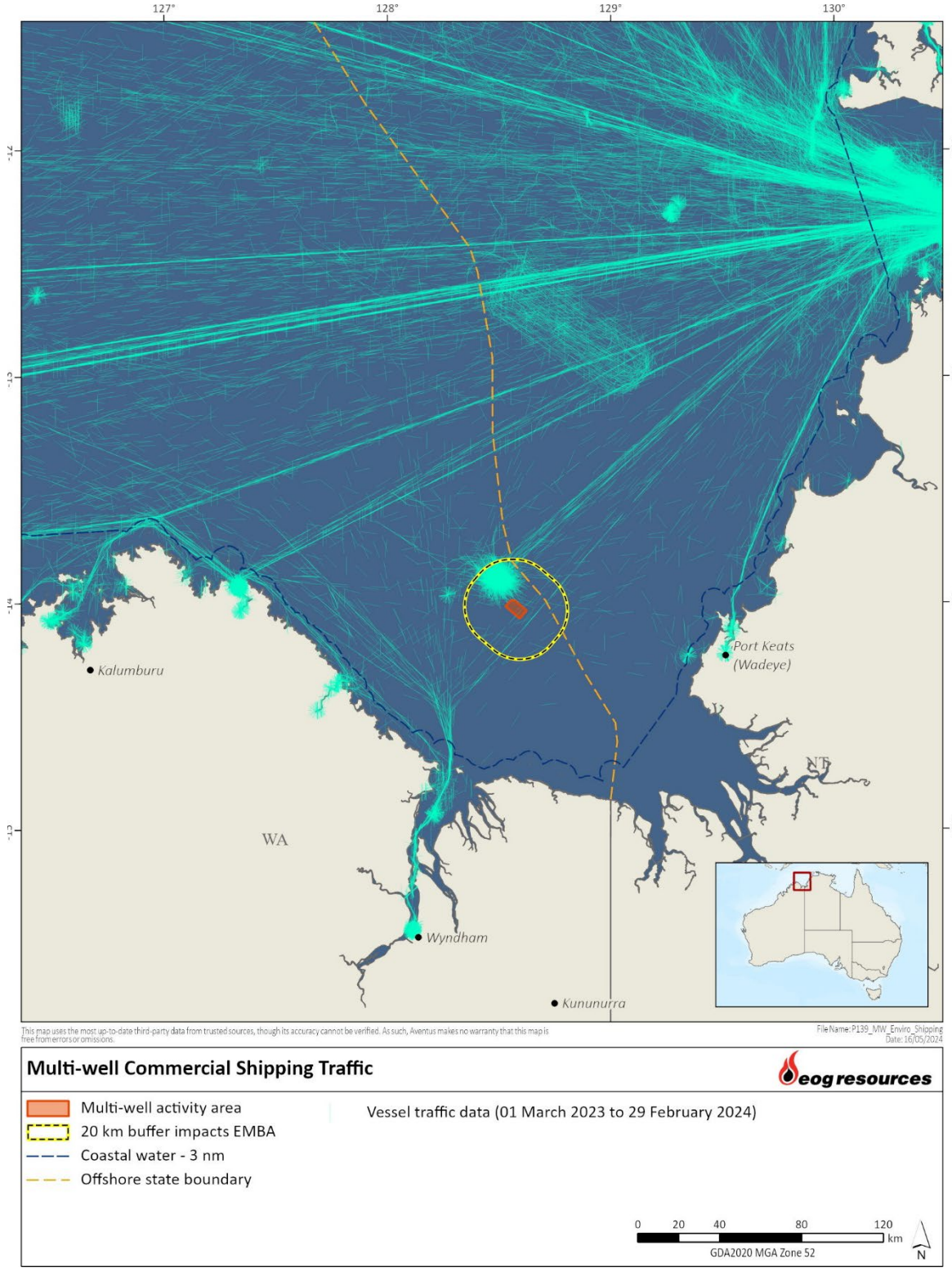


Figure 5.37. Commercial shipping traffic in the impacts EMBA

5.7.8. Defence Activities

The impacts EMBA is overlapped by a defence training area, which is a maritime military zone administered by the Australian Defence Force (Figure 5.38). This is an area where exercises such as operational flying training or live weapon firing may occur. The DoD had advised during the relevant persons consultation process for the Beehive-1 EP that military flying training may take place over the activity area, with aircraft flying as low as 500 feet above the water. In the absence of feedback for the multi-well activity area, and because the multi-well activity area encompasses the Beehive-1 location, this comment remains applicable to this activity. There is also an Air-to-Air Refuelling (AAR) and Airborne Early Warning and Control (AEW&C) airspaces that overlap the impacts EMBA.

Australian Border Force and Australian Defence Force vessels undertake civil and maritime surveillance within the region with the primary purpose of monitoring the passage of illegal entry vessels and illegal fishing activity within these areas. Refugees seeking asylum in Australia are also known to utilise the area, travelling between Indonesia and Australia.

The DoD 'Where Is UXO' database indicates there is no potential for unexploded ordnance (UXO) to occur within the impacts EMBA (Figure 5.39). The DoD advised EOG during the relevant persons consultation process for the Beehive-1 EP, that beyond the data presented in this database, there are no records of specific UXO in the area. In the absence of feedback for the multi-well activity area, and because the multi-well activity area encompasses the Beehive-1 location, this comment remains applicable to this activity.

5.7.9. Submarine Cables

Submarine telecommunication cables provide telephone and internet connections across the world; they are laid on the ocean floor and are often thousands of kilometres in length.

During the relevant persons consultation process for the Beehive-1 EP, the Australian Communications and Media Authority (ACMA) confirmed that there are no submarine protection zones declared by ACMA that occur within proximity to the proposed Beehive-1 location. The closest known submarine cable to the proposed activity area is the Australia Papua New Guinea Cable, which is 2,070 km east of the proposed area location and 2,050 km east of the impacts EMBA. In the absence of feedback for the multi-well activity, and because the multi-well activity area encompasses the Beehive-1 location, this comment remains applicable to this activity.

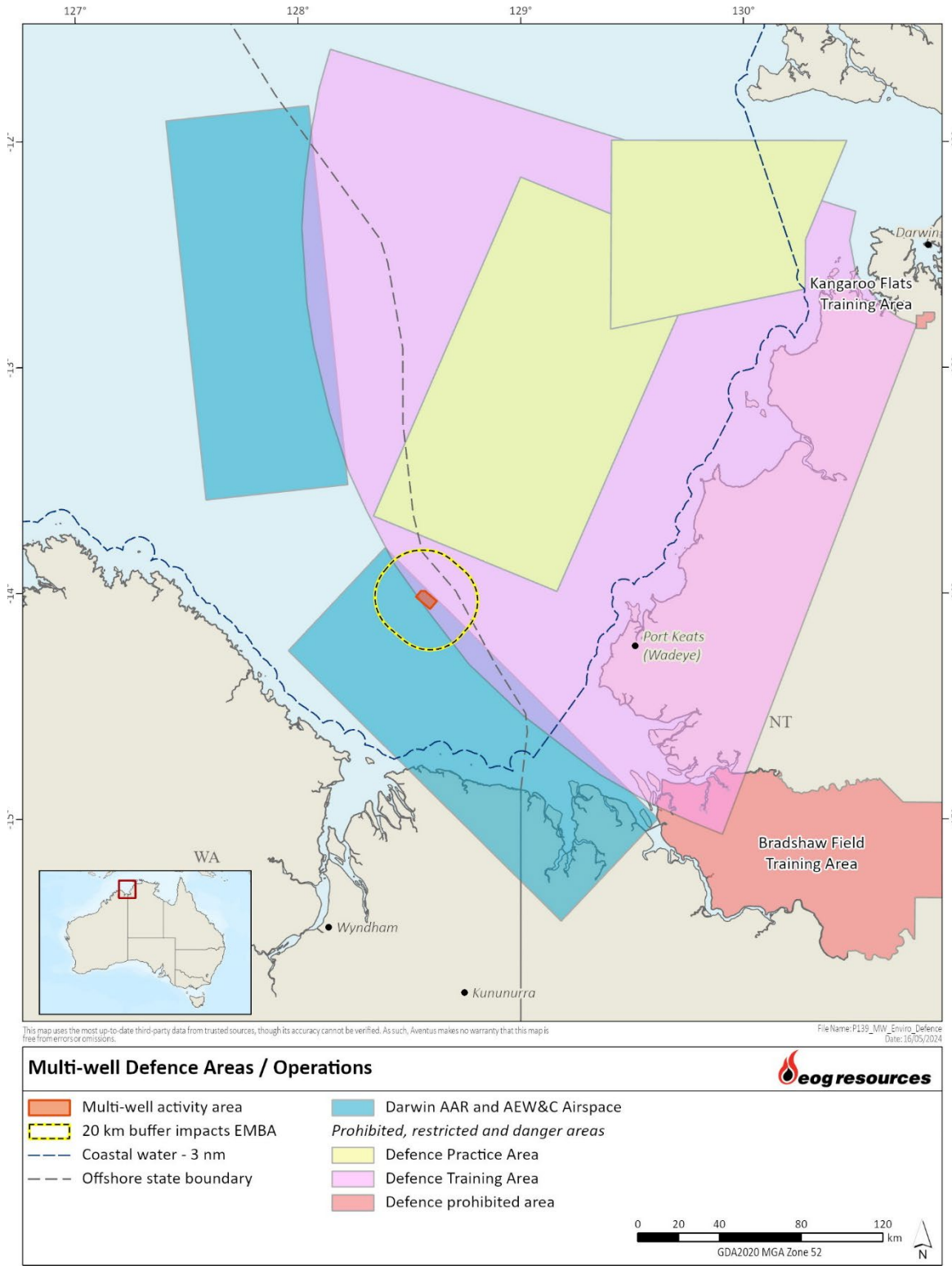


Figure 5.38. Defence areas overlapped by the impacts EMBA

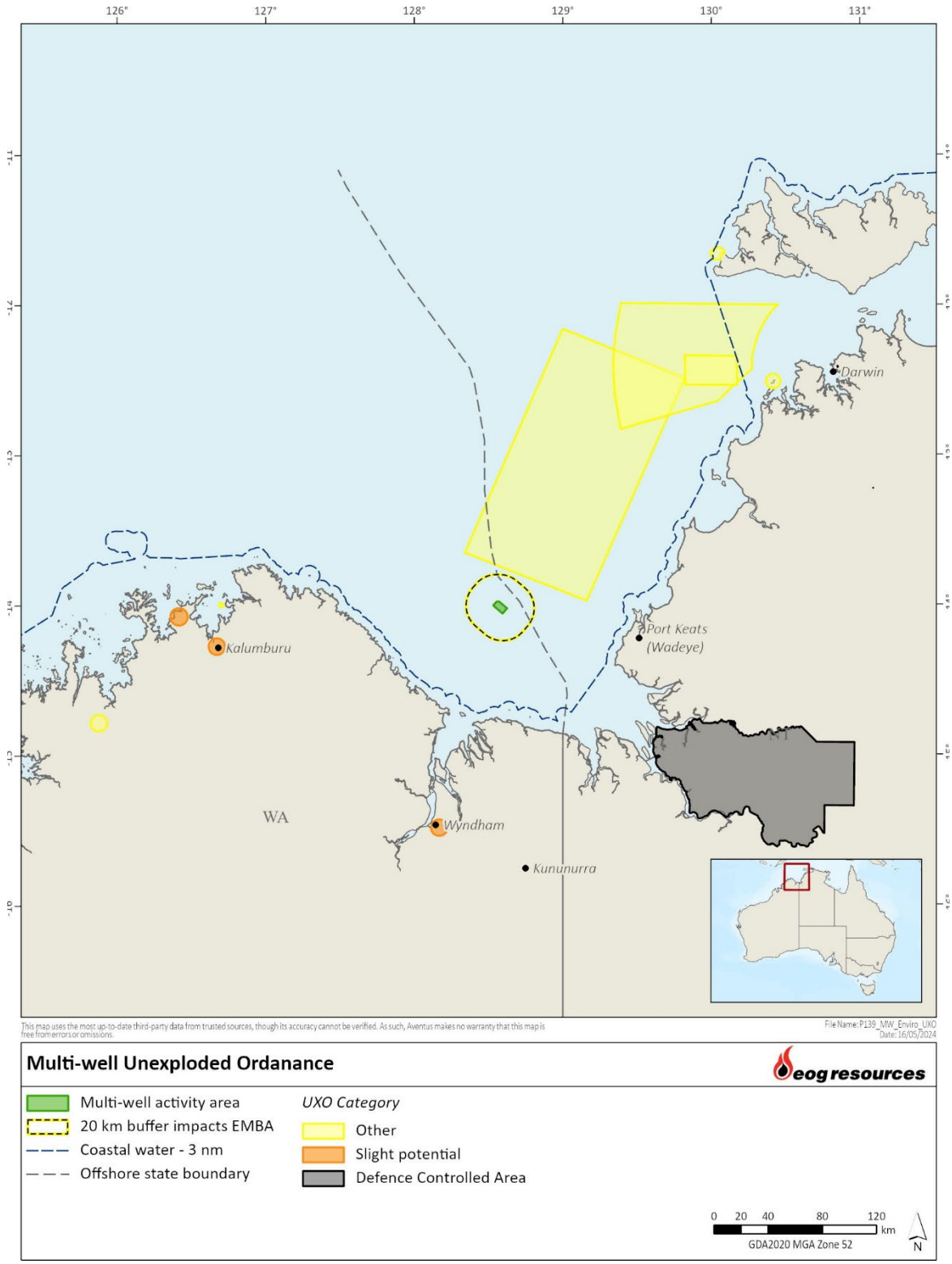


Figure 5.39. Unexploded ordnance risks near the impacts EMBA

6. Environmental Impact & Risk Assessment Methodology

As required under Regulation 21(5) of the OPGGS(E), this chapter describes the environmental impact and risk assessment methodology used in this EP.

The EOG Environmental Management System defines the company's requirements to mitigate and manage environmental risks at all levels within the business, and this risk management framework is described in this section. This framework is consistent with the Australian and New Zealand Standard for Risk Management (AS/NZS ISO 31000:2018, *Risk Management – Principles and Guidelines*).

Figure 6.1 outlines the risk assessment management process, with each step of this process described in this chapter. Note that for simplicity, this process is called a risk assessment process, even though impacts and risks are defined differently (see Section 6.3.1 for more information).

Figure 6.1. Risk management framework

6.1. Step 1 – Establish the Context

The first step in the risk assessment process is to establish the context. This involves:

- Understanding the regulatory framework in which the activity takes place (described in the 'Environmental Regulatory Framework' in Chapter 3);
- Defining the activities that will cause impacts and create risks (outlined in the 'Activity Description' in Chapter 2);
- Understanding the concerns of stakeholders and incorporating those concerns into the design of the activity where appropriate (outlined in Chapter 4, 'Stakeholder Consultation'); and
- Describing the environment in which the activity takes place (the 'Existing Environment' is described in Chapter 5 and Appendix 11).

Once the context has been established, the hazards of the activity can be identified, along with the impacts and risks of these hazards. This process is described in the following sections.

6.2. Step 2 – Communicate and Consult

In accordance with Regulations 11A and 14(9) of the OPGGS(E), EOG has consulted with relevant persons in the development of this EP to obtain information about their functions, activities and interests and assess how the activity may impact on these. This information has been used to inform the impact and risk assessment in the EP. The stakeholder consultation process is described in detail in Chapter 4.

6.3. Step 3 – Identify Risks

The steps used to identify the risks associated with each aspect of the activity include:

- Identify each hazard associated with the activity;
- Identify the sensitive environmental resources within and adjacent to the activity area;
- Identify the impacts and risks associated with each hazard;
    - For impacts, identify the environmental consequence of the impacts.
    - For risks, identify the likelihood (probability) of the risk occurring and the consequence if it does occur.
- Identify control measures; and
- Assign a level of risk to each potential environmental impact using a risk matrix.

In accordance with this framework, all risks must be reduced to a level that is considered to be ALARP (see Section 6.8.1).

A targeted risk assessment workshop was undertaken by EOG on the 1st of June 2022 to review the key drilling impacts and risks associated to ensure all necessary controls were adopted. The workshop involved drilling and environment project members. Following the review of the key hazards and their associated impacts and risks, control measures were also reviewed to ensure the impact consequence or risk rating is ALARP. An additional risk assessment workshop was undertaken in May 2024 to ensure that impacts and risks associated with the multi-well drilling activity were considered and incorporated into this EP.

An assessment of what is 'reasonably practicable' with regard to the adoption of control measures requires professional judgements to be made against the relevant matrices using the advice of technical experts as well as published standards, availability of mitigation measures and industry practice.

6.3.1 Definitions

The OPGGS(E) Regulations 21(5)(6) require that the EP detail and evaluate the environmental impacts and risks for an activity, including control measures used to reduce the impacts and risks of the activity to ALARP and an acceptable level. This must include impacts and risks arising directly or indirectly from all activity operations (i.e., planned events) or potential emergency conditions or incidents (i.e., unplanned events).

In its *Environment Plan content requirements* guidance note (N-04750-GN1344, January 2024), NOPSEMA distinguishes between environmental impacts and risks. For context, Table 6.1 provides the definitions of impacts and risk according to the OPGGS(E) and international risk management standards.

For this activity, EOG has determined that impacts and risks are defined as follows:

- **Impacts** result from **planned** events – there *will* be consequences (known or unknown) associated with the event occurring. Impacts are an inherent part of the activity. For example, drill cuttings will be generated and discharged overboard and this will have consequences for marine life.
    - For impacts, only a consequence is assigned (likelihood is irrelevant given that the event will occur) (as per the risk matrix in Table 6.2).
- **Risks** result from **unplanned events** – there *may* be consequences if an unplanned event occurs. Risks are not an inherent part of the activity. For example, a hydrocarbon spill may occur if a support vessel collides with another vessel, but this is not a certainty. The risk of this event is determined by multiplying the consequence of the impact (using factors such as the type and volume of hydrocarbons and the nature of the receiving environment) by the likelihood of this event happening (which may be determined objectively or subjectively, qualitatively or quantitatively).
    - For risks, the consequence and likelihood are combined to determine the risk rating (see Table 6.2).

Table 6.1. Definitions of impact and risk

Source	Impacts	Risks
OPGGS(E) (Regulation 5)	Any change to the environment, whether adverse or beneficial, that wholly or partially results from an activity.	Not defined.
Environment Plan content requirements Guidance Note (N-04750-GN1344)	A planned event, an inherent part of the activity.	Not defined.
Environment Plan decision making Guideline (N04750-GL1721)	Any change to the environment, whether adverse or beneficial, that wholly or partially results from an activity.	Not defined.
NOPSEMA website (Environment > Assessment Process > Environment Plans > Titleholder FAQs)	Impact assessment is concerned with events that are reasonably certain to occur.	Risk assessment is concerned with events that may possibly occur.
ISO AS/NZS 31000: 2018 (Risk management – Principles and guidelines)	Not defined.	The effect of uncertainty on objectives.
ISO AS/NZS 14001: 2016 (Environmental management systems – Requirements with guidance for use)	Not defined.	The effect of uncertainty on objectives.
ISO AS/NZS 4360: 2004 (Risk management)	Not defined.	The chance of something happening that will have an impact on objectives.
HB203: 2012 (Managing environment-related risk)	Any change to the environment or a component of the environment, whether adverse or beneficial, wholly or partly resulting from an organisation's environmental aspects.	The effect of uncertainty on objectives. The level of risk can be expressed in terms of a combination of the consequences and the likelihoods of those consequences occurring.

6.4. Step 4 – Analyse the Risks

When analysing risk, the following must be considered:

- Identify the maximum credible consequence (being the reasonable worst case but non-fanciful outcome) arising from the impact or risk without introducing controls ('inherent' consequence). Then do the same after controls are introduced to determine the 'residual' consequence.
- Identify the likelihood of the risk event occurring ('remote' through to 'likely'), considering the controls identified and their effectiveness (inherent and residual).
- For risks, determine the level of risk using the matrix, being the intersection of consequence and likelihood.

6.4.1. Consequence Criteria

'Consequence' refers to the maximum credible outcome of an event affecting a receptor, value or use. EOG's consequence criteria are presented in Table 6.2. Where there is uncertainty or incomplete information, a conservative assessment is made on the basis of the maximum credible consequence. Consequence criteria have been developed to consider the extent, severity and duration of the impact or risk. Assigning a consequence criteria to a hazard also takes into account:

- Past records;
- Relevant experience;
- Industry practice and experience;
- Relevant published literature;
- Quantitative or engineering modelling; and
- Specialist or expert judgement.

Table 6.2. Consequence criteria

Consequence	Definition
Beneficial	• Likely to cause enhancement to the environment or socioeconomic benefits.
Negligible	• No changes, or small adverse changes unlikely to be noticed or measurable against background conditions.
Minor	• Adverse changes that can be monitored and/or noticed, but are within the scope of existing variability and do not meet any of the 'severe' or 'moderate' impact definitions.
Moderate	One or more of the following: • Localised, occasional violations of air or water quality standards or guidelines. • Localised contamination of sediments. • Localised damage to sensitive habitats such as hard bottom areas, chemosynthetic communities, mangroves or wetlands. • A few deaths or injuries of protected species, occasional, temporary disruption of their critical activities (e.g., breeding, nesting, nursing), and/or localized damage to their critical habitat. • Localised, short-term interference with fishing activities, recreation or tourism. • Localised damage to or contamination of beaches, parks, tourism areas, or other recreational resources. • Localised, short-term adverse impacts on the economy or socio-economic conditions.
Severe	One or more of the following: • Extensive, continual violation of air or water quality standards or guidelines. • Extensive, persistent contamination of sediments. • Extensive damage to sensitive habitats such as hard bottom areas, chemosynthetic communities, mangroves, or wetlands. • Extensive damage to non-sensitive habitats to the extent that ecosystem function and ecological relationships would be altered. • Numerous deaths or injuries of a protected species, continual disruption of their critical activities (e.g., breeding, nesting, nursing), and/or destruction of their critical habitat. • Extensive, continual interference with fishing activities, recreation, or tourism. • Extensive, persistent damage to or contamination of important cultural, historical or religious sites or tourism areas.

	• Extensive, persistent adverse impacts on the economy or socio-economic conditions. • A threat to public health or public safety. • Substantial public controversy or social unrest.

6.4.2. Likelihood Criteria

'Likelihood' refers to the chance of an event happening and the maximum credible consequence occurring from that event. EOG's likelihood criteria are presented in Table 6.3.

Table 6.3. Likelihood criteria

Likelihood	Definition
Likely	Can reasonably be expected to occur one or more times during the project. Impacts of most routine project activities are in this category.
Occasional	Not planned or expected, but could occur at some time during the project.
Rare	Highly unlikely; exceptional conditions may allow the event to occur during the project.
Remote	Has occurred before in the industry but is extremely unlikely to occur during the project.

6.4.3. Risk Matrix

Risk levels are assessed using the matrix presented in Table 6.4. The risk is evaluated by 'multiplying' likelihood and consequence. The recommended form of treatment action, escalation and monitoring for each risk level is provided in Table 6.5. The 'initial' rating (pre-treatment) and 'residual' risk rating (with control measures adopted) for each impact and risk is provided in Chapter 7.

Table 6.4. EOG risk assessment matrix

		Consequence				
		Beneficial	Negligible	Minor	Moderate	Severe
Likelihood	Likely	Beneficial	Negligible	Low	Medium	High
	Occasional	Beneficial	Negligible	Low	Medium	High
	Rare	Beneficial	Negligible	Negligible	Low	High
	Remote	Beneficial	Negligible	Negligible	Low	Medium

Table 6.5. Risk treatment action

Risk rating	Treatment action
HIGH The risk is intolerable	• For an operational activity, the risk shall be reduced as soon as possible, typically within a timescale of not more than a few weeks. • For commercial risks, review the risks and where practicable reduce by additional mitigation measures such as hedging, insurance, etc. • Repeat threat identification and risk evaluation processes to verify and, where possible, quantify the risk estimation; determine the accuracy and uncertainty of the estimation. • Modify the threat, the frequency or consequence to reduce the risk ranking to 'medium' or 'low.' • Where the risk ranking cannot be reduced to 'medium' or 'low', to demonstrate ALARP it is necessary to review if it is reasonably practicable to remove threats, reduce frequencies and/or reduce the severity of consequences, and if it is reasonably practicable, these risk treatment actions shall be applied. If it is not reasonably practicable, no further action is required and ALARP is demonstrated. • For an operational activity, the reduction to 'medium' or 'low' or demonstration of ALARP shall be completed as soon as possible; typically within a timescale of not more than a few months.
MEDIUM The risk is tolerable	• Determine the management plan for the threat to prevent occurrence and to monitor changes that could affect the classification. • Management responsibility must be specified – monitor to determine if risk changes and needs to be reassessed.
LOW The risk is tolerable	• Review at the next review interval. • Manage by routine procedures – reassess at next review.
NEGLIGIBLE The risk is tolerable	• Review at the next review interval. • Manage by routine procedures – reassess at next review.

6.5. Step 5 – Evaluate the Risk

The purpose of impact and risk evaluation (herein referred to simply as risk assessment) is to assist in making decisions, based on the outcomes of analysis, about the sorts of controls required to reduce an impact or risk to ALARP. Planned and unplanned events are subject to risk assessment in the same manner. Risk evaluation also considers the following:

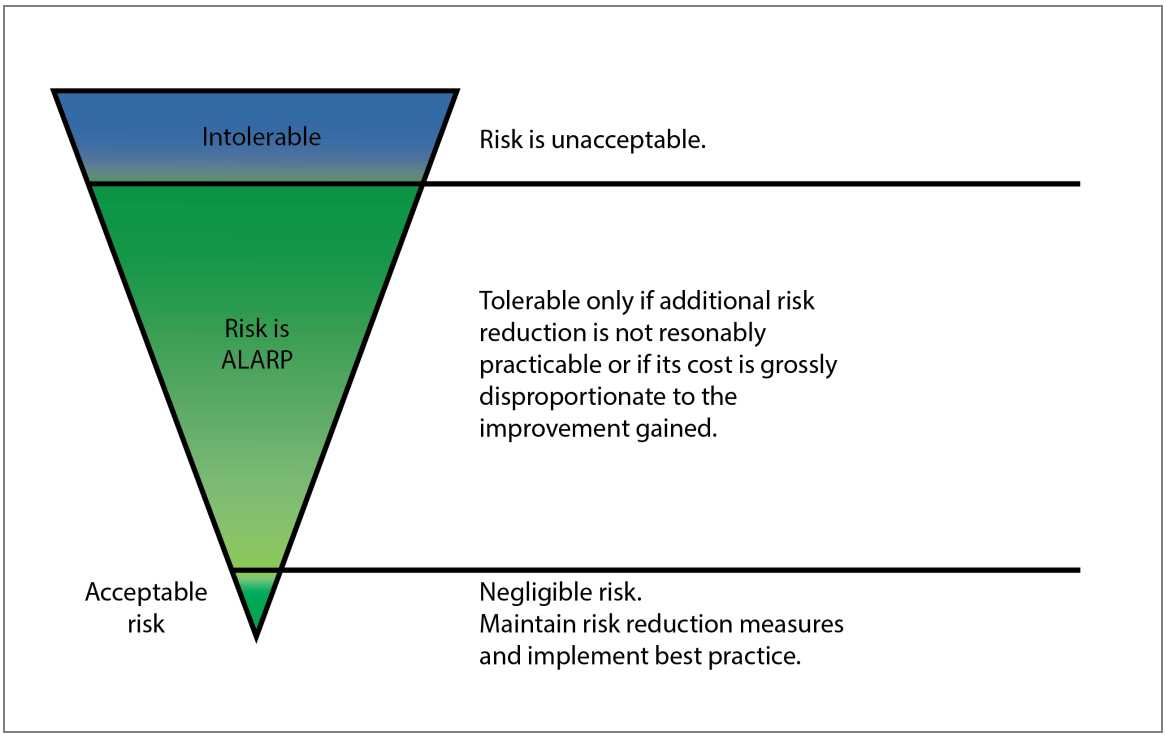
- Defining the level of risk (higher and lower order impacts and risks);
- Demonstration of ALARP;
- Uncertainty of impacts and risks;
- Demonstration of acceptability; and
- Principles of ESD.

Each of these considerations is described in more detail in this section.

6.5.1. Demonstration of ALARP

The ALARP principle states that it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The ALARP principle arises from the fact that infinite time, effort and money could be spent attempting to reduce an impact or risk to zero. This concept is shown diagrammatically in Figure 6.2. EOG's approach to demonstrating ALARP includes:

- Systematically identifying and assessing all potential environmental impacts and risks associated with the activity;
- Where relevant, applying industry 'good practice' controls to manage impacts and risks;
- Assessing available and feasible control measures for their environmental benefit and cost, which is summarised in a cost-benefit analysis; and
- For higher order impacts and risks, implementing further controls if feasible and reasonably practicable to do so.



Source: CER (2015).

Figure 6.2. The ALARP Principle

There is no universally accepted guidance to applying the ALARP principle to environmental risk assessments. For this EP, the guidance provided in NOPSEMA's *Environment Plan decision making guideline* (N-04750-GL1721) has been applied and augmented where necessary. The level of ALARP assessment is dependent upon the:

- Residual impact and risk level (high versus low); and
- The degree of uncertainty associated with the assessed impact or risk.

An iterative risk evaluation process is employed until such time as any further reduction in the residual risk ranking is not reasonably practicable to implement. At this point, the impact or risk is reduced to ALARP. The determination of ALARP is outlined in Table 6.6.

Table 6.6. Alignment of EOG consequence and risk ratings with ALARP ratings

Consequence rating	Beneficial	Negligible	Minor	Moderate	Severe
ALARP level – planned event	Broadly acceptable	Tolerable if ALARP			Intolerable
Residual impact category	Lower order			Higher order	
Risk rating	Beneficial	Negligible	Low	Medium	High
ALARP level – unplanned event	Broadly acceptable	Tolerable if ALARP			Intolerable
Residual risk category	Lower order risks				Higher order risks

A description of how the ALARP process is applied to the risk assessment process for the project is presented in this section.

Hierarchy of Controls

EOG demonstrates ALARP, in part, by adopting the 'Hierarchy of Controls' philosophy (Figure 6.3). The hierarchy of controls is a system used across hazardous industries to minimise or eliminate exposure to hazards. The hierarchy of controls is, in order of effectiveness:

- Elimination;
- Substitution;
- Engineering controls;
- Administrative controls; and
- Personal protective equipment (PPE) – this has not been included here as it is specific to the assessment of safety risks rather than environmental management.

Although commonly used in the evaluation of occupational health and safety hazard control, the hierarchy of controls philosophy is also a useful framework to evaluate potential environmental controls to ensure reasonable and practicable solutions have not been overlooked. To this effect, the assessment of control measures presented in the impact and risk assessment tables in Chapters 7 and 8 of this EP take into account the hierarchy of controls, in the order listed above.

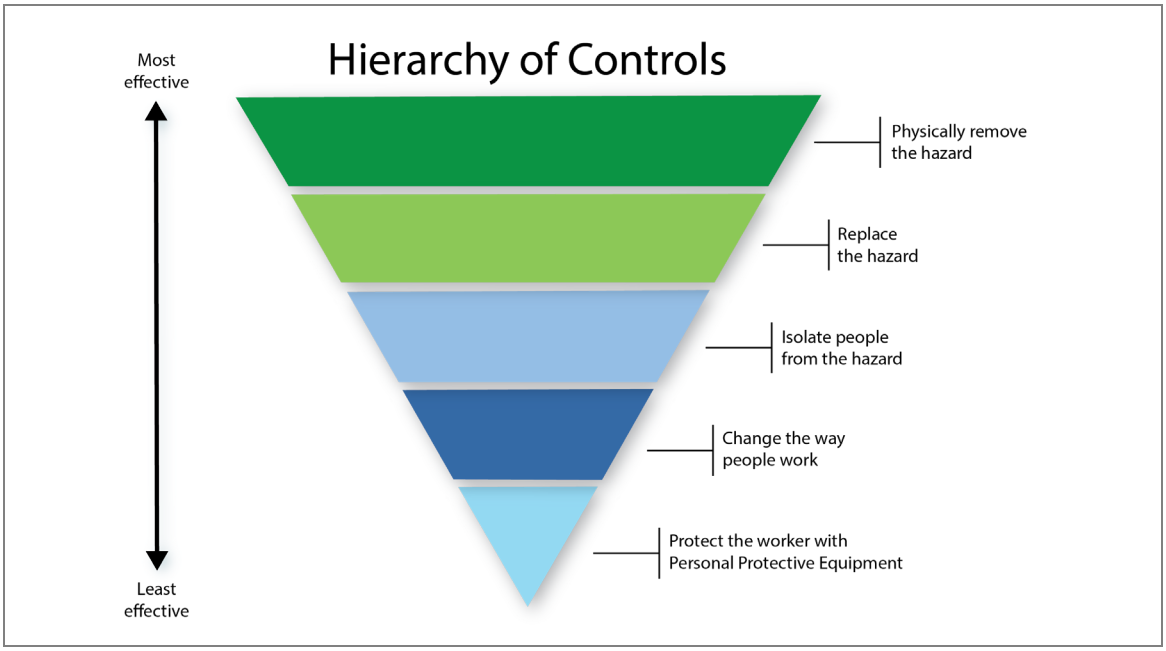


Figure 6.3. The Hierarchy of Controls

Assessing the Suitability of Available Control Measures

NOPSEMA's *Environment Plan decision making guideline* (N-04750-GL1721) states that in order to demonstrate ALARP, a titleholder must be able to implement all available control measures where the cost is not grossly disproportionate to the environmental benefit gained from implementing the control measure. This process is applied in the demonstration of ALARP sections in the impact and risk assessment tables throughout Chapters 7, 8 and 9. When deciding on whether to implement proposed control measures in the impact and risk assessment tables in Chapters 7, 8 and 9, the issues outlined in Table 6.7 are considered.

Table 6.7. Considerations for the adoption of control measures

Consideration	Question
Environmental benefit (EB)	• Does it provide a clear or measurable reduction in environmental impact or risk? • What are the environmental benefits to receptors if the measure is adopted?
Cost (C)	• What is the relative cost (which includes money, time, and resources) that may be borne by EOG if the control measure is adopted? • Does it introduce additional risk in other operational areas (e.g., will the implementation of a control measure have an impact elsewhere (such as additional emissions and discharges or safety risks to personnel))? • Is it technically feasible and can it be implemented?

Evaluation (Ev)	• Is it consistent with national or industry standards and practices?
	• Will the change be effective, taking into account the:
	  ○ Sensitivity of the receptor;
	  ○ Current level of risk with the existing controls;
	  ○ Amount of additional risk reduction that the control will deliver;
	  ○ Level of confidence that the risk reduction impact will be achieved; and
	  ○ Resources, schedule and cost required to implement the control.

Reducing impacts and risks to ALARP is an ongoing process and new risk reduction measures may be identified at any time, including during the activity. EOG actively encourages recording and review of observations through its incident management system. Incidents and lessons learned within EOG and from the wider industry are reviewed and utilised to identify hazards and controls.

Defining the Level of Risk

Lower-order Environmental Impacts and Risks

NOPSEMA defines lower-order environmental impacts and risks as those where the environment or receptor is not formally managed, less vulnerable, widely distributed, not protected and/or threatened and there is confidence in the effectiveness of adopted control measures. Impacts and risks are considered to be lower-order and ALARP when, using EOG's risk matrix (see Table 6.4), the residual:

- Impact consequence is rated as 'beneficial', 'negligible' or 'minor'; or
- Risk rating is 'beneficial', 'negligible', 'low' or 'medium' (see also Table 6.5).

In these cases, applying 'good industry practice' (see Section 6.8.3) control measures is sufficient to manage the impact or risk to ALARP.

Higher-order Environmental Impacts and Risks

NOPSEMA defines higher-order environmental impacts and risks as those that are not lower order risks or impacts (i.e., where the environment or receptor is formally managed, vulnerable, restricted in distribution, protected or threatened and there is little confidence in the effectiveness of adopted control measures). Impacts and risks are considered to be higher-order when, using the EOG risk matrix (see Table 6.4), the residual:

- Impact consequence is rated as 'moderate' or 'severe'; or
- Risk rating is 'high' (see also Table 6.5).

In these cases, further controls must be considered as per Section 6.8.3.

Uncertainty of Impacts and Risks

Based upon the level of uncertainty associated with the impact or risk, the following framework from the Guidance on Risk Related Decision Making (Oil & Gas UK, 2014) (Figure 6.3) provides the decision-making framework to establish ALARP.

This framework provides appropriate tools, commensurate to the level of uncertainty or novelty associated with the impact or risk (referred to as the Decision Type A, B or C). The decision type is selected based on an informed decision around the uncertainty of the risk. Decision types and methodologies to establish ALARP are outlined in Table 6.8.

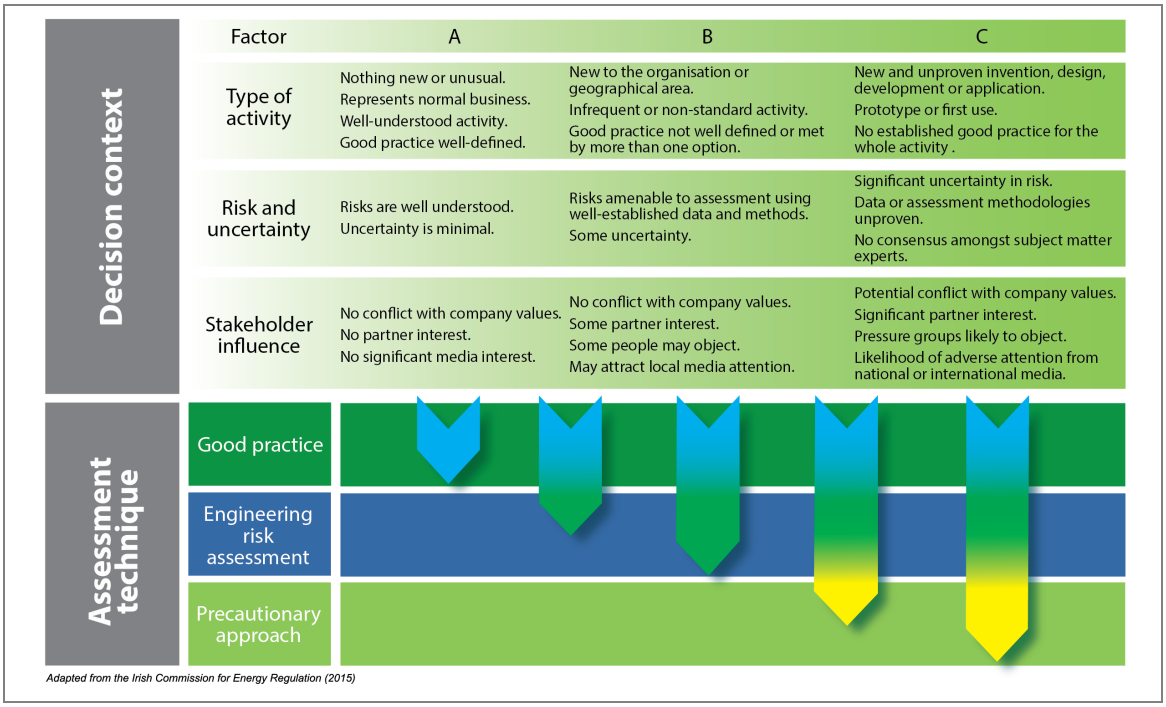


Figure 6.4. Impact and risk 'uncertainty' decision-making framework

Table 6.8. ALARP decision-making based upon level of uncertainty

Decision type	Decision-making tools
A	<u>Good industry practice</u> Identifies the requirements of legislation, codes and standards that are to be complied with for the activity. Applies the 'Hierarchy of Controls' philosophy, which is a system used in the industry to identify effective controls to minimise or eliminate exposure to impacts or risks. Identifies further engineering control standards and guidelines that may be applied over and above that required to meet the legislation, codes and standards.
B	*In addition to decision type A:* <u>Engineering risk-based tools</u> Engineering risk-based tools to assess the results of probabilistic analyses such as modelling, quantitative risk assessment and/or cost benefit analysis to support the selection of control measures identified during the risk assessment process.
C	*In addition to decision type A and B:* <u>Precautionary Principle</u> Application of the Precautionary Principle is to be applied when good industry practice and engineering risk-based tools fail to address uncertainties.

The decision-making tools outlined in Table 6.8 are explained further here.

<u>Good Practice</u>

In the absence of an Australian definition, the OGUK (2014) and the Irish Commission for Energy Regulation (CER) (2015) define '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.*

NOPSEMA has not endorsed any 'approved codes of practice' or standards to give them a legal status in terms of good practice. Good practice is taken to refer to any well-defined and established standard or codes of practice adopted by an industrial/occupational sector, including 'learnings' from incidents that may yet be incorporated into standards.

Good practice can also be used as the generic term for those standards for controlling risk that have been judged and recognised as satisfying the law when applied to a particular relevant case in an appropriate manner. For this EP, sources of good practice, adapted from CER (2015) are the relevant:

- Commonwealth, state and territory legislation and regulations (outlined in Section 3.2 and Section 3.3);
- Government guidance (outlined in Section 3.4);
- International conventions (outlined in Section 3.5); and
- Industry standards (outlined in Section 3.6).

Good practice also requires that hazard management is considered in a hierarchy, with the concept being that it is inherently safer to eliminate a hazard than to reduce its frequency or manage its consequences (CER, 2015). This being the case, the 'hierarchy of controls' philosophy is applied to reduce the risks associated with hazards (described in Section 6.8.1).

Engineering Risk Assessment

All impacts and risks that require assessment beyond that of good practice (i.e., decision type A) are subject to an engineering risk assessment. Engineering risk-based tools can include, but are not limited to, engineering analysis (e.g., structural, fatigue, mooring, process simulation) and consequence modelling (e.g., ship collision, dropped object) (CER, 2015). A cost-benefit analysis to support the selection of control measures identified during the risk assessment process may also be undertaken.

Precautionary Principle

All impacts and risks that do meet decision type A or type B and require assessment beyond that of good practice and engineering risk assessment are subject to the 'Precautionary Principle'. CER (2015) states that if the assessment, taking account of all available engineering and scientific evidence, is insufficient, inconclusive or uncertain, then the precautionary principle should be adopted in the hazard management process. While there is no globally-recognised definition of the Precautionary Principle, it is generally accepted to mean:

> *Uncertain analysis is replaced by conservative assumptions which will increase the likelihood of a risk reduction measure being implemented.*

The degree to which this principle is adopted should be commensurate with the level of uncertainty in the assessment and the level of danger (hazard consequences) believed to be possible.

Under the precautionary principle, environmental considerations are expected to take precedence over economic considerations, meaning that an environmental control measure is more likely to be implemented. In this decision context, the decision could have significant economic consequences to an organisation.

6.5.2. Demonstration of Acceptability

Regulation 21(5)(c) of the OPGGS(E) requires the EP to demonstrate that environmental impacts and risks are acceptable. EOG considers a range of factors to demonstrate the acceptability of the environmental impacts and risks associated with its activities. This evaluation works at several levels, as outlined in Table 6.9. The criteria for demonstrating acceptability were developed based on EOG's interpretation of NOPSEMA's *Environment Plan decision making guideline* (N-04750-GL1721-GL1721).

Table 6.9. Acceptability criteria

Test	Question	Acceptability demonstrated
Internal context		
Policy compliance	Is the proposed management of the hazard aligned with EOG's Safety and Environmental Policy?	The impact or risk must be compliant with the objectives of the policy.
Management System Compliance	Is the proposed management of the hazard aligned with EOG's Safety and Environment Management System?	Where specific EOG procedures, guidelines or expectations are in place for management of the impact or risk, acceptance is demonstrated.
External context		
Stakeholder engagement	Have relevant persons and stakeholders raised any concerns about activity impacts or risks? If so, are control measures in place to manage those concerns?	Merits of claims or objections raised by relevant persons and stakeholders must have been adequately assessed and additional control measures adopted where appropriate.
Legislation, industry standard and best practice		
Legislative context	Do the control measures meet the expectations of existing Commonwealth, WA or NT legislation?	The proposed control measures align with legislative requirements.
Industry practice	Do the control measures align with international and Australian industry guidelines and practices?	The proposed control measures align with relevant industry guidelines and practices.
Environmental context	What are the overall impacts and risks to MNES and other areas of conservation significance? Do control measures align with the aims and objectives of marine park management plans and species conservation advice, recovery plans or threat abatement plans?	There are no long-term impacts to MNES and the proposed control measures ensure that impacts or risks are not inconsistent with the aims and objectives of marine park management plans and species conservation advice, recovery plans or threat abatement plans.
ESD Principles*	Are the control measures aligned with the principles of ESD?	The EIA presented throughout Chapter 7 is consistent with the principles of ESD.

**See Table 6.10 for more information.*

Principles of Ecologically Sustainable Development

Based on Australia's National Strategy for Ecologically Sustainable Development (Council of Australian Governments, 1992), Part 3A of the EPBC Act defines ESD as:

> *Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased.*

Table 6.10 outlines the principles of ESD as defined under the EPBC Act and describes how this EP aligns with these principles.

Table 6.10. Assessment of ESD principles

Principle		EP demonstration
A	Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.	This principle is inherently met through the EP assessment process.
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.	Serious or irreversible environmental damage resulting from the activity has been eliminated through the activity design (see Chapter 2). None of the residual impacts is rated higher than 'moderate' and none of the residual risks is rated higher than 'medium.' Scientific certainty has been maximised by employing a spill EMBA as a risk assessment boundary.
C	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 EP assessment methodology ensures that risks from the activity are managed to be ALARP and acceptable.
D	The conservation of biodiversity and ecological integrity should be a fundamental consideration in decision making.	This principle is considered for each hazard in the adoption of environmental controls (i.e., environmental performance outcomes and environmental performance standards) that aim to minimise environmental harm. There is a strong focus in this EP on conserving biodiversity and ecological integrity by understanding the marine environment and commercial fishing activity in the activity area and EMBA (Chapter 5) and implementing control measures to minimise impacts and risks (Chapter 7).
E	Improved valuation, pricing and incentive mechanisms should be promoted.	This principle is not relevant to this activity.

6.6. Step 6 – Treat the Risk

The activity environmental impact and risk register (discussed in Section 6.2) and this EP record the environmental control measures (e.g., measures to prevent, minimise and mitigate impacts and risks) that were determined by a qualified and experienced team familiar with the activity and the sensitivities of the existing environment. These control measures are listed throughout the impact assessment and risk assessment tables in Chapters 7 and 8.

6.7. Step 7 – Monitor and Review

Monitoring and review activities are incorporated into the impact and risk management process to ensure that control measures are effective and efficient in both design and operation. This is achieved through the environmental performance outcomes and standards and measurement criteria that are assigned to each environmental hazard.

The monitoring and review process is undertaken to support the compliance reporting process and is an opportunity to identify emerging risks that have arisen, that need to be analysed and addressed, if required. Monitoring and review of activities are described in the Implementation Strategy (Chapter 9).

7. Environmental Impact Assessment – Planned Activities

This chapter presents the EIA for the environmental impacts identified for the activity using the methodology described in Chapter 6, as required under Regulations 21(5)(6) of the OPGGS(E).

This chapter presents the control measures, Environmental Performance Objectives (EPOs), Environmental performance Standards (EPSs) and measurement criteria required to manage (i.e., avoid, minimise or mitigate) the identified impact. The following definitions are used in this section, as defined in Regulation 5 of the OPGGS(E):

- **Control measure** – a system, an item of equipment, a person or a procedure, that is used as a basis for managing environmental impacts and risks;
- **EPO** – 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 (i.e., the environmental objective);
- **EPS** – a statement of the performance required of a control measure; and
- **Measurement criteria** – defines the measure by which environmental performance will be measured to determine whether the EPO has been met.

A summary of the impact consequence rankings and risk ranking for each hazard identified and assessed in this chapter is presented in Table 7.1.

Table 7.1. Activity environmental impacts summary

Identifier	Hazard	Inherent	Residual
Impacts			
1	Physical presence - seabed disturbance	Negligible	Negligible
2	Physical presence - displacement of other marine users	Negligible	Negligible
3	Routine emissions - light	Negligible	Negligible
4	Routine emissions - atmospheric	Negligible	Negligible
5	Routine emissions – noise		
	- Plankton	Negligible	Negligible
	- Crustaceans (i.e., prawns)	Negligible	Negligible
	- Fish (with and without swim bladders)	Negligible	Negligible
	- Marine mammals	Negligible	Negligible
	- Marine reptiles (i.e., turtles)	Negligible	Negligible
	- Avifauna	Negligible	Negligible
6	Routine discharges - drill cuttings and muds	Negligible	Negligible
7	Routine discharges - cement	Negligible	Negligible
8	Routine discharges - putrescible waste	Negligible	Negligible
9	Routine discharges - sewage and grey water	Negligible	Negligible
10	Routine discharges - cooling and brine water	Negligible	Negligible
11	Routine discharges - bilge water and deck drainage	Negligible	Negligible

The following sections assess environmental impacts (arising from planned events, being events that do or will happen), as listed in Table 7.1 and presented pictorially in Figure 7.1.

In this chapter, reference to support vessels includes any vessel undertaking GVI (see Section 2.8.2).

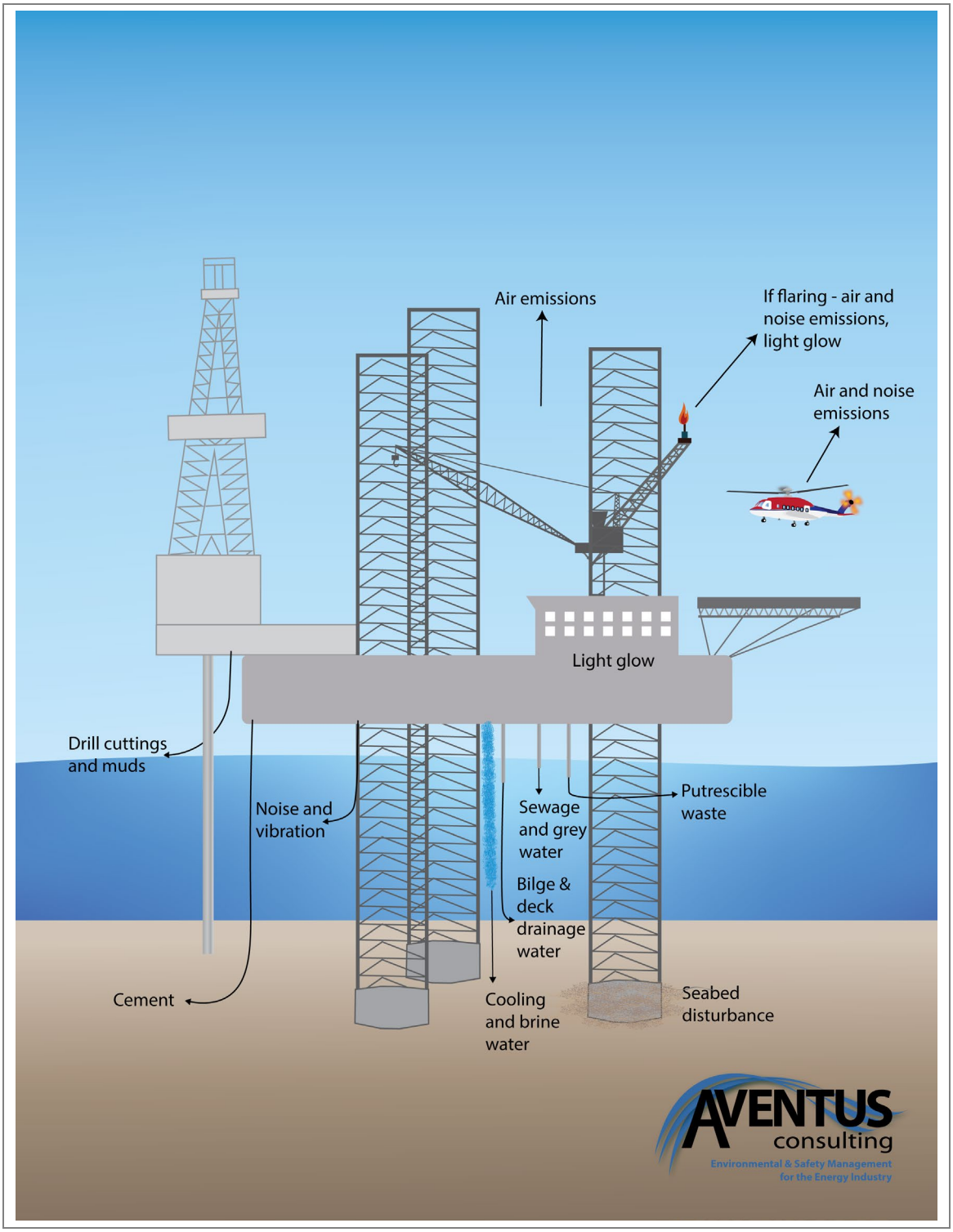


Figure 7.1. Simplified pictorial representation of impacts arising from the planned activities during Beehive multi-well drilling

7.1. IMPACT 1 – Physical Presence - Seabed Disturbance

7.1.1. Hazard

The following elements of the activity will result in seabed disturbance:

- MODU positioning – pinning of the jack-up MODU's legs to the seabed, with the spud cans penetrating the seabed sediments to a depth of about 16 m (based on previous drilling at the nearby Blacktip field).
- Drilling – the drilling activity will result in the generation of drill cuttings and discharge of cement and drilling muds, which will be deposited either directly at the seabed or settle to the seabed when discharged at the sea surface. Seabed disturbance resulting from the discharge of drilling cuttings. muds and cement is addressed in Section 7.6 and Section 7.7, respectively.
- Support vessel anchoring – the use of anchors (when vessels are on standby or in an emergency).

7.1.2. Known and Potential Environmental Impacts

Seabed disturbance has the potential to impact on:

- Marine receptors through physical removal or disturbance of seabed sediments an increase in turbidity of the water column near the seabed; and
- UCH, if present.

These impacts will result in localised and temporary disturbance, displacement or smothering of benthic habitats and fauna. At each well site, the area of benthic habitat that will be disturbed is limited to that occupied by the well itself (1 m^2), the three spud cans (with a diameter of 18 m each, each one occupies an area of 254 m^2) and the support vessel anchors (~5 m^3 each). This will result in a total of 769 m^2 of seabed disturbance per well, noting that the support vessels are highly unlikely to anchor in the same position each time, so this figure may be slightly higher.

Assuming three wells are drilled, this will result in a total of 2,307 m^2 of seabed disturbance, which is equivalent of 0.005% of the activity area (excluding anchoring by support vessels, which is not planned to occur).

There are no listed shipwrecks present within the impacts EMBA (see Section 5.6.2) and nor were any revealed during EOG's geophysical survey in June 2022 (see Section 5.2.3), therefore impacts to shipwrecks are not discussed further.

7.1.3. EMBA

The EMBA for seabed disturbance created by MODU positioning is likely to be restricted to tens of metres around each leg ('soft pinning' is usually only required when approaching a platform, and as such, furrows created in this process will not be created for this activity). Receptors that are known to occur or may occur within this EMBA are:

- Benthic species; and
- Demersal fish species.

7.1.4. Evaluation of Environmental Impacts

Physical removal of seabed sediments

Within the activity area, there are no known sensitive seabed features (such as reef, sponge gardens, seagrass meadows or scallop beds), so MODU positioning will not result in a loss of sensitive or geographically restricted habitats. Surveys of seabed disturbance from anchoring activities indicate that recovery of benthic fauna in soft sediment substrates (such as the sandy seabed that dominates the activity area) occurs between 6 to 12 months after the disturbance was created (URS, 2001). The anchor depression acts as a trap for marine detritus and sand, which will quickly fill and be recolonised by benthic organisms (Currie and Isaac, 2005). The area impacted by spud cans and the well bore is extremely small and will not pose a threat to seabed habitats or fauna communities.

The area that will be disturbed is very small compared with the overall extent of the sandy seabed habitat in the region and consequently, there will be no long-term impacts to the diversity and abundance of benthic fauna, with impacts being extremely localised.

Water column turbidity

Turbidity may occur when seabed sediments are stirred up during the drilling process and during jack-up and jack-down of the MODU legs. Any turbidity created is likely to be within the limits of natural variability when considering the turbidity created by tides and storm events in the shallow waters of the activity area. This turbidity would limit light penetration into the water column but given its temporary nature, it would be unlikely to inhibit any macroalgae growth. Benthic fauna living in sediment (endobenthos) or on sediment (epibenthos) may be temporarily displaced by this turbidity.

Given the dominance of soft sediments (sand) in the activity area, it is expected that holes created by coring activities will rapidly collapse in on themselves, leaving only shallow pock marks in the seabed that will be rapidly filled in and colonised, as described above.

Direct mortality of benthic fauna

Mortality of benthic fauna may result in areas that are directly disturbed, or disturbed a result of suspended sediments settling back onto the seabed. Assuming 3 wells are drilled, the area that will be disturbed is extremely small compared with the overall extent of the habitat in the region and consequently, there will be no long-term impacts to the diversity and abundance of benthic fauna populations, with impacts being extremely localised and temporary.

Underwater cultural heritage

This evaluation of potential impacts to UCH is taken from Cosmos Archaeology (2023) (Appendix 12). At each well site, the three spuds and the drill hole will penetrate the recent Holocene sediments and impact the former Late Pleistocene surfaces. There is a remote likelihood that the spud cans or drill will intersect a lithic artefact. Only the drill would destroy such an artefact, while the spud cans would dislocate or modify it. Even with the remote likelihood that an artefact may be impacted in this manner, such an impact will not appreciably alter the existing archaeological integrity of the artefact and as such will not affect its archaeological/scientific cultural heritage values.

Relocating the drill sites will not alter the risk of impact. Any form of retrieval of seabed material from the potential impact areas for the purposes of recovering artefacts will likely cause the same or greater disturbance than the proposed works. Any further remote sensing or geotechnical investigation will not alter the assessment of the identified landform and archaeological potential.

Cosmos Archaeology concludes that the proposed activity will have a remote likelihood of impacting First Nations tangible UCH.

7.1.5. Impact Assessment

Table 7.2 presents the impact assessment for seabed disturbance.

Table 7.2. Impact assessment for seabed disturbance

Summary			
Summary of impacts	Removal/disturbance of seabed sediments. Turbidity of the water column at the seabed.		
Extent of impacts	Localised – around individual points of disturbance.		
Duration of impacts	Temporary – returning to pre-impact condition soon after impact.		
Level of certainty of impacts	HIGH – the impacts of disturbance to seabed sediments are well known.		
Impact decision framework - context	Decision type	A - good industry practice required.	
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.	
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.	
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.	
Defined acceptable level	Seabed disturbance is limited to the areas required for MODU positioning		
Impact Consequence (inherent)			
Negligible			
Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Seabed disturbance is kept to the minimum area necessary for safe operations **(IMP-01:EPS-01, -02, -03)**.	Elimination	Yes	**EB:** Reduces the footprint of seabed disturbance. **C:** No additional cost due to the nature of the activity. **Ev:** The environmental benefits outweigh the negligible costs.
No anchoring of support vessels.	Elimination	No	**EB:** Reduces the area of seabed disturbance. **C:** Cost of additional diesel fuel will be substantial (tens of thousands of dollars). **Ev:** The featureless seabed of the activity area (verified through the geophysical survey) means there is no environmental benefit in preventing vessels from anchoring if they need to. Anchoring, if required, will

			save the volume of fuel consumed and reduce associated atmospheric emissions.
Installation of support vessel mooring	Substitution	No	**EB:** Reduces the area of seabed disturbance from vessel anchors **C:** Additional vessel-based activity to install at least one mooring on location. **Ev:** Given the short duration of the activity, and the featureless seabed in the vicinity, the installation of a mooring is not considered necessary. Vessels will be on DP most of the time and therefore the requirement to anchor will be limited.
Avoid objects being dropped overboard **(IMP-01:EPS-04, -05, -06, -07)**.	Elimination	Yes	**EB:** Reduces the likelihood of seabed disturbance from dropped objects overboard. **C:** No additional cost due to the nature of the activity. **Ev:** The environmental benefits outweigh the negligible costs.
Large objects dropped overboard from the MODU will be retrieved wherever possible	Engineering	No	**EB:** The MODU will not have an inspection class ROV onboard – this is only standard on semi-submersible MODUs. Only an observation class ROV will be available. The retrieval of large objects from the seabed is therefore not possible. **C:** Significant cost (hundreds of thousands of dollars) involved in having an inspection class ROV onboard during the campaign. **Ev:** The environmental benefits are outweighed by the substantial costs.
Unexpected finds of potential UCH sites/features are managed in accordance with an UCH unexpected finds procedure. **(IMP-01:EPS-09, -10)**.	Administra-tive	Yes	**EB:** Finds are managed in accordance with legislative requirements, expert advice and community expectations. **C:** Negligible. **Ev:** The environmental benefits outweigh the negligible costs.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Seabed disturbance is kept to the minimum area necessary for safe operations.	**(IMP-01:EPS-01)** The MODU will be pinned directly at each location and will not undergo a soft-pinning exercise, thereby preventing the creation of scour channels in the seabed.	The MODU positioning report confirms direct pinning occurred.
	(IMP-01:EPS-02) MODU-specific jack-up procedures are used to ensure compliance with stability criteria, reduce the risk of foundation shift or failure.	The MODU positioning report confirms MODU-specific jack-up procedures were used.

	(IMP-01:EPS-03) Vessel anchoring will only occur in locations deemed suitable from the results of the PDSA.	PDSA report identifies suitable seabed for anchoring (i.e., absence of sensitive seabed habitat such as rocky reef).
Avoid objects being dropped overboard.	**(IMP-01:EPS-04)** Large bulky items are securely fastened to or stored on the deck to prevent loss to sea.	A completed pre-departure inspection checklist verifies that bulky goods are securely sea-fastened.
	(IMP-01:EPS-05) The crane/A-frame handling and transfer procedure is in place and implemented by crane operators (and others, such as dogmen) to prevent dropped objects.	Completed handling and transfer procedure checklist, permits to work (PTWs) and/or risk assessments verify that the procedure is implemented prior to each transfer.
	(IMP-01:EPS-06) The crane/A-frame operators are trained to be competent in the handling and transfer procedure to prevent dropped objects.	Training records verify that crane operators are trained in the loading and unloading procedure.
	(IMP-01:EPS-07) Visual inspection of lifting gear is undertaken every quarter by a qualified competent person (e.g., maritime officer) and lifting gear is tested regularly in line with the MODU/vessel planned maintenance system (PMS).	Inspection of PMS records and Lifting Register verifies that inspections and testing have been conducted to schedule.
Large objects dropped overboard from the MODU will be reported.	**(IMP-01:EPS-08)** Large objects left behind at the end of the activity (that cannot be retrieved) will be reported internally and to NOPSEMA.	Incident report/s verify that the report was issued to NOPSEMA.
No adverse impacts to unexpected finds of UCH.	**(IMP-01:EPS-09)** The Unexpected Finds Procedure (available in Section 10.5.4) will be implemented in the event that an UCH site or feature is identified.	Incident report verifies that the Unexpected Finds Procedure was implemented.
	(IMP-01:EPS-10) MODU and support vessel crew are made aware of the Unexpected Finds Procedure via induction.	Induction presentation contains information on Unexpected Finds Procedure and crew induction records verify they were received.
Impact Consequence (residual)		
Negligible		
The consequence of seabed disturbance is assessed as negligible because: • Impacts are extremely localised, thereby reducing temporary turbidity in water column; • Spud can depressions will collapse in on themselves and fill in quickly with sediments and recolonise with benthic fauna; and • There is an absence of sensitive habitats in the activity area.		
Demonstration of ALARP		
A ‘negligible’ residual impact consequence is considered to be ALARP and a ‘lower order’ impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.		

Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual consequence is negligible, which is considered acceptable.	
External context	There have been no objections or claims made by relevant persons regarding seabed disturbance for this activity.	
Legislative context	There is no legislation associated with seabed disturbance. UCH is protected from disturbance or adverse impacts by the *Underwater Cultural Heritage Act* 2018 (Cth).	
Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this hazard are in line with the management measures listed for offshore marine use (physical disturbance) in Section 4.3.2 of the guidelines. In addition, this EP addresses the point of undertaking an environmental assessment to identify protected areas and local sensitivities. • Reduce footprint (**IMP-01: EPS-01, -02**).
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	Not applicable. There is no guidance in these guidelines regarding seabed disturbance.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	Section 2.3.13 (marine operations and site assessment) of this guideline states that location-specific seabed assessments are undertaken to assure suitability of the equipment for the operating environment. Section 3.2.3.3 (foundation stability for jack-ups) also states that obtaining and analysing geotechnical data and information from seabed surveys should be undertaken. This will be achieved by conducting the geotechnical investigations (subject to a separate accepted EP) and using the results to guide the placement of the MODU. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Not applicable. There is no guidance regarding seabed disturbance.

	AEP CoEP (APPEA 2008)	The EPS developed for this activity meet the code's following objectives for offshore drilling operations: • To reduce the impacts to benthic communities to acceptable levels and to ALARP.
Environmental context	MNES	
	AMPs	This hazard will not impact the conservation values of nearby AMPs.
	Ramsar wetlands	This hazard will not impact any Ramsar wetlands.
	TECs	This hazard will not impact any TECs.
	Nationally threatened and migratory species	This hazard will not impact any threated or migratory species.
	Other matters	
	KEFs	This hazard will not impact any KEFs.
	NIWs	This hazard will not impact any NIWs.
	State marine parks	This hazard will not impact any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	None triggered by this hazard.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the impacts from seabed disturbance to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Seabed disturbance will not have long-term or significant impacts on MNES; • The management of seabed disturbance is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of seabed disturbance is not inconsistent with the aims of relevant marine reserve management plans; and • The management of seabed disturbance is not inconsistent with ESD principles.	
Environmental Monitoring		
• None required.		
Record Keeping		
• MODU positioning report • Daily reports. • PTWs.	• Load ratings and load test certificates. • PMS records. • Training records.	

• Equipment pre-deployment inspection checklist. • Handling and transfer procedure. • Completed handling and transfer checklists. • PMS records and Lifting Register	• Crane/A-frame operator qualification and training records. • Incident reports. • Operations reports. • Induction presentation.

7.2. IMPACT 2 – Physical Presence - Displacement of Other Marine Users

7.2.1. Hazard

The physical presence of the MODU and support vessels undertaking the activity, potentially at up to three locations within the activity area, necessitates the temporary displacement of other marine users from around the MODU for the safety of other marine users and the MODU crew. This will result in the temporary displacement of other marine users such as commercial fishing vessels and merchant vessels from areas in which they would normally operate. Displacement of other marine users differs from interference with other marine users, which is addressed in Section 8.4.

7.2.2. Known and Potential Environmental Impacts

The known and potential impacts of the displacement of other marine users are:

- Diversion from a planned travel route and additional time to re-join the planned route;
- Increased fuel use (and cost) as a result of this diversion; and
- Temporary exclusion from fishing grounds.

7.2.3. EMBA

Other marine users will be excluded from operating within a 500-m radius of the MODU (in line with the PSZ and NTM) so as to avoid potential damage to the MODU. Receptors in the EMBA may include:

- Commercial fishing vessels; and
- Merchant shipping vessels.

7.2.4. Evaluation of Environmental Impacts

Merchant Shipping

As illustrated in Figure 5.37 and detailed in Table 5.19, the activity area and the immediate surrounds has recorded 74 vessel trips (tankers, cargo chips, fishing vessels, etc) over a 12-month period and therefore overlaps an area of low shipping traffic. This is primarily due to its location south of the major shipping routes travelling to and from the Port of Darwin (Figure 5.49).

The temporary exclusion of other marine users is likely to result in a negligible increase in travel time and fuel cost to individual marine users because of the very small exclusion zone and short-term nature of the activity at each well site. In the context of the marine voyages undertaken by vessels in the region, a negligible increase in travel time and fuel use in order to divert around the path of the MODU undertaking drilling activities will have a negligible consequence.

Fishing Vessels

The primary fishery with recent fishing history in the activity area is the NPF. The timing of the activity may fall within the banana prawn fishing season. Under an agreement between AFMA and the NPFI, the JBG will be closed to prawn fishing for from 1st April to 15th June (until 2026).

There will be a PSZ in place during drilling (a 500-m radius around the MODU) that aims to exclude interference with MODU operations. This is an area of 0.7855 km^2 at each drill site, which represents 0.000001% of the NPF. As such, if fishing in the NPF is taking place at the time of drilling, impacts are likely to be negligible given the extremely small area of overlap with the fishery. This should eliminate the potential for displacement with license holders of this fishery.

The WA-managed NDSMF and MMF may operate within the activity area. Given the short duration of the activity at each drill site, the small area of potential displacement (0.0005% for the NDSMF (Zone A) and 0.0002% for the MMF (Area 1 - Kimberley)) and the low volume of catch recorded from the activity area (see Section 5.7.1), the consequence of potential temporary displacement to these fisheries will have a negligible consequence.

In the event of one or more wells being TA and that trawl guards are installed over the wellhead(s), this will ensure that fishing gear is protected from the snag risk posed by the wellhead(s). As such, damage to fishing trawl nets is unlikely to occur in this scenario.

7.2.5. Impact Assessment

Table 7.3 presents the impact assessment for displacement with other marine users.

Table 7.3. Impact assessment for displacement of other marine users

Summary		
Summary of impacts	Presence of the MODU and support vessels will temporarily displace other marine users (i.e., commercial fishing vessels, merchant shipping, etc) resulting in temporary exclusion in the area immediately around the vessel.	
Extent of impacts	Highly localised – 500 m around MODU.	
Duration of impacts	Short-term – minutes for a third-party vessel detour.	
Level of certainty of impacts	HIGH – the impacts associated with displacement of other marine users is well understood.	
Impact decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	Displacement of other marine users is no greater than the necessary for the reasonable exercise of rights afforded under the OPGGS Act. No unplanned interactions with other marine users.	

Impact Consequence (inherent)			
Receptor		Consequence	
Merchant shipping		Negligible	
Commercial fisheries		Negligible	
Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Do not conduct the activity in waters available to fisheries.	Eliminate	No	**EB:** Eliminates the potential for displacement of fishers by conducting the activity only in waters that are closed to fishing. **C:** The activity objectives could not be met if confined to areas closed to fishing. **Ev:** There are low numbers of fishers working in the activity area and the area is closed to the NPF during the activity timing. The activity area does not represent critical fishing grounds for any WA-managed fisheries. The cost of implementing this control is grossly disproportionate to the environmental benefit.
Conduct the activity during the NPF JBG closure period (1st April to 15th June).	Eliminate	No	**EB:** Eliminates the potential for displacement of NPF fishers by conducting the activity only when JBG waters are closed to prawn fishing. **C:** Extremely high (up to several millions of dollars) if MODU availability aligns with the requested exclusion period. The costs are associated with 'warm-stacking' the MODU, paying a termination fee to the MODU operator for breach of contract and/or lost opportunity costs. **Ev:** The cost of this control measures is grossly disproportionate to low inherent risk to fishers in the NPF. Trawling will not be impacted outside of the 500-m radius PSZ around the MODU. The PSZ represents 0.000001% of the total fishing area of the NPF.
Install trawl guard(s) over TA wellhead(s) if there has been trawl fishing in the 5 years pre-drilling and if trawl fishers request it **(IMP-02:EPS-04)**.	Engineering	Yes	**EB:** Prevents displacement from fishing grounds. Protects fishing trawl equipment from damage and therefore prevents potentially costly losses to fishers from snagging. Also presents safety benefits to fishers. **C:** Significant cost to EOG in terms of trawl guard manufacture and MODU time for installation. **Ev:** Preventing displacement and safety risks to trawl fishers outweighs the cost.
Reduce the exclusion zone (PSZ) to the	Administrative	Yes	**EB:** The exclusion zone (and thus extent of displacement) is reduced to the lowest possible

smallest area possible for safe operations **(IMP-02:EPS-01).**			extent necessary to achieve its aim and is linked to the minimum safe distance from the MODU. **C:** No cost to gazette the PSZ. **Ev:** Reducing the extent of displacement to the smallest area possible for safe operations outweighs the cost.
Communicate the required area of displacement for the duration of the activity. **(IMP-02:EPS-02, -03)**.	Administrative	Yes	**EB:** Informed stakeholders allows for planning so as to avoid or minimise displacement. **C:** Minimal cost to communicate with other marine users ahead of the activity through EOG notifications and the NTM. **E:** The benefit of avoiding or minimising displacement outweighs the minimal cost to implement this control measure.
Compensate for economic loss due to a spill associated with drilling **(IMP-02:EPS-05, -06)**.	Administrative	Yes	**EB:** Affected third-party marine users are compensated for any economic loss due to displacement, thereby mitigating the potential socio-economic consequences. **C:** Minor costs to prepare the procedure and administer the claims process. Potentially significant costs for a claim or claims. **Ev:** The principal of the control measure is to ensure that other marine users are no worse off as a result of drilling so that all parties maintain their rights to access the ocean. The benefits outweigh the high costs of potential claims.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Displacement is limited to the area necessary for safe operations.	**(IMP-02:EPS-01)** The exclusion zone is limited to a 500-m radius around the MODU, as gazetted through the PSZ.	The PSZ is gazetted by NOPSEMA and available on its website.
	(IMP-02:EPS-02) EOG provides pre-activity notification to commercial fisheries at least one month prior to activity commencement to ensure they are aware of the activity timing and safety exclusion zone requirements.	Consultation records verify that notifications to fisheries were provides at least one month ahead of the activity starting.
	(IMP-02:EPS-03) EOG provides pre-activity notification to the AHO at least three weeks prior to activity commencement to enable the promulgation of the NTM.	NTM is issued prior to the commencement of the activity and includes activity MODU/vessel details, location and timing.
	(IMP-02:EPS-04) Trawl guard(s) will be installed over any TA well if there has been trawl fishing in the activity area in the five years pre-drilling and if trawl fishers request it.	Daily drilling reports (DDR) and end-of-well ROV report confirms installation of trawl guard(s).

<table>
<tr><td rowspan="3">There is no economic loss to other marine users as a result of the multi-well activity.</td><td rowspan="2">(IMP-02:EPS-05) EOG makes its Fisheries Compensation Procedure (FCP) (summary available in Appendix 9), which will be finalised at least one month prior to the commencement of drilling, available to fishing associations, companies or individuals who have requested it so that they are able to make a claim for losses. The protocol contains:
Philosophy of shared ocean access;
A commitment that EOG consults with fishers and fishing associations who may be impacted by EOG activities;
A commitment that a fisher should not suffer an economic loss as a direct result of an EOG activity;
A method for calculating economic loss for direct impact;
A claims procedure and forms; and
How to manage disagreements.</td><td>Email correspondence verifies the fisheries compensation procedure was provided to those that requested it.</td></tr>
<tr><td>Completed claims forms are available for any lodged claims.</td></tr>
<tr><td>(IMP-02:EPS-06) EOG administers and implements the FCP in a manner such that compensation is provided in a timely manner (within 60 days of receiving a commercial fisher’s signed settlement agreement, per Section 9 of the FCP) in response to any evidence-based claims for compensation that have merit.</td><td>Claims correspondence and payment date verifies that compensation payments are paid within 60 days of receiving a commercial fisher’s signed settlement agreement.</td></tr>
<tr><td colspan="3">Impact Consequence (residual)</td></tr>
<tr><td colspan="2">Receptor</td><td>Consequence</td></tr>
<tr><td colspan="2">Merchant shipping</td><td>Negligible</td></tr>
<tr><td colspan="2">Fisheries</td><td>Negligible</td></tr>
<tr><td colspan="3">The impact of displacement of other marine users is assessed as negligible because:
The activity will be of a short duration;
The area of displacement is extremely small and will not result in negligible increased time and fuel use for third-party vessels to divert around the activity vessel;
The activity will be conducted during the NPF JBG closure period; and
Thorough consultation has been undertaken in the development of the activity to minimise the impact of temporary displacement.</td></tr>
<tr><td colspan="3">Demonstration of ALARP</td></tr>
<tr><td colspan="3">A ‘negligible’ residual impact consequence is considered to be ALARP and a ‘lower order’ impact. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.</td></tr>
<tr><td colspan="3">Demonstration of Acceptability</td></tr>
</table>

Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.	
External context	There have been no objections or claims made by relevant persons regarding displacement of other users for this activity.	
Legislative context	The EPS outlined in this table align with the requirements of: • OPGGS Act 2006 (Cth). ○ Section 280 – requires that a person carrying on activities in an offshore area under the permit, lease, licence, authority or consent must carry on those activities in a manner that does not interfere with navigation or fishing (among others) to a greater extent than is necessary for the reasonable exercise of the rights and performance of the duties of the first person.	
Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed guidelines and codes of practice demonstrates that BPEM will be implemented for this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this hazard are in line with the management measures listed for offshore physical presence in Section 4.3.1 of the guidelines, which include: • Develop exclusion zones in consultation with key stakeholders, including local fishing communities; raise awareness of exclusion zones with all stakeholders **(IMP-02:EPS-01)**. • Issue a 'NTM' through the relevant government agencies, detailing the area of operations **(IMP-02:EPS-03)**. • Ensure all vessels adhere to International Regulations for Preventing Collisions at Sea (COLREGS), which set out the navigation rules to be followed to prevent collisions between two or more vessels. • Optimise vessel use to ensure the number of vessels required and length of time that vessels are on site is as low as practicable.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There are no guidelines specifically regarding physical presence for offshore activities.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	There is no specific guidance regarding displacement of other marine users. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.

	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	There are no guidelines specifically regarding physical presence for activity vessels.
	AEP CoEP (APPEA 2008)	The EPS developed for this activity meet the code's following objectives for offshore drilling operations: • To reduce disturbance to fishing operations or other marine users to ALARP and to an acceptable level. • To reduce the risk of collision with other vessels in accordance with maritime standards.
Environmental context	MNES	
	AMPs	This hazard will not intersect nearby AMPs.
	Ramsar wetlands	This hazard will not intersect any Ramsar wetlands.
	TECs	This hazard will not intersect any TECs.
	Nationally threatened and migratory species	This hazard will not have any impacts on threatened or migratory species.
	Other matters	
	KEFs	This hazard will not intersect any KEFs.
	NIWs	This hazard will not intersect any NIWs.
	State marine parks	This hazard will not intersect any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	None triggered by this hazard.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the impacts from displacement of other marine users to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved; • Input from engagement with relevant persons has been considered and incorporated into the design of the activity; and • Relevant legislation and industry best practice will be complied with.	
Environmental Monitoring		
• Continuous bridge monitoring from the support vessels.		
Record Keeping		

• Consultation records. • NTM.	• Operational reports. • Incident reports.

7.3. IMPACT 3 – Routine Emissions – Light

7.3.1. Hazard

Light emissions will occur from the MODU and support vessels due to:

- Vessel navigation lighting will be maintained while vessels are on location for maritime safety purposes;
- MODU deck lighting will be maintained for the safety of personnel working on deck;
- Flaring from the MODU (if DST is undertaken); and
- Underwater light from ROV activities.

7.3.2. Known and potential environmental impacts

The known and potential impacts of lighting are:

- Light glow may act as an attractant to light-sensitive species (e.g., seabirds, turtles, squid, zooplankton), in turn affecting predator-prey dynamics (due to attraction to or disorientation from light); and
- Continuous lighting may result in localised alterations to normal marine fauna behaviours.

7.3.3. EMBA

According to the National Light Pollution Guidelines for Wildlife (DCCEEW, 2023c), if there is important habitat for seabirds (e.g., foraging BIAs) and turtles (e.g., nesting beaches) within 20 km of a project, an EIA should be undertaken. The 20 km buffer is based on the observed grounding of seabirds in response to a light source at least 15 km away and observed disorientation of turtle hatchlings to a light source 18 km away (DCCEEW, 2023c).

Based on a MODU deck height of 20 m above the sea, the MODU (and therefore light) would be visible from 16 km away (calculated based on average human height, not birds in the air or turtles at the sea surface). For vessels, this distance would be slightly less. Although there are no bird BIAs or turtle nesting beaches within 20 km of the multi-well activity area, the 20-km radius light EMBA from drilling activities (not including DST) has been adopted as a very conservative EMBA for light emissions in line with DCCEEW (2023).

Light-sensitive receptors that occur within this EMBA, either as residents or migrants, are:

- Plankton;
- Turtles;
- Pelagic fish; and
- Seabirds.

If DST is undertaken, the light from flaring may be visible over a larger distance for a short period of time (approximately 3 days per well). Light modelling was undertaken for Santos' Dorado development (northwest WA) for flaring from an FPSO (Pendoley Environmental, 2020). This study

indicated that the flare is no longer directly visible at 42.4 km, when the flare drops below the horizon. As the flare drops below the horizon, radiance declines rapidly and is no longer visible.

The flare boom for the DST is slightly elevated above the deck. For the typical MODU being considered, the main deck is 22.8 m above MSL and the EverGreen Burner would be ~2.0 m above the main deck. This is lower than the height of a flare on a typical FPSO and therefore distances that the flare would be visible are considered conservative. Lighting impacts are not only related to the amount of artificial light, but also the types of light and the wavelengths that the different light types emit. Measurements of light emitted from a MODU recorded peak wavelengths between 530 to 620 nm, which is within the range that is visible to marine turtles and seabirds (300 to >700 nm) (Woodside, 2019). Light emitted from a natural gas flare recorded peak wavelengths between 750 to 900 nm (Pendoley, 2000 in Woodside, 2019). While this peak is outside the visible spectrum that is most disruptive to wildlife, including marine turtles and seabirds (DCCEEW, 2023c), light emissions from gas flares tend to be high intensity, which is also an important factor. Therefore, light emissions from gas flares may pose a potential risk to wildlife.

7.3.4. Evaluation of Environmental Impacts

The routine lighting levels associated with the MODU and support vessels are not considered to be significantly different from other commercial shipping activity in the impacts EMBA (see vessel types in Section 5.7.7), nor will it be a permanent additional contribution of artificial light in the JBG.

The additional lighting experienced during a DST (if performed) will result in a larger light EMBA, conservatively estimated at 42 km, for short periods of time (i.e., a 3-5 day period per zone with less than 1.5 days continuous flaring during each zone for each well).

Turtles

Artificial light can disrupt critical behaviours in turtles such as adult nesting and hatchling orientation, sea finding and dispersal ability and can reduce the reproductive viability of turtle stocks (DCCEEW, 2023c). Female turtles nest on sandy tropical and sub-tropical beaches predominantly at night where they rely on visual cues to select nesting beaches and orient on land. Most turtle hatchlings emerge at night and must rapidly orient for and find the ocean to avoid predation. Hatchlings orient for the ocean using both topographic and brightness cues, whereby they move toward the brighter oceanic horizon and away from the darkened silhouettes of the sand dunes on the beach (DCCEEW, 2023c). This critical sea finding behaviour can be disrupted by artificial lights that disorient or misorient the movement of hatchling in a direction other than the sea, which often leads to mortality from predation, exhaustion or dehydration (DCCEEW, 2023c).

The multi-well activity area is located 46 km from the nearest shoreline, which far exceeds the recommended 20 km buffer for artificial light applied to turtle nesting locations for drilling activities, and is also outside the 42 km EMBA from flaring. Therefore, lighting from the MODU, flaring and support vessels is not predicted to impact turtle hatchlings at any potential nesting locations. Although hatchlings have been found to be attracted to light sources in the nearshore environment (Wilson *et al*., 2018), the offshore waters of the operational area and its long distance from shorelines means that the impact of lighting on hatchling dispersal will be negligible (e.g., the nearest nesting beaches are at Cape Domett for green turtles, 84 km to the southwest of the activity area).

The light EMBA from routine drilling and from flaring (Figure 7.2) has been applied to the entire activity area (due to the unknown location of up to three wells within the activity area) and is therefore considered extremely conservative (i.e., light glow will occur from a single point rather

than an area as large as the activity area) and thus overlaps the following turtle BIAs and habitat critical to the survival of marine turtles:

- Green turtle – foraging BIA;
- Flatback turtle – inter-nesting BIA;
- Olive Ridley turtle – foraging BIA; and
- Flat back turtle – nesting - habitat critical to the survival of marine turtles.

Table 7.4 presents a comparison of the routine light EMBA and flaring EMBA overlaps with the turtle BIAs and habitat critical to the survival of marine turtles. Habitat critical to the survival of turtles is discussed in Section 5.4.6.

Table 7.4. Comparison of the light EMBAs overlap with turtle BIAs and habitat critical to the survival of marine turtles

BIA/Habitat critical to the survival of marine turtles	Light EMBA (20 km radius)	Flaring EMBA (42 km radius)
BIA		
Loggerhead turtle (see Figure 5.25)	0%	0%
Green turtle – foraging (see Figure 5.26)	4.39%	16%
Flatback turtle – inter-nesting (see Figure 5.27)	7.8%	27%
Olive Ridley turtle – foraging (see Figure 5.28)	2.73%	10%
Habitat critical to the survival of marine turtles		
Flat back turtle – nesting (see Figure 5.27)	0.49%	19%

Note: given the uncertainty of the well locations, the EMBA has been applied to the entirety of the activity area (not a particular drilling location). As such, these figures are significantly greater than they would be in reality and are extremely conservative.

These BIAs are associated with adult foraging turtles, so light emissions from the multi-well activity are anticipated to have a negligible consequence because lighting will not interfere with the behaviour of their prey and therefore disruption to normal foraging behaviour will not be negatively impacted.

Although the light EMBAs overlap important inter-nesting habitat, the number of individuals likely to be present is expected to be limited. Suitable inter-nesting habitat for flatback turtles is defined as water depths shallower than 16 m (Whittock *et al*., 2016b; Pendoley, 2019). The flaring light EMBA reaches water depths between 25-70 m, so suitable inter-nesting habitat will not be impacted. Inter-nesting olive ridley turtles remain relatively close to nesting beaches during the nesting period (in comparison to post-nesting movements); tagged turtles remained within 48 km of the nesting beach in waters typically <30 m water depth (Hamel *et al*., 2008). Inter-nesting may occur year-round with a peak expected between April and June with increased potential for inter-nesting females to occur during this time.

If individual turtles are present, light emissions are unlikely to be of concern. There is no evidence, published or anecdotal, to suggest inter-nesting turtles are impacted by light from offshore vessels, and nothing in their biology would indicate this as a plausible threat (Pendoley, 2019; Witherington and Martin, 2003). Potential impacts to foraging turtles are limited to local attraction to prey species attracted to light (Kebodeaux, 1994).

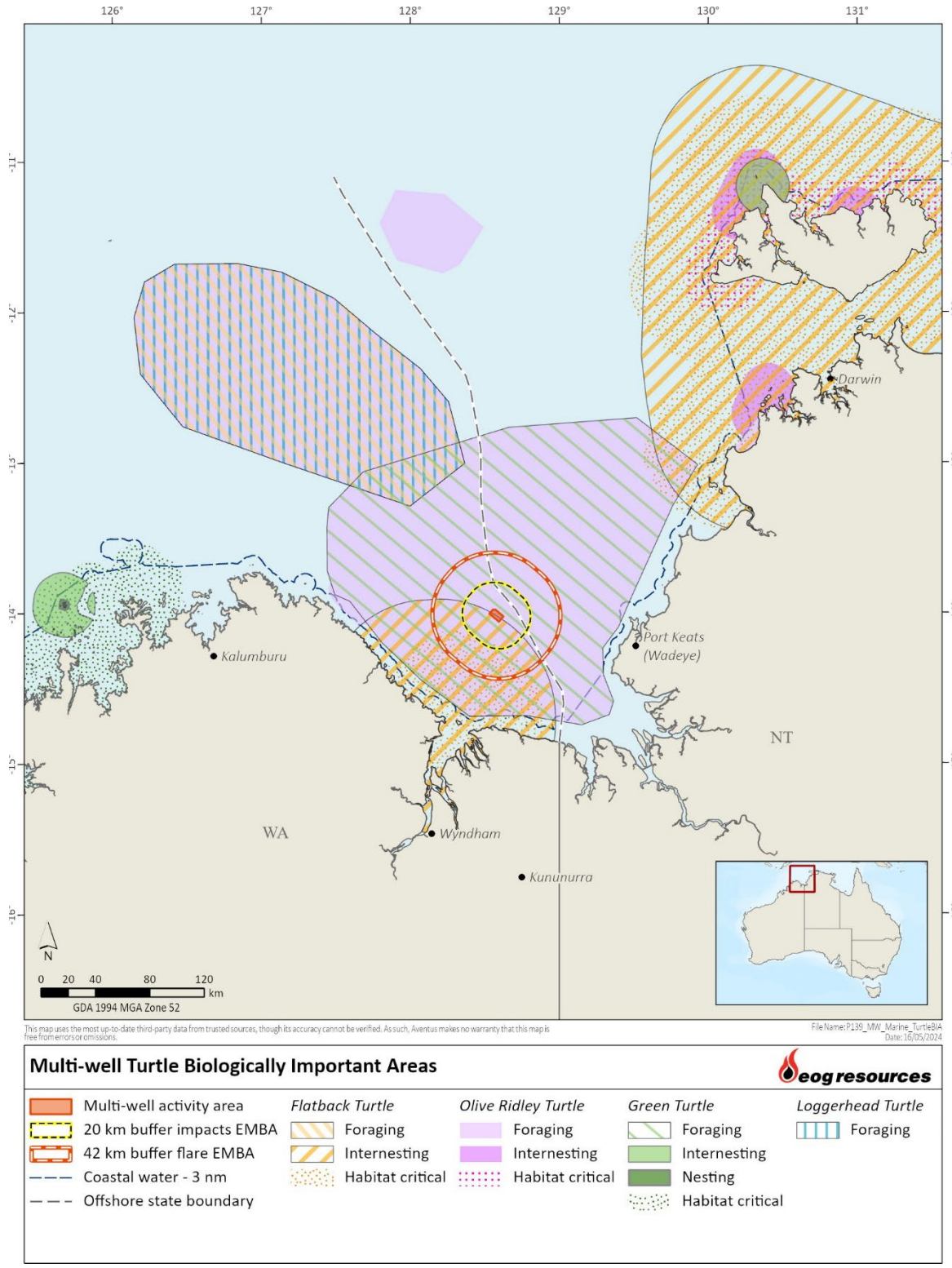


Figure 7.2. Turtle BIAs and habitat critical to the survival of marine turtles in the light EMBAs

Marine turtles do not feed during the breeding season (Limpus *et al*., 2013), and light is not a cue to inter-nesting behaviours. Therefore, potential impacts of artificial light to inter-nesting turtles are not considered likely.

Adult turtles have been observed feeding on prey presumed to be attracted by lights of oil production platforms in the Gulf of Mexico (Kebodeaux, 1994). However, illuminating fishing nets has been shown to reduce the bycatch of green turtles as they are thought to alert them to the presence of a net (Ortiz *et al*., 2016). This suggests that, although aggregation of foraging turtles may occur around light sources as a secondary response to effects of light on prey distribution, light does not appear to act as a cue to foraging behaviour.Light pollution is identified as a threat to turtles in the Recovery Plan for Marine Turtles 2017-2027 (DoEE, 2017c). An assessment of relevant interim recovery objectives and targets with the activity is provided in Table 7.5.

Table 7.5. Assessment of the relevant interim recovery objectives and targets of the Recovery Plan for Marine Turtles 2017-2027 (DoEE, 2017c) with the activity

Interim Objective or Target	Assessment
Interim Objective 3: Anthropogenic threats are demonstrably minimised.	
Target 3.1: Robust and adaptive management regimes that lead to a reduction in anthropogenic threats to marine turtles and their habitats are in place.	The EPS listed in Table 7.8 will reduce the impact of light emissions on turtles to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this recovery target.
Target 3.2: Threat mitigation strategies are supported by high quality information.	The activity will not have any impacts on this recovery target.

Based on this impact evaluation, there is no information to suggest that drilling up to three wells in succession (if it were to occur) would result in cumulative impacts to turtle foraging, nesting or inter-nesting behaviours.

Fish and plankton

Fish and zooplankton may be directly or indirectly attracted to lights. Experiments using light traps have found that some fish and zooplankton species are attracted to light sources (Meekan *et al*., 2001), with traps drawing catches from up to 90 m (Milicich *et al*., 1992). Lindquist et al (2005) concluded from a study of larval fish populations around an oil and gas platform in the Gulf of Mexico that an enhanced abundance of clupeids (herring and sardines) and engraulids (anchovies), both of which are highly photopositive, was caused by the platforms' light fields. The concentration of organisms attracted to light results in an increase in food source for predatory species and marine predators are known to aggregate at the edges of artificial light halos. Shaw et al (2002), in a similar light trap study, noted that juvenile tunas (Scombridae) and jacks (Carangidae), which are highly predatory, may have been preying upon concentrations of zooplankton attracted to the light field of the platforms. This could potentially lead to increased predation rates compared to unlit areas.

Overall, an increase in fish activity around the MODU and support vessels may occur at night-time, but this is highly localised and short-term and therefore expected to have negligible impacts to the local and regional food web.

Based on this impact evaluation, there is no information to suggest that drilling up to three wells in succession (if it were to occur) would result in cumulative impacts to fish and plankton populations.

Cetaceans

There is no evidence to suggest that artificial light sources adversely affect the migratory, feeding or breeding behaviours of cetaceans. Cetaceans predominantly utilise acoustic senses to monitor their environment rather than visual sources (Simmonds *et al.,* 2004), so light is not considered to be a significant factor in cetacean behaviour or survival and will therefore have a negligible impact.

Seabirds

Seabirds may be attracted to light glow at night-time. Bright lighting can disorientate birds, thereby increasing the likelihood of seabird injury or mortality through collision with the MODUs and support vessels, or mortality from starvation due to disrupted foraging at sea (Wiese *et al*., 2001 in DSEWPC, 2011b; Rajkhowa, 2014). This disorientation may also result in entrapment, stranding, grounding and interference with navigation (DCCEEW, 2023c). The DCCEW (2023) notes that seabird fledglings may be affected by lights up to 15 km away. 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 (Marquenie *et al*., 2008) and that lighting can attract birds from large catchment areas (Wiese *et al*., 2001). The light may provide enhanced capability for seabirds to forage at night.

The WCP for seabirds (2020) identifies light pollution as minor threat to seabirds. Vessels are listed as a problematic source of light and offshore oil platforms and flaring have also been identified as impact light sources. Artificial lighting has the potential to interfere with nocturnal breeding behaviours of some seabirds. Fledglings are more vulnerable to artificial light compared to adults, due to their naivety on their first flight (Commonwealth of Australia, 2020).

There are no seabird BIAs that are intersected by the light EMBA from routine activities or during flaring (Figure 7.3). Therefore, impacts to seabird breeding colonies from light emissions are not expected to occur. However, there is potential for foraging seabirds to be present at the time of the activity. Given the short duration of the activity at each drill site and the distance of the multi-well activity area from breeding colonies, the consequence of light emissions on seabird populations will be negligible. This remains the case regardless of whether one, two or three wells are drilled.

Marine Parks

Management of the JBG AMP is covered by the North Marine Parks Network Management Plan 2018 (DNP, 2018a). This plan identifies light emissions associated with habitat modification and marine pollution as a pressure on the AMP network. The light EMBA from day-to-day drilling activity does not intersect any AMPs (it is located 10 km from the boundary of the JBG AMP) or other marine protected areas (see Figure 7.3).

The 42 km light EMBA from flaring will overlap parts of the western and southern edges of the JBG AMP during DST (9.8% overlap in total), with no overlap of the North Kimberley Marine Park. The JBG AMP's key values are its submerged features and nearshore ecosystems (outside of the light EMBA). The submerged features are not considered at risk of impacts from flaring lighting emissions. The JBG AMP supports a range of species including marine turtles and the Australian snubfin dolphin. Impacts to turtles from the flaring light EMBA are described earlier in this section, and there is no evidence to suggest that artificial light sources adversely affect the migratory,

feeding or breeding behaviours of cetaceans. Therefore, flaring will not have a significant impact on the values of the JBG AMP.

Community

The distance of the closest point of the multi-well activity area from the nearest shoreline (76 km) and nearest town (Wadeye, 100 km) means that MODU and support vessel lighting in the activity area will not be visible from land. Visual impacts to these communities from lighting will not occur.

National Light Pollution Guidelines for Wildlife

Table 7.6 provides an assessment of the light management options for seabirds as outlined in Table 8 of the National Light Pollution Guidelines for Wildlife (DCCEEW, 2023c). Where management options have been deemed as feasible, they have been assessed and adopted as a control measure and associated EPS have been developed (Table 7.6).

Table 7.7 provides an assessment of the light management options for turtle nesting beaches as outlined in Table 5 of the National Light Pollution Guidelines for Wildlife (DCCEEW, 2023c) against the activity. Where management options have been deemed as feasible, they have been assessed and adopted as a control measure and associated EPS have been developed (Table 7.7).

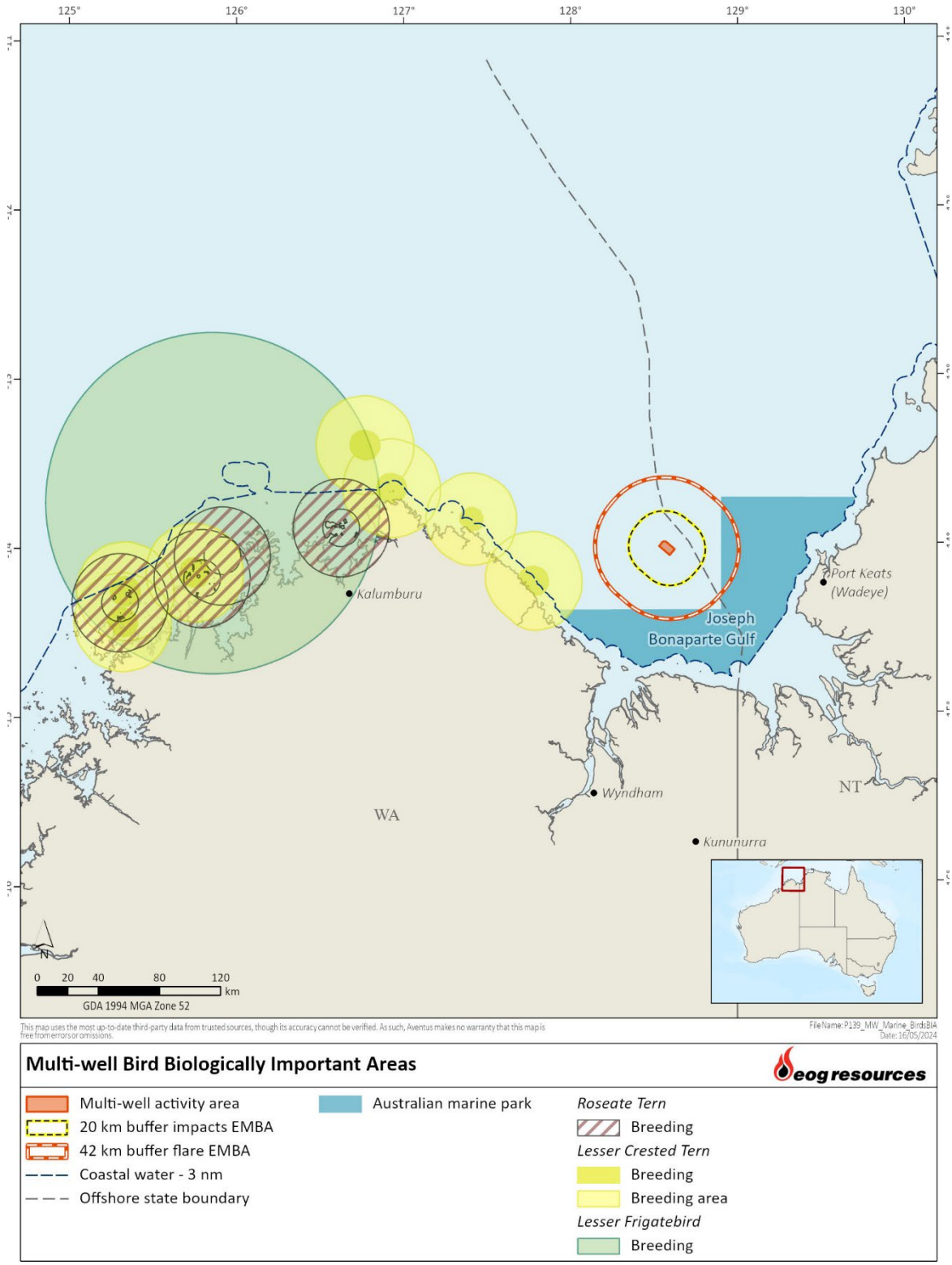


Figure 7.3. Seabird BIAs closest to the light EMBAs

Table 7.6. Assessment of the light management options for seabirds from the National Light Pollution Guidelines for Wildlife (DCCEEW, 2023c)

Management option	Achievable?	Justification
Implement management actions during the breeding season.	Yes	Achievable management actions are identified in this table and in Table 7.8 (adopted control measures and associated EPS).
Maintain a dark zone between the rookery and the light sources.	Yes	The nearest shoreline (and thus potential rookery location) is 80 km away on the southern coast of the JBG. As such, there is a large dark zone between the rookery and the activity area.
Turn off lights during fledgling season.	No	Drilling operations are conducted 24-hours a day and light is necessary for navigational and personnel safety. Lighting will be reduced to the furthest extent possible for safe operations (see Table 7.8).
Use curfews to manage lighting.	No	As above.
Aim lights downwards and direct them away from nesting areas.	Yes	Where practicable, lights will be directed towards working areas for the safety of personnel (see Table 7.8).
Use flashing/intermittent lights instead of fixed beam.	No	Drilling operations are conducted 24-hours a day and light is necessary for personnel safety. Lighting will be reduced to the furthest extent possible for safe operations (see Table 7.7).
Use motion sensors to turn lights on only when needed.	No	As above.
Prevent indoor lighting reaching outdoor environment.	Yes	Blinds will be lowered on portholes and windows at night where this does not interfere with safe work practices (see Table 7.8).
Manage artificial light on jetties, wharves, marinas, etc.	N/A	Not applicable to this activity.
Reduce unnecessary outdoor, deck lighting on all vessels and permanent and floating oil and gas installations in known seabird foraging areas at sea.	Yes	Lighting will be reduced to that required for safe operations and by maritime legislative requirements (see Table 7.8). Flaring (if undertaken), will be undertaken only intermittently over the course of 3-5 days per zone.
Night fishing should only occur with minimum deck lighting.	N/A	Not applicable - fishing is not permitted from the MODU or support vessel.

Management option	Achievable?	Justification
Avoid shining light directly onto fishing gear in the water.	N/A	Not applicable - fishing is not permitted from the MODU or support vessel.
Ensure lighting enables recording of any incidental catch, including by electronic monitoring systems.	N/A	Not applicable - fishing is not permitted from the MODU or support vessel.
Avoid shining light directly onto longlines and/or illuminating baits in the water.	N/A	Not applicable - fishing is not permitted from the MODU or support vessel.
Vessels working in seabird foraging areas during breeding season should implement a seabird management plan to prevent seabird landings on the ship, manage birds appropriately and report the interaction.	N/A	The MODU and support vessels are equipped with lighting required under legislation to identify itself to other vessels, reduce the risk of at-sea collision and provide for the safety of its crew. Most seabirds in the region are migratory, with no breeding areas (i.e., islands) within 75 km of the activity area.
Use luminaires with spectral content appropriate for the species present.	No	The activity vessel is equipped with lighting required under legislation to identify themselves to other vessels, reduce the risk of at-sea collision and provide for the safety of crews. Most seabirds in the region are migratory, with no breeding areas (i.e., islands) within 78 km of the activity area. See Table 7.8 for adopted control and associated EPS.
Avoid high intensity light of any colour.	No	As above.
Shield gas flares and locate inland and away from seabird rookeries.	No	The activity may involve flaring, but the flare is not able to be shielded. The multi-well activity area is located a long distance from seabird rookeries, so this management option is not required.
Minimise flaring on offshore oil and gas production facilities.	Yes	Flaring (if undertaken), will be undertaken only intermittently over the course of 3-5 days per zone per well.
In facilities requiring intermittent night-time inspections, turn on lights only during the time operators are moving around the facility.	N/A	The MODU and support vessels are equipped with lighting required under legislation to identify themselves to other vessels, reduce the risk of at-sea collision and provide for the safety of crews.
Ensure industrial site/plant operators use head torches.	No	Drilling operations are conducted 24-hours a day and lighting of all areas is necessary for personnel safety. As such, the use of head torches is not necessary. Lighting will be reduced so far as is practicable and in accordance with maritime requirements and personnel safety. See Table 7.8 for adopted control and associated EPS.

Management option	Achievable?	Justification
Supplement facility perimeter security lighting with computer monitored infrared detection systems.	N/A	Not applicable to this activity.
Tourism operations around seabird colonies should manage torch usage so birds are not disturbed.	N/A	Not applicable to this activity.
Design and implement a rescue program for grounded birds.	No	Due to the distance between the operational area and seabird rookeries, grounding of birds is unlikely to occur and thus a rescue program is not necessary.

Table 7.7. Assessment of the light management options for turtle nesting beaches from the National Light Pollution Guidelines for Wildlife (DCCEEW, 2023c)

Management option	Achievable?	Justification
Implement light management actions during the nesting and hatching season.	Yes	Achievable management actions are identified in this table and in Table 7.8 (adopted control measures and associated EPS).
Avoid direct light shining onto a nesting beach or out into the ocean adjacent to a nesting beach.	Yes	The nearest shoreline (and thus potential nesting location) is 76 km away on the southern coast of the JBG. As such, the MODU and support vessel lighting will not shine on to the beach or the ocean adjacent to the beach.
Maintain a dune and/or vegetation screen between the nesting habitat and inland sources of light.	N/A	Not applicable to this activity.
Maintain a dark zone between turtle nesting beach and industrial infrastructure	Yes	The nearest shoreline (and thus potential nesting location) is 76 km away on the southern coast of the JBG. As such, there is a large dark zone between the coast and the activity area.
Install light fixtures as close to the ground as practicable.	No	Drilling operations are conducted 24-hours a day and light is necessary for navigational and personnel safety. Lighting will be reduced to the furthest extent possible for safe operations (see Table 7.8).
Use curfews to manage lighting.	No	Drilling operations are conducted 24-hours a day and light is necessary for navigational and personnel safety. Lighting will be reduced to the furthest extent possible for safe operations (see Table 7.8).
Aim lights downwards and direct them away from nesting beaches.	Yes	Where practicable, lights will be directed towards working areas for the safety of personnel (see Table 7.8).
Use flashing/intermittent lights instead of fixed beam.	No	Drilling operations are conducted 24-hours a day and light is necessary for navigational and personnel safety. Lighting will be reduced to the furthest extent possible for safe operations (see Table 7.8).
Use motion sensors to turn on lights only when needed.	No	Drilling operations are conducted 24-hours a day and light is necessary for navigational and personnel safety. Lighting will be reduced to the furthest extent possible for safe operations (see Table 7.8).

Management option	Achievable?	Justification
Prevent indoor lighting reaching beach.	Yes	Blinds will be lowered on portholes and windows at night where this does not interfere with safe work practices (see Table 7.8).
Limit the number of beach access areas or construct beach access such that artificial light is not visible through the access point.	N/A	Not applicable to this activity.
Work collectively with surrounding industry/private land holders to address the cumulative effect of artificial lights.	N/A	Not applicable to this activity.
Manage artificial light at sea, including on vessels, jetties, marinas and offshore infrastructure.	Yes	Achievable management actions are identified in this table and in Table 7.8 (adopted control measures and associated EPS).
Reduce unnecessary lighting at sea.	Yes	Flaring (if undertaken), will use a boom that extends past the deck and over the sea. If undertaken, it will be intermittent over the course of 3-5 days per zone per well. Achievable management actions are identified in this table and in Table 7.8 (adopted control measures and associated EPS).
Avoid shining light directly onto longlines and/or illuminating baits in the water.	N/A	Not applicable to this activity – no fishing is allowed from the MODU or support vessels.
Avoid lights containing short wavelength violet/blue light.	No	The MODU and support vessels are equipped with lighting required under legislation to identify themselves to other vessels, reduce the risk of at-sea collision and provide for the safety of its crew. Most seabirds in the region are migratory, with no breeding areas (i.e., islands) within 80 km of the activity area. See Table 7.8 for adopted control and associated EPS.
Avoid white LEDs.	No	As above.
Avoid high intensity light of any colour.	No	As above.
Shield gas flares and locate inland and away from nesting beach.	No	The activity may involve flaring, but the flare is not able to be shielded. The activity area is located a long distance from seabird rookeries, so this management option is not required.

Management option	Achievable?	Justification
Industrial/port or other facilities requiring intermittent night-time light for inspections should keep the site dark and only light specific areas when required.	No	Drilling operations are conducted 24-hours a day and light is necessary for navigational and personnel safety. Lighting will be reduced to the furthest extent possible for safe operations (see Table 7.8).
Industrial site/plant operators to use head torches.	No	Drilling operations are conducted 24-hours a day and lighting of all areas is necessary for personnel safety. As such, the use of head torches is not necessary. Lighting will be reduced so far as is practicable and in accordance with maritime requirements and personnel safety. See Table 7.8 for adopted control and associated EPS.
Supplement facility perimeter security lighting with computer monitored infra-red detection systems.	N/A	Not applicable to this activity.
No light source should be directly visible from the beach.	Yes	The nearest shoreline (and thus potential nesting location) is 76 km away on the southern coast of the JBG. As such, the MODU and support vessel lighting will not be visible from the beach.
Manage light from remote regional sources (up to 20 km away).	Yes	The nearest shoreline (and thus potential nesting location) is 76 km away on the southern coast of the JBG. As such, the MODU and support vessel lighting will not be visible from the beach.

7.3.5. Impact Assessment

Table 7.8 presents the impact assessment for light emissions.

Table 7.8. Impact assessment for light emissions

Summary		
Summary of impacts	Light glow may act as an attractant to light-sensitive species (e.g., seabirds, turtles, fish, zooplankton), in turn affecting predator-prey dynamics (due to attraction to or disorientation from light).	
Extent of impacts	Localised for most marine fauna, and up to 15 km for turtle hatchlings and 20 km for seabirds during day-to-day drilling activities, and up to 42 km during flaring.	
Duration of impacts	Temporary – short-term (duration of activity) (and up to 3-5 days for flaring per well).	
Level of certainty of impacts	HIGH – the impacts of light glow on marine fauna are well known.	
Impact decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	The impacts of light emissions to EPBC Act-listed threatened and migratory bird species and marine turtles are not inconsistent with their in-force recovery plans or wildlife conservation plans/advice.	
Impact Consequence (inherent)		
Negligible		
Assessment of Proposed Control Measures		

Control measure	Control type	Adopt	Justification
Exclude night-time operations.	Eliminate	No	**EB:** Eliminates impact of night-time light emissions on sensitive species (e.g., seabirds and turtles foraging at night). **C:** Would double the duration of the activity and therefore double activity costs. **Ev:** Increased impacts in other areas due to a longer presence on location, including increase in waste discharges, air emissions, displacement of commercial fishers. The high costs associated with extending the activity are grossly disproportionate to the benefits. Lighting is required by law for navigational and safety purposes.
Manage the timing of the activity to avoid sensitive periods.	Eliminate	No	**EB:** Reduces potential for impacts on turtles during critical life stages from light emissions. **C:** Timing of the activity is subject to multiple factors and turtle activity can occur all year round, with breeding from June-August.

			Ev: Impacts to nesting females, emerging hatchlings and dispersing hatchlings at sea are not expected to result in changes at the individual, population or genetic stock level. A seasonal exclusion would not avoid all turtle nesting, inter-nesting and hatchling activity but may avoid the known peaks. The impact assessment determined the risk to hatchlings from light emissions is low and not inconsistent with the requirements of the Recovery plan for marine turtles in Australia 2017–2027.
Do not flare.	Eliminate	No	**EB:** Eliminates impact of artificial light on sensitive species (e.g., seabirds and turtles). **C:** In a success case, not being able to test the well using DST (which involves flaring) compromises the objectives of the drilling program and would it make it extremely difficult to predict future steps. Flaring is a pre-requisite for declaring a discovery (which is the objective of this activity). **Ev:** The high costs associated with not being able to evaluate the well sufficiently are grossly disproportionate to the benefits of temporary additional light.
Keep MODU and support vessel external lighting to levels required for navigation, and safety of deck operations **(IMP-03:EPS-01)**.	Engineering	Yes	**EB:** This keeps light to the minimum required to meet legislated navigation requirements whilst reducing the likelihood of impacts to fauna from MODU and support vessel lighting. **C:** No additional activity costs. MODU and support vessel lighting is a legislative requirement for safe navigation and deck operations. **Ev:** Good practice is well defined and established in Marine Orders (Part 30 and Part 59) for MODUs and vessels. Lighting is required to provide navigational safety and meet legislative requirements. Lighting is reduced to the lowest practicable level to allow for safe work practices and legislative compliance.
Install lighting shields.	Engineering	No	**EB:** Reduces light spill to the marine environment through physical barriers. **C:** These are not standard fixtures on MODUs and vessels. There will be significant time and cost to install these. **Ev:** External lighting is necessary for safe navigation and deck operations. The cost of this control measure outweighs the minimal benefit this control measure would have.
Use of lighting with wavelengths that are less intrusive to marine fauna.	Engineering	No	**EB:** Some marine fauna are less sensitive to particular light wavelengths. **C:** High cost of sourcing specialised globes. **Ev:** Lighting will be managed in accordance with the relevant Australian and international standards to ensure that personnel and vessel safety is not compromised. This control measure is unlikely to result in reduced impact due to the diversity of species present in the region and the significant

			distance to sensitive receptors, such as turtle nesting beaches; no single light wavelength can reduce risks for all fauna groups. This control measure would result in negligible benefit at a high cost.
Use of dark, matte surfaces on MODU and support vessels.	Engineering	No	**EB:** Would reduce reflection and scattering of light that results in skyglow. **C:** Additional cost to repaint surfaces. Some areas may require lighter surfaces to manage heat conduction for health and safety. Unlikely to result in a material light reduction. **Ev:** The high financial cost would be grossly disproportionate to negligible environmental benefits. May compromise human health and safety in some circumstances.
Direct lighting to working areas only on the MODU and support vessels **(IMP-03:EPS-02)**.	Engineering	Yes	**EB:** Reduces light spill to the marine environment. **C:** No additional costs. **Ev:** Good practice and well established in the industry. Environmental benefits can be achieved with no cost.
Periodically inspect lighting on-board to confirm it complies with lighting standards **(IMP-03:EPS-03)**.	Administrative	Yes	**EB:** Provides mechanism to inspect the implementation of control measures and their associated environmental benefits. **C:** Cost of time only. **Ev:** Good practice and well established in the industry. Environmental benefits can be achieved with minimal cost.
Lower blinds on non-essential portholes and windows at night **(IMP-03:EPS-04)**.	Administrative	Yes	**EB:** Reduces light spill to the marine environment. **C:** No additional cost. Involves only time to discuss this during crew inductions and in undertaking routine inspections. **Ev:** Good practice and well established in the industry. Environmental benefits can be achieved without cost.
Implementation of Well Test Plan to minimise flaring overall **(IMP-03:EPS-05)**.	Administrative	Yes	**EB:** Ensures well test crew follow set procedures, thereby ensuring efficient flaring for minimal periods of time. **C:** The preparation of a Well Test Plan is standard practice for well testing contractors, whereby the cost is factored into the contract and not an extra cost per se. **Ev:** Environmental benefits outweigh the low costs.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
External lighting conforms to that required by maritime safety standards.	**(IMP-03:EPS-01)** External lighting is managed in accordance with: • AMSA Marine Orders Part 30 (Prevention of Collisions).	Vessel class certifications are current.

	• AMSA Marine Orders Part 59 (Offshore Support Vessel Operations).	
Lighting is reduced to limit the localised attraction of marine fauna.	**(IMP-03:EPS-02)** Lighting is directed to working areas (rather than overboard) to minimise light spill to the ocean.	Completed environmental checklists and photos verify that lighting standards are inspected and lighting is directed inboard where practicable.
	(IMP-03:EPS-03) Lighting is periodically inspected to ensure it complies with lighting standards and relevant control measures.	
	(IMP-03:EPS-04) Blinds will be lowered on all non-essential portholes and windows at night.	Completed environmental checklists and photos verify that blinds are drawn each night.
	(IMP-03:EPS-05) In accordance with the Well Test Plan, flaring is limited to the minimum time required to safely undertake the DST and achieve data collection requirements.	DDRs record the duration of flaring.
	(IMP-03:EPS-06) All crew are informed of the artificial lighting control measures during the environmental awareness induction.	Induction presentation includes requirements to minimise artificial lighting.
		Induction attendance list verify crew are aware of these measures.
Impact Consequence (residual)		
Negligible		
The consequence of light emissions is assessed as negligible because: • The activity is short-term; • There are no seabird breeding colonies or turtle nesting beaches within the light EMBA; • Wildlife potentially vulnerable to light (e.g., seabirds and turtles) will not be displaced from foraging habitat; and • The control measures adopted are commensurate with the inherent level of impact consequence.		
Statement of ALARP		
A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.		
Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.	
External context	There have been no objections or claims made by relevant persons regarding light emissions for this activity.	
Legislative context	The EPS align with the requirements of: • COLREGS 1972. • *Navigation Act* 2012 (Cth):	

	○ Part 3 (Prevention of Collisions). ○ AMSA Marine Orders Part 21 (Safety of Navigation and Emergency Procedures). ○ AMSA Marine Orders Part 27 (Safety of Navigation and Radio Equipment). ○ AMSA Marine Orders Part 30 (Prevention of Collisions). ○ AMSA Marine Order 58 (Safe Management of Vessels).	
Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed guidelines and codes of practice demonstrates that BPEM will be implemented for this activity.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS listed in this table meet the relevant mitigation measures listed for offshore activities with regard to: • Light emissions - minimise external lighting to that required for navigation and safety of deck operations **(IMP-03:EPS-02, -03, -04)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There are no guidelines specifically regarding lighting for offshore activities.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	There is no specific guidance regarding lighting emissions. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	The EPS listed in this table are in accordance with these guidelines with regard to: • Ship collision (item 120). To avoid collisions with third-party vessels, offshore facilities should be equipped with navigational aids that meet national and international requirements, including navigational lights on vessels **(IMP-03:EPS-01)**.
	AEP CoEP (APPEA, 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the impact of light to ALARP and an acceptable level. • To reduce the risk of collision with other vessels in accordance with maritime standards and to an acceptable level.
	Light-specific guidance	
	The National Light Pollution Guidelines for Wildlife (DCCEEW, 2023c)	The EPS listed in this table meet the following management actions related to activities associated with the MODU and support vessels:

		• Maintain a dark zone between the rookery and the light sources. • Aim lights downwards and direct them away from nesting areas **(IMP-03:EPS-02)**. • Prevent indoor light reaching outdoor environment **(IMP-03:EPS-04)**. • Reduce unnecessary outdoor, deck lighting on all vessels in known seabird foraging areas at sea **(IMP-03:EPS-02)**. An assessment of the activity against the management actions of these guidelines is included in Table 7.5 for seabirds and Table 7.6 for turtles.
Environmental context	MNES	
	AMPs	The lighting EMBA from the DST will overlap up to 9.8% of the JBG AMP, which is designated to protect submerged features (these are not affected by lighting), marine turtles and dolphins. Impacts may be limited to behavioural impacts to individual turtles and dolphins and not inconsistent with the objectives of this AMP management plan.
	Ramsar wetlands	This hazard will not reach any Ramsar wetlands.
	TECs	This hazard will not reach any TECs.
	Nationally threatened and migratory species	The activity will be managed in a manner such that nationally threated and migratory species will not be impacted by localised and temporary light emissions.
	Other matters	
	KEFs	This hazard will not reach any KEFs.
	NIWs	This hazard will not reach any NIWs.
	State marine parks	This hazard will not reach any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	Table 7.6 demonstrates that light emissions will not be inconsistent with the objectives of the Recovery Plan for Marine Turtles 2017-2027 (DoEE, 2017c). The EPS outlined within this table mitigate the risk of artificial light on seabirds identified as a threat by the WCP for seabirds (Commonwealth of Australia, 2020).
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of Acceptability	EOG considers the impacts from light emissions to be acceptable because: • It will adhere to the company's Safety and Environmental Policy;	

	• The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Light emissions will not have long-term or significant impacts on MNES; • The management of lighting is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of lighting is not inconsistent with the aims of relevant marine reserve management plans; and • The management of lighting is not inconsistent with ESD principles.
Environmental Monitoring	
• Periodic lighting inspections.	
Record Keeping	
• Vessel class certification. • Completed environmental inspections checklists. • Photos.	• Induction presentation. • Induction attendance sheet.

7.4. IMPACT 4 – Routine Emissions – Atmospheric

7.4.1. Hazard

The use of fuel to power the MODU and support vessels will result in emissions of GHGs such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), along with non-GHG such as sulphur oxides (SOx) and nitrogen oxides (NOx).

The following activities generate atmospheric emissions from the MODU and support vessels:

- Combustion of marine diesel oil (MDO) from engines, generators, cranes and other fixed and mobile equipment;
- Flaring (if undertaken);
- Painting and paint storage, resulting in the release of fugitive volatile organic compounds (VOCs) as vapours;
- Release of ozone-depleting substances (ODS) from refrigerants (R134a, R407C and R410A) used in the centralised air-conditioning system during maintenance activities; and
- When transferring dry bulk products used for drilling (e.g., barite, bentonite), tank venting is necessary to prevent tank overpressure. The vent air will contain minor quantities of product particles, which will suspend in the air or settle on the sea surface.

Atmospheric emissions from fuel combustion from the helicopter will also be generated, but are considered negligible given the jurisdiction for the helicopter is a 500-m radius from the MODU.

Greenhouse gases comprise a large part of atmospheric emissions and are measured in units called carbon dioxide equivalent (CO_2-e). This means that the amount of a GHG that an entity emits is measured as an equivalent amount of carbon dioxide which has a global warming potential of one. For example, one tonne of methane released into the atmosphere will cause the same amount of global warming as 25 tonnes of carbon dioxide. So, the one tonne of methane is expressed as 25 tonnes of carbon dioxide equivalence, or 25 t CO_2-e (CER, 2022).

Greenhouse gas emissions from industry and business are reported as Scope 1, 2 and 3, and are defined by the World Business Council for Sustainable Development, the World Resources Institute and the CER (2022) below:

- Scope 1 – direct emissions released to the atmosphere as a result of an activity, or series of activities at a facility level (e.g., burning of diesel in company-owned vehicles or used in on-site plant and equipment, such as a MODU).
- Scope 2 – indirect emissions released to the atmosphere associated with the import of energy from another source (e.g., use of electricity produced by the burning of coal in another facility).
- Scope 3 – other indirect emissions, other than energy imports that are a direct result of the operations of the organisation, but from sources not owned or operated by them and due to upstream or downstream activities (e.g., combustion of hydrocarbons extracted by a future Beehive well and sold to the market).

Only Scope 1 emissions will be generated by the multi-well drilling campaign, as estimated below:

- MODU – combustion emissions will be expelled from exhaust stacks about 22-25 m above deck level to ensure adequate aerial dispersion. For a drilling campaign undertaken in Bass Strait using a jack-up MODU in late 2019 and early 2020, the average daily diesel consumption was 14,500 litres. This would result in the generation of about 39 tonnes of carbon dioxide equivalent (CO_2-e) per day. For the estimated duration of drilling each well, this will result in the emissions of 2,145 t CO_2-e (55 days) to 5,850 t CO_2-e (150 days). If all three wells are drilled, this is 6,425 t CO_2-e (55 days) to 17,550 t CO_2-e (150 days).
- Support vessels – during the same drilling campaign in Bass Strait, the two support vessels consumed an average of 6,400 litres of diesel per day. This would result in the generation of about 17 tonnes of CO_2-e each day. For the estimated duration of drilling for each well, this will result in the emissions of 935 t CO_2-e (55 days) to 2,550 t CO_2-e (150 days). If all three wells are drilled, this is 2,805 t CO_2-e (55 days) to 7,650 t CO_2-e (150 days).
- Flaring – if flaring is undertaken, and assuming a worst-case calculation of flowing 37,333 bbl oil (with an associated 67.2 MMscf of gas) for the testing of two zones over a period of 3-5 days, it is estimated that 19,877 t CO_2-e would be generated for each well that is tested. If all three wells are tested, this is 59,631 t CO_2-e.

7.4.2. Known and Potential Environmental Impacts

The known and potential environmental impacts of atmospheric emissions are:

- Localised and temporary decrease in air quality due to gaseous emissions and particulates from MDO combustion; and
- Addition of GHG to the atmosphere (influencing climate change).

7.4.3. EMBA

The EMBA for atmospheric emissions associated is the local air shed, likely to be within hundreds of meters of the MODU and support vessels, both horizontally and vertically. Sensitive receptors that may occur within this EMBA, either as residents or migrants, are seabirds. The health of the workforce on the MODU and support vessels, with regard to atmospheric emissions, is considered and assessed in other health and safety project documents.

7.4.4. Evaluation of Environmental Impacts

Localised and temporary decrease in air quality from diesel combustion

The combustion of MDO fuel can create continuous or discontinuous plumes of particulate matter (soot or black smoke) and the emission of non-GHG, such as SO_X and NO_X. Inhaling this particulate matter can cause or exacerbate health impacts to humans exposed to the particulate matter, such as offshore project personnel or residents of nearby towns (e.g., respiratory illnesses such as asthma) depending on the amount of particles inhaled. Similarly, the inhalation of particulate matter may affect the respiratory systems of fauna. In the activity area, this is limited to seabirds overflying the MODU and support vessels.

Particulate matter released from the MODU and support vessels is not likely to impact on the health or amenity of the nearest human coastal settlements (e.g., Port Keats (Wadeye) (NT) or Wyndham (WA)), as offshore winds will rapidly disperse and dilute particulate matter. This rapid dispersion and dilution will also ensure that seabirds are not exposed to concentrated plumes of particulate matter from MODU and support vessel exhaust points and therefore has a negligible impact consequence.

Contribution to the GHG effect

The use of fuel to power engines, generators and any mobile/fixed plant will result in gaseous emissions of GHG such as carbon dioxide, methane and nitrous oxide.

The latest state and territory GHG inventory data notes that annual GHG emissions from WA were 91.85 Mt CO_2-e (DCCEEW, 2022). The emissions from the operation of the MODU and support vessels, assuming a 150-day campaign, equate to 0.0084 Mt CO_2-e for a single well, or 0.0252 Mt CO_2-e if all three wells are drilled. This represents 0.009% of WA's 2019 annual GHG emissions for a single well, or 0.02% if all three wells are drilled.

If flaring is undertaken at the volumes noted in Section 7.4.1, an estimated 0.019 Mt CO_2-e could be emitted for a single well, or 0.057 Mt CO_2-e if all three wells are drilled. This represents 0.020% of WA's 2019 annual GHG emissions for a single well, or 0.06% if all three wells are drilled.

While these emissions add to the GHG load in the atmosphere, which adds to global warming potential, they are tiny on a state, national and global scale, representing an insignificant contribution to overall GHG emissions and therefore has a negligible impact consequence. The activity is similar to other shipping and industrial activities contributing to the accumulation of GHG in the atmosphere.

Tank venting

Tank venting is a necessary safety control, and any dust emissions will be negligible and limited to the immediate vicinity of the MODU and support vessels. The quantities of gaseous emissions are relatively small and will quickly dissipate into the surrounding atmosphere. Air emissions will be similar to other MODUs and vessels operating in the region for both petroleum and non-petroleum activities.

7.4.5. Impact Assessment

Table 7.9 presents the impact assessment for atmospheric emissions.

Table 7.9. Impact assessment from atmospheric emissions

Summary			
Summary of Impacts	Decrease in air quality due to gaseous emissions and particulates from MDO combustion and contribution to the incremental build-up of GHG in the atmosphere (influencing climate change).		
Extent of impacts	Localised (local air shed for air quality), widespread (for GHG).		
Duration of impacts	Temporary (duration of activity) – emissions are rapidly dispersed and diluted.		
Level of certainty of impact	HIGH – the impacts of atmospheric emissions are well known.		
Impact decision framework context	Decision type	A - good industry practice required.	
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.	
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.	
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.	
Defined acceptable level	Atmospheric emissions are managed in accordance with legislated requirements.		
Impact Consequence (inherent)			
Negligible			
Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
No incineration of wastes from MODU or support vessels during the activity.	Eliminate	No	**EB:** Eliminates a source of atmospheric emissions. **C:** Increased health risk from long-term onboard storage of wastes. If shore transfers are involved, there is an increase in fuel usage and other routine discharges and emissions. **Ev:** Health and safety risks outweigh the benefit given the high energy offshore locations. The low cost of onboard incinerations outweighs the high cost of transporting waste to shore.
Use incinerators and engines with higher environmental efficiency.	Substitution	No	**EB:** Reduces the volume of emissions and improves air quality. **C:** MODU and support vessels are not yet contracted, so it is unreasonable to commit a contractor to potentially swapping out equipment, likely at significant cost. **Ev:** Cost to implement control measure is disproportionate to the low environmental benefit.
Use low sulphur (<0.5% m/m) MDO **(IMP-04:EPS-01)**.	Engineering	Yes	**EB:** Reduces SOx emissions to the environment. This has been a MARPOL requirement since the start of 2020.

			C: Some additional cost, but this is factored into the MODU and support vessel contract costs. This is a legislative requirement. **Ev:** Environmental benefits can be achieved with little additional cost.
Implementation of a PMS for combustion equipment **(IMP-04:EPS-02)**.	Engineering	Yes	**EB:** Reduces the volume of emissions through improved equipment efficiency. **C:** Negligible; maintenance is part of routine MODU and support vessel operations. **Ev:** Benefits of ensuring efficient MODU and support vessel combustion processes outweigh the negligible costs.
IAPP certification **(IMP-04:EPS-03)**.	Engineering	Yes	**EB:** Reduces the volume of emissions. **C:** Negligible; certification and re-certification costs are factored into routine MODU and support vessel operations. **Ev:** Benefits of ensuring MODU and support vessels comply with emissions reduction standards outweighs the negligible cost.
SEEMP **(IMP-04:EPS-04)**.	Engineering	Yes	**EB:** Improved energy efficiency reduces the volume of emissions. **C:** Negligible; certification and re-certification costs are factored into routine MODU and support vessel operations. **Ev:** Benefits of ensuring MODU and support vessels comply with emissions reduction standards outweighs the negligible cost.
ODS procedure **(IMP-04:EPS-05)**.	Engineering	Yes	**EB:** Reduces emissions associated with global warming. **C:** Negligible; maintenance of equipment with ODS potential (e.g., HVAC) is part of routine MODU and vessel operations. **Ev:** Benefits of ensuring MODU and support vessels comply with ODS reduction standards outweighs the negligible cost.
Waste incineration managed in accordance MARPOL and Marine Orders **(IMP-04:EPS-06, -07, -08)**.	Engineering	Yes	**EB:** Reduced impacts to air quality. **C:** Negligible; waste incineration in accordance with MARPOL requirements is part of routine MODU and support vessel operations. **Ev:** Benefits of ensuring MODU and support vessels comply with MARPOL requirements outweighs the negligible cost.
Support vessels have the option to anchor rather than burning fuel to remain on	Engineering	Yes	**EB:** Reduced fuel consumption results in fewer emissions to air. **C:** None.

station **(IMP-04:EPS-09)**.			**Ev:** Benefits of allowing the support vessels to anchor in an area free of seabed sensitivities saves considerable fuel and therefore minimises emissions to air.
Use a high-efficiency well effluent burner head **(IMP-04:EPS-10)**.	Engineering	Yes	**EB:** Maximises combustion through proper atomisation of oil droplets, which eliminates or significantly reduces smoke and oil fallout. **C:** High-efficiency well effluent burners are an industry standard, so there is little additional cost in specifying this type of burner. **Ev:** Good practice and well established in the industry. Environmental benefits can be achieved with minimal additional cost.
Implementation of Well Test Plan **(IMP-04:EPS-10, -11, -12, -13)**	Administrative	Yes	**EB:** Ensures well test crew follow set procedures, thereby minimising the likelihood of liquid dropouts, reducing the risk of poor-quality incineration of hydrocarbons entering the atmosphere and ensuring efficient flaring for minimal periods. **C:** The preparation of a Well Test Plan is standard practice for well test contractors, whereby the cost is factored into the contract and not an extra cost per se. **Ev:** Environmental benefits outweigh the low costs.
Monitor fuel use **(IMP-04:EPS-14)**.	Administrative	Yes	**EB:** May minimise excessive fuel use and associated air emissions by rapidly detecting abnormalities with fuel consumption patterns. **C:** Negligible; such monitoring is part of routine MODU and vessel operations. **Ev:** Benefits of avoiding excessive fuel consumption and unnecessary air emissions outweighs the minimal cost.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Combustion systems operate in accordance with MARPOL Annex VI (Prevention of Air Pollution from Ships) requirements.	**(IMP-04:EPS-01)** Only low-sulphur (<0.5% m/m) MDO will be used in order to minimise SOx emissions.	Bunker receipts verify the use of low-sulphur marine grade diesel.
	(IMP-04:EPS-02) All combustion equipment is maintained in accordance with the PMS (or equivalent).	PMS records verify that combustion equipment is maintained to schedule.
	(IMP-04:EPS-03) Vessels >400 gross tonnes possess equipment, systems, fittings, arrangements and materials that comply with the applicable requirements of MARPOL Annex VI.	IAPP Certificate is current.

	(IMP-04:EPS-04) Vessels >400 gross tonnes and involved in an international voyage implement their SEEMP to monitor and reduce air emissions.	SEEMP records verify energy efficiency records have been adopted.
	(IMP-04:EPS-05) Vessels >400 gross tonnes must ensure that firefighting and refrigeration systems are managed to minimise ODS.	ODS record book is available and current.
Solid combustible waste will only be burned within an incinerator, and only if logistics don't allow for the timely removal of waste from the vessel.	**(IMP-04:EPS-06)** Only a MARPOL VI-approved incinerator is used to incinerate solid combustible waste (food waste, paper, cardboard, rags, plastics).	IMO incinerator certificate verifies the incinerator meets MARPOL requirements.
	(IMP-04:EPS-07) Incineration is only conducted when the MODU and support vessels are >12 nm from the shore.	Incineration records include geographic coordinates to verify incineration took place >12 nm of the shore.
	(IMP-04:EPS-08) Oil and other noxious liquid substances will not be incinerated.	The Oil Record Book and Garbage Record Book verify that waste oil and other noxious liquid substances are transferred to shore for disposal.
Support vessels anchor in preference to burning fuel to remain on station.	**(IMP-04:EPS-09)** Anchoring occurs in preference to burning fuel when the vessels are required to maintain station.	DDRs note when the support vessels are on anchor.
The duration of and emissions from flaring are kept to ALARP.	**(IMP-04:EPS-10)** A high-efficiency well effluent burner head is used during flaring.	DDR verifies the use of a high-efficiency well effluent burner head for flaring.
	(IMP-04:EPS-11) Well flaring is limited to the minimum time required to safety undertake the DST.	DDRs record the duration of flaring.
	(**IMP-04:EPS-12**) Burner pilots remain ignited during the well test to minimise the likelihood of liquid dropouts.	Well test daily report verifies that burner pilot remained ignited during the well test.
	(**IMP-04:EPS-13**) Dedicated MODU deck crew are in place to watch for liquid dropouts, who then notify the Well Test Supervisor as soon as liquid dropout is observed so that the well test process can be quickly shut down and corrected before re-commencing.	Well test daily report includes details of flare watch for liquid dropouts.
Fuel use will be measured, recorded and reported.	**(IMP-04:EPS-14)** Fuel use will be measured, recorded and reported for abnormal consumption, and in the event of abnormal fuel use, corrective action is taken to minimise air pollution.	Fuel use is recorded in the DDRs.

Impact Consequence (residual)		
Negligible		
The consequence of atmospheric emissions is assessed as negligible because: • The activity is of a temporary nature; • The activity is located far offshore in a high energy offshore environment and air emissions will not impact on air quality in coastal towns; • The quantities of gaseous emissions are relatively small and will dissipate into the surrounding atmosphere; and • Management of atmospheric emissions will comply with legislated requirements.		
Demonstration of ALARP		
A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.		
Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.	
External context	There have been no objections or claims made by relevant persons regarding atmospheric emissions for this activity.	

Legislative context	The EPS align with the requirements of:
	• *Navigation Act* 2012 (Cth):
	  ○ Chapter 4 (Prevention of Pollution).
	  ○ AMSA Marine Order Part 79 (Marine pollution prevention – air pollution).
	• *Protection of the Sea (Prevention of Pollution by Ships) Act* 1983 (Cth):
	  ○ Part IIID (Prevention of Air Pollution).
	  ○ AMSA Marine Orders Part 97 (Air Pollution), enacting MARPOL Annex VI (especially Regulations 6, 14, 16).
	• *National Greenhouse and Energy Reporting Act* 2007 (Cth).	

Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity.	

	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS listed in this table meet the relevant mitigation measures listed for offshore activities with regard to:
		• Section 4.4.3 - Combustion emissions;
		  ○ Use of high efficiency equipment to minimise power demand **(IMP-04: EPS-04)**.
		  ○ Selection of low sulphur diesel **(IMP-04: EPS-01)**.

		○ Regular plant maintenance **(IMP-04: EPS-02)**. ○ Regular maintenance and emission control devices on vehicles and machinery **(IMP-04: EPS-02)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	The EPS listed in this table meet these guidelines for offshore activities with regard to management of fugitive emissions (item 22). The BAT are met for the MODU and vessels.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	No guidance provided regarding the management of atmospheric emissions. Section 2.4.4 specifies that equipment used for monitoring discharges or emissions should be correctly calibrated and operated, and that sampling and analysis procedures are based on sound field practices.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • Air emissions (item 11). The overall objective to reduce air emissions **(all IMP-07 EPS, except EPS-07)**. • Air emissions (item 12). During equipment selection, air emission specifications should be taken into account, as should the use of very low sulphur content fuels and/or natural gas **(IMP-04: EPS-01)**.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the impact of air emissions to ALARP and an acceptable level. • To reduce GHG emissions to ALARP and an acceptable level (All **IMP-07 EPS**).
Environmental context	MNES	
	AMPs	This hazard will not directly affect nearby AMPs.
	Ramsar wetlands	This hazard will not directly affect any Ramsar wetlands.
	TECs	This hazard will not directly affect any TECs.
	Nationally threatened and migratory species	This hazard will not directly affect threated or migratory species.
	Other matters	
	KEFs	This hazard will not directly affect any KEFs.
	NIWs	This hazard will not directly affect any NIWs.
	State marine parks	This hazard will not directly affect any state marine parks.

	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	The Recovery Plans and Conservation Advice for the Blue, Sei, Fin and Humpback Whales list climate change as a key threat, though the most pervasive threats are whaling, vessel strike and entanglement. The Recovery Plan for Marine Turtles in Australia lists climate change as a key threat. Atmospheric emissions resulting from the activity are not inconsistent with this recovery plan. The Wildlife Conservation Plan for Seabirds (Commonwealth of Australia, 2020) lists climate variability and change as a threat, though none of the seabirds known to occur in the impacts EMBA are listed as being of high risk from exposure to climate change. The Wildlife Conservation Plan for Migratory Shorebirds (DoE, 2015d) lists climate variability and change as a threat, though coastal habitat loss and habitat modification are the key threats.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the impacts from atmospheric emissions to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Atmospheric emissions from the activity will not have long-term or significant impacts on MNES; • The management of air emissions will ensure it is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of air emissions will ensure it is not inconsistent with the aims of relevant marine reserve management plans; and • The management of air emissions will ensure it is not inconsistent with ESD principles.	
Environmental Monitoring		
• Fuel use.		
Record Keeping		
• PMS records. • Fuel use records. • Bunkering receipts. • Waste manifests (for incineration).	• ODS record books. • Oil record books. • Garbage record books.	

7.5. IMPACT 5 – Routine Emissions – Underwater Sound

7.5.1. Hazard

The following activities will generate underwater sound:

- MODU operations – sound generated by engines, onboard machinery and drilling equipment (principally the mechanical operation of the drill string);
- Placement and installation of the MODU;
- Support vessel operations – engine noise transmitted through the hull, propeller cavitation or dynamic positioning (DP);
- Helicopter operations – movements within the PSZ;
- Flaring; and
- Acoustic downhole profiling operations – VSP.

7.5.2. Known and Potential Environmental Impacts

The effects of underwater sound are generally well understood with regard to potential mortality and/or physiological injury for species in the water column, however, uncertainty lies in understanding the spatial and temporal extents of behavioural disturbances and the potential effects on populations and requires the application of context-specific information.

The potential environmental impacts to marine fauna from high levels of underwater sound are:

- Physical injury to auditory tissues or other air-filled organs;
- Hearing impairment, temporary threshold shift (TTS – the temporary loss of hearing sensitivity caused by excessive noise exposure) or permanent threshold shift (PTS – a permanent loss of hearing sensitivity caused by excessive noise exposure, considered an auditory injury);
- Direct behavioural effects through disturbance or displacement, and consequent disruption of natural behaviours or processes (e.g., migration, resting, calving or spawning); and
- Indirect behavioural effects by impairing/masking the ability to navigate, find food or communicate, or by affecting the distribution or abundance of prey species.

The potential impacts on individual animals from exposure to elevated sound levels above ambient sound levels in a given area depends on a number of factors, including the extent of sound propagation underwater, its frequency characteristics and duration, its distribution relative to the location of the organisms, the sensitivity and range of spectral hearing among species (Carroll *et al*., 2017).

Drilling

Fixed platforms such as jack-up MODUs have lower radiated sound levels than floating platforms (NCE, 2007) because they do not use thrusters or propellers to maintain station. Equipment operating onboard these facilities can contribute to marine environment sound however, airborne and structure-borne (vibration) pathways are considered more significant on floating platforms where equipment can be located below the water line (NCE, 2007).

Underwater noise produced from platforms standing on metal jack-up supports is relatively low given the small surface areas available for sound transmission and also given the location of machinery above the waterline. It is therefore expected that the dominant pathway for sound

generation is structure-borne (i.e., vibration from machinery passing through the legs) (NCE, 2007).

Support Vessels

There will be several support vessel trips per week between the MODU and the supply base for each of the up to three drilling campaigns, with one support vessel 'on station' close to the MODU at all times. The support vessels will generate low levels of sound. This is generated from propeller cavitation (the dominant sound source), hydrodynamic flow around the hull and from onboard machinery (Popper *et al*., 2014). It is unlikely that engine sound levels will be greater than that of any other similarly sized vessel normally operating in the area (such as vessels supporting the nearby Blacktip operations).

The sound levels and frequency characteristics of underwater sound produced by vessels are related to vessel size and speed. When idle or moving at slow speed within the PSZ, vessels generally emit low-level noise. The typical sound levels generated by vessels are:

- Tugboats, crew boats, supply ships and many research vessels in the 50-100 m size class – 165-180 dB re 1µPa range (Gotz *et al*., 2009);
- Vessels up to 20 m size class – 151-156 dB re 1µPa (Richardson *et al*., 1995);
- Trawlers – peak at around 175 dB re 1µPa (Gotz *et al*., 2009); and
- Large ships – levels exceeding 190 dB re 1µPa (Gotz *et al*., 2009).

Helicopters

There will be several return helicopter flights each week to transport personnel and equipment to the MODU during drilling operations (see Section 2.6.3). Sound emitted from helicopter operations is typically below 500 Hz (Richardson *et al*., 1995). Sound travelling from a source in the air (e.g., helicopter) to a receiver underwater is affected by both in-air and underwater propagation processes, which are further complicated by processes occurring at the air-seawater surface interface. The received sound level underwater depends on the altitude of the sound source and lateral distance from the receiver, receiver depth, water depth, and other variables.
The angle at which the line from the aircraft and receiver intersects the water surface is important. In calm conditions, at angles above 13° from the vertical much of the sound is reflected and does not penetrate into the water (Richardson et al., 1995; NRC, 2003). Therefore, strong underwater sounds are detectable for a period roughly corresponding to the time the helicopter is within a 26° cone above the receiver. This 'zone of ensonification' can be enlarged in rough seas and can also be enlarged in shallow waters (Richardson et al., 1995).

Most air traffic supporting offshore installations involves turbine helicopters flying along straight lines. Usually, a helicopter can be heard in air well before and after the brief period it passes overhead and is heard underwater. Sound pressure in the water directly below a helicopter is greatest at the surface and diminishes with increasing receiver depth. The peak received level diminishes with increasing helicopter altitude, but the duration of audibility often increases with increasing altitude. Richardson et al (1995) reports figures for a Bell 214 helicopter (considered to be one of the loudest) being audible in air for four minutes before it passed over underwater hydrophones but detectable underwater for only 38 seconds at 3 m depth and 11 seconds at 18 m depth.

VSP

The VSP program for the multi-well activity includes the use of four airguns with a total sound source volume of 600 cui, performing acoustic pulses for a duration of 8 hours (see Section 2.7.4). VSP involves placing a number of receivers in the well bore and transmitting impulsive sound

energy to them from a sound source hung over the MODU just below the sea surface. VSP uses highly directional sound energy that is focussed towards the seabed, but it also ensonifies the surrounding water column.

Each discharge of the sound source generates a short, discrete, low frequency sound impulse, which are much lower than those generated during large-scale 2D or three dimensional (3D) marine seismic surveys (MSS). The underwater sound generated by VSP is loudest directly under the source and rapidly decreases with distance from the source.

Based on VSP modelling undertaken by Jasco Applied Sciences (McPherson *et al*., 2017) for the Gular-1 appraisal well undertaken in a water depth of 26 m for a 600 cui airgun array, it is expected that the sound source is expected to generate a peak sound pressure level (SPL) of 239 dB re 1 µPa pk @ 1 m and per-pulse sound exposure level (SEL) up to 215 dB re 1 μPa^2.s @ 1 m.

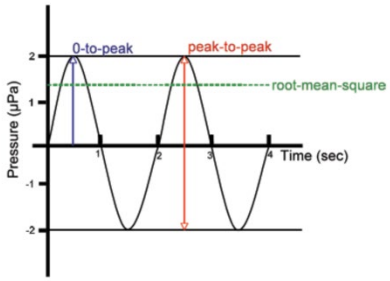
Modelling of VSP undertaken by Chevron Australia and reported in Chevron (2010) using 3 x 250 cui air guns at a source depth of 5 m recorded an amplitude spectrum peak of 190 dB re 1 µPa @ 1 m from the source. The results reported also demonstrated that the received source level did not exceed 160 dB re 1 μPa^2.s at a distance of 500 m from the source and 170 dB re 1 μPa^2.s at 100 m from the source.

Terminology

Activities that generate underwater sound can affect marine fauna by interfering with aural communication, eliciting changes in behaviour and, potentially, causing either acute or chronic physiological damage. Table 7.10 defines the acoustic terms used throughout this section.

Table 7.10. Acoustic terminology used in this EIA

Term	Definition
Sound	A time-varying pressure disturbance generated by mechanical vibration waves travelling through a fluid medium such as air or water.
Decibel (dB)	Sound is measured on a logarithmic scale that expresses the ratio of two values of a physical quantity. It is used to measure the amplitude or 'loudness' of a sound. As the dB scale is a ratio, it is denoted relative to some reference level, which must be included with dB values if they are to be meaningful. The reference pressure level in underwater acoustics is 1 micropascal (µPa), whereas the reference pressure level used in air is 20 µPa, which was selected to match human hearing sensitivity. As a result of these differences in reference standards, sound levels in air are not equal to underwater levels. There are four main metrics for underwater sound (ISO/DIS 18405.2:2017) – SEL, SPL, PK and PK-PK, all described in this table.
Frequency	The rate of oscillation of a periodic function measured in cycles-per-unit-time. The reciprocal of the period. **Unit:** hertz (Hz). 1 Hz is equal to 1 cycle per second.
Source level	A measure of sound pressure at a nominal distance of 1 m from a theoretical point source that radiates the same total sound power as the actual source. It is a theoretical value for a seismic source because a seismic source is not a point source, but rather, comprises individual elements in a defined area. Source level can be expressed as an SPL, SEL or PK. **Unit:** dB re 1 μPa^2m^2 (pressure level) or dB re 1 μPa^2m^2s (exposure level).
Impulse/Pulse	The terms used to refer to the discharge of a seismic source are impulse and pulse, therefore the terms used to describe a single discharge are per-impulse or per-pulse.

Term	Definition
	Impulsive sound is sound that is typically brief and intermittent with rapid (within a few seconds) rise time and decay back to ambient levels (NOAA, 2013). Airguns used for seismic surveys are a good example of impulsive sound.
Sound exposure level (SEL)	A measure related to the sound energy in one or more pulses, or the ratio of the time-integrated squared sound pressure to the specified reference value. **Unit:** dB re 1 µPa^2·s
SEL_{24hr}	SEL is specified in terms of either per-impulse (per-pulse) or accumulation period. In this report, the accumulation period applied is 24 hours, and therefore the SEL is referred to as either per-impulse SEL or SEL_{24h}.
Zero-to-peak sound pressure (PK) *Impulsive sounds*	The greatest magnitude of the sound pressure during a specified time interval. PK levels are modelled to assess mortality and potential mortality to fish larvae and eggs, fish and turtles. A simple sound wave and three common methods to characterise the loudness of sounds, including zero-to-peak sound pressure, are illustrated below in the PK graph. **Unit:** dB re 1 µPa. 
Peak-to-peak sound pressure (PK-PK) *Impulsive sounds*	Sum of the peak compressional pressure (highest pressure variation) and the peak rarefactional pressure (lowest pressure variation) during a specified time interval. PK-PK is the difference between the minimum and maximum instantaneous sound pressure levels in a stated frequency band attained by an impulsive sound. **Unit:** dB re 1 µPa. See also the PK graph.
Root-mean-square sound pressure level (SPL)	The decibel ratio of the time-mean-square sound pressure, in a stated frequency band, to the square of the reference sound pressure over the duration of the acoustic event (i.e., the duration of a single seismic pulse). Because the SPL represents the effective sound pressure over the full duration of the acoustic event rather than the maximum instantaneous peak pressure (PK or PK-PK), it is regularly used to represent the effective or perceived loudness of a sound and to assess the potential for a behavioural response from marine fauna. **Unit**: dB re 1 µPa. See also the PK graph.
Particle motion	The motion caused by a sound wave of a given infinitesimal part of the medium relative to the medium as a whole, and it is an integral part of any sound field. Particle motion is directional (unlike pressure) and is typically described using three-dimensional vector notation. Particle motion levels can be expressed in a variety of units related to displacement; velocity or acceleration. Acoustic particle velocity is the time derivative of particle displacement, and likewise, acceleration is the time derivative of velocity. • Sound particle velocity (v) - contribution to velocity of a material element caused by the action of sound, in units of metre per second (m/s). It is the physical speed of a particle in a material moving back and forth in the direction of the pressure wave. • Sound particle acceleration (*a*) - the contribution to acceleration of a material element caused by the action of sound, in units of metre per second squared (m/s^2). It is the rate of change of the velocity with respect to time. Benthic invertebrates (e.g., scallops) and many types of fish are sensitive only to particle velocity or acceleration rather than pressure, however, limited

Term	Definition
	measurements of data are available on the levels of particle motion that may result in effects. Some measurements are available from studies on bivalves and therefore modelled particle motion values have been referenced for this EIA.
Transmission loss	The decibel reduction in sound level between two stated points that results from sound spreading away from an acoustic source subject to the influence of the surrounding environment. It can also be referred to as propagation loss.
TTS in hearing	TTS is the temporary loss of hearing sensitivity caused by excessive noise exposure. Exposure to sufficiently intense sound may lead to an increased hearing threshold in any living animal capable of perceiving acoustic stimuli (Finneran, 2016). If this shift is reversed and the hearing threshold returns to normal, the effect is called a TTS. The onset of TTS is often defined as threshold shift of 6 dB above the normal hearing threshold (Southall *et al.*, 2016). Impairment to the hearing apparatus of a marine animal may result from a fatiguing stimulus measured in terms of sound exposure level (SEL), which considers the sound level and duration of the exposure signal. Intense sounds may also damage the hearing apparatus independent of duration, so an additional metric of peak pressure (PK) is needed to assess acoustic exposure impairment risk.
PTS in hearing	PTS is the permanent loss of hearing sensitivity caused by excessive noise exposure. It is considered an auditory injury. If a TTS does not return to normal, the residual shift is called a PTS.
Behavioural response	The context of sound exposure plays a critical and complex role in behavioural responses in marine mammals (Gomez *et al.*, 2016). For example, different species (and different individuals or groups within a species) may respond differently to varying levels of sound depending on their behaviours and motivation at the time (depending on whether they're foraging, socialising, resting or mating) and other factors such as the type of sound, duration of exposure, and the suddenness of the onset of the received sound (Ellison *et al.*, 2012; Gomez *et al.*, 2016). The national marine fisheries service (NMFS) in the USA uses an impulsive noise criteria threshold of 160 dB re 1 µPa (SPL) for potential behavioural disturbance to marine mammals (NMFS, 2018). The threshold for behavioural response represents the level at which a moderate behavioural response may occur, such as changes in swimming speed, direction and dive profile, localised deviations in migratory patterns, brief to moderate shift in group distribution, short term cessation or modification of vocal behaviour. (McCauley *et al.*, 2000a; Southall *et al.*, 2007; Tyack, 2008). Avoidance, however, is not directly related to sound level thresholds but also influenced by the state of the individuals (e.g., their reproductive, health and foraging condition) and the context of exposure. It is considered that avoidance behaviour represents only a minor effect on either the individual or the species unless avoidance results in displacement of whales from areas of biological importance such as nursery, resting or feeding areas during an important period for the species. Higher received levels are not always associated with stronger behavioural responses and vice versa, and a clear dose-response relationship has not been identified (Southall *et al.*, 2007). In addition, a behavioural response does not necessarily equate to a significant avoidance or deviation in cetacean movements that would actually displace individuals or the population from the wider area. Similarly, proximity of the animal to the sound source, irrespective of received level, has been identified as an influencing factor, with behavioural response in humpback whales being both dependent on the proximity of whale to the vessel source and also the received level (i.e., at the same received level no behavioural response was detected when the source was greater than 3 km away) (Dunlop *et al.*, 2018).
Masking	Acoustic masking may occur when a noise impedes the ability of an animal to perceive a signal (Wood *et al.,* 2012; Erbe *et al.*, 2015). For this to occur the noise must be loud enough, have similar frequency content to the signal, and must happen at the same time (Wood *et al.,* 2012).

Term	Definition
	Masking and the potential effects of masking on communication and listening space of marine mammals are not fully understood and remain an area of active research (Terhune *et al*., 1979; Cunningham & Mountain, 2014; Tennessen & Parks, 2016; Cholewiak *et al*., 2018; Dunlop, 2017; 2018; Gabriele *et al*., 2018; Putland *et al.,* 2018). Currently, there are no specific received level thresholds for reliably assessing or regulating masking responses to seismic noise (Gomez *et al.,* 2016).

7.5.3. EMBA

The EMBA for underwater sound is unlikely to be beyond several hundred metres at most from the sound source, dependent on the species and associated thresholds, as outlined in this chapter. Receptors that are known to occur or may occur within the underwater sound EMBA, either as residents or migrants, are:

- Plankton;
- Benthic invertebrates (i.e., prawns);
- Pelagic fish;
- Marine mammals;
- Marine reptiles; and
- Seabirds.

The focus of this EIA is on EPBC-listed species that are sensitive to underwater sound, these being pelagic fish, marine mammals (whales) and marine reptiles (turtles).

7.5.4. Evaluation of Environmental Impacts

MODU noise

The MODU will generate noise from the operation of on-board machinery, including diesel engines, mud pump, ventilation fans (and associated exhaust) and electrical generators, and also (during drilling) from the drill string and bit. In general, fixed platforms such as jack-up MODUs transmit less noise underwater than a semi-submersible platform or a drill vessel due to the smaller surface area in contact with the water column.

Gales (1982) cited in NCE (2007), reports that underwater sound measured from platforms did not exhibit markedly different characteristics from those engaged in production, and that none of the measured sound could be directly related to the mechanical action of the drill bits. It is therefore believed that most sound associated with drilling is created by the operation of the MODU itself (and sound radiated through the MODU structure).

In the same study (Gales, 1982; cited in Richardson *et al.,* 1995) it was identified that platform noise was so weak that it was nearly undetectable even when alongside the platform during sea states ≥ 3. At the near-field measurement locations (ranges 9–61 m), the received sound levels were 119-127 dB re 1µPa (Richardson *et al.,* 1995).

Studies performed on the Spartan 151 jack-up MODU in Alaska's Cook Inlet in shallow waters (18-37 m water depth) verified the underwater acoustic levels as a function of range from the MODU (Marine Acoustics, 2011). Primary sources of MODU-based acoustic energy were identified as originating from the diesel engines, mud pump, ventilation fans and electrical generators. The study identified maximum sound levels were periodic (impulsive <1 second) with received levels at approximately 127 dB re 1µPa to a maximum range of 1.2–1.4km in the frequency range 8.9-

44.7 Hz. Levels in the infrasonic band (i.e., frequencies <20 Hz) between 8.9–11.2 Hz and 11.2–14.1 Hz infrequently exceeded 120 dB re 1µPa at ranges less than 1.7 km and never more than 1 second at a time.

On this basis, emissions predominantly below 120 dB re 1µPa with non-continuous (less than 1 second) levels exceeding this to a range of approximately 1.4 km in the frequency band 8.9 Hz to 44.7 Hz (infrasonic and low frequency) as measured in that study is expected to be indicative of the low frequency sound levels emitted by the jack-up MODU during drilling activities.

In addition, an acoustic monitoring program commissioned by Santos conducted during an exploratory drilling program in 2003, indicated that the drilling operation was not audible between 8 and 28 km from the MODU (McCauley, 2004), with most sound above 120 dB SPL RMS confined within a 2 km to 4 km radius of the MODU.

Sound generation and frequency bands from the operation and drilling activities associated with the MODU would be expected to be similar to the sound levels described above. This sound level is lower than the recorded ambient sound in the activity area (that varies from a minimum of 148 dB re 1µPa2.s SEL to a maximum of 163 dB re 1µPa2.s SEL, see Section 5.2.2 under 'Ambient Ocean Sound' in Section 5.2.2) and is therefore likely to have a negligible impact on marine fauna.

Based on this impact evaluation, there is no information to suggest that drilling up to three wells in succession (if it were to occur) within the activity area would result in cumulative underwater sound impacts that have a consequence higher than negligible.

Vessel noise

Noise from vessels acts to increase the sound in the water column above ambient noise levels. For example, noise emissions from idling vessels are low, however noise from thrusters and strong thrusts from the main engines have been recorded at levels of up to 182 dB re 1µPa at 1 m (McCauley, 1998). Under this mode of operation, McCauley (1998) measured underwater broadband noise of approximately 137 dB re 1µPa at 405 m. Levels of 120 dB re 1 µPa extended for a distance of approximately 3-5 km from the source, depending on water depth, seabed composition and other factors.

Under normal operating conditions when the vessel is idling or moving between sites, vessel noise would be detectable over only a short distance. For example, Woodside (2003) found that vessel noise levels rarely (<1% of the time) exceeded a threshold of 120 dB re 1 µPa (i.e., slightly less than ambient underwater sound intensity in the activity area) from an acoustic monitoring site 5.1 km from the source when a drilling support vessel was holding position using dynamic positioning bow thrusters.

Temporary and permanent threshold shifts are very unlikely to occur in any marine species as a result of vessel operations. The sounds produced by the vessels during this activity will not be outside the range of other anthropogenic sound and ambient underwater sound of the activity area (see 'ambient ocean sound' in Section 5.2.2).

Helicopter noise

Several helicopter flights each week will transport personnel and equipment to the MODU during drilling operations (see Section 2.5.3). Sound emitted from helicopter operations is typically below 500 Hz (Richardson *et al.,* 1995).

Sound travelling from a source in the air (e.g., helicopter) to a receiver underwater is affected by both in-air and underwater propagation processes, which are further complicated by processes occurring at the air-seawater surface interface. The received sound level underwater depends on

the altitude of the sound source and lateral distance from the receiver, receiver depth, water depth, and other variables.

The angle at which the line from the aircraft and receiver intersects the water surface is important. In calm conditions, at angles above 13 from the vertical much of the sound is reflected and does not penetrate into the water (Richardson *et al*., 1995; NRC, 2003). Therefore, strong underwater sounds are detectable for a period roughly corresponding to the time the helicopter is within a 26° cone above the receiver. This 'zone of ensonification' can be enlarged in rough seas and can also be enlarged in shallow waters (Richardson *et al*., 1995).

Most air traffic supporting offshore installations involves turbine helicopters flying along straight lines. Usually, a helicopter can be heard in air well before and after the brief period it passes overhead and is heard underwater. Sound pressure in the water directly below a helicopter is greatest at the surface and diminishes with increasing receiver depth. The peak received level diminishes with increasing helicopter altitude, but the duration of audibility often increases with increasing altitude.

Richardson et al (1995) reports figures for a Bell 214 helicopter (considered to be one of the loudest) being audible in air for four minutes before it passed over underwater hydrophones but detectable underwater for only 38 seconds (at 3 m depth) and 11 seconds (at 18 m depth). This means that as a conservative case, helicopter sound may be audible underwater for up to two minutes per flight per to and from the MODU. This provides an indication of the low level of received noise that may be expected from a helicopter.

Given the short time of audibility underwater (0.14% of a day) and low frequency of helicopter flights, impacts from helicopter sound to sound-sensitive marine fauna are assessed as negligible.

VSP

Noise emissions from VSP operations on marine fauna is considered to be low given its short duration (12 to 24 hours) and small air-gun array (600 cui array) as compared to conventional seismic survey arrays (typically 2,500 to 3,500 cui) that operate continuously for weeks or months. Undertaking three rounds of VSP (should all three wells be drilled) will not result in cumulative impacts to marine fauna because there will be significant time between these VSP events (more than 55-150 days required to drill each well) where ocean sound will be at ambient levels.

Biological Impacts

The impacts of impulsive and non-impulsive noise in the operational area are assessed in Section 7.1.4 of the Beehive-1 PDSA EP (available here), which was accepted by NOPSEMA in March 2022. The impacts of MODU and support vessel operations are expected to be similar to these.

For VSP operations, the impact assessment provided here is based on VSP modelling undertaken by Jasco Applied Sciences (McPherson *et al*., 2017) for the Gular-1 appraisal well undertaken in a water depth of 26 m (slightly shallower waters than the activity area) for a 600 cui airgun array. A summary of the results for the VSP modelling is presented in Table 7.11.

Table 7.11. Summary of the maximum horizontal distances to noise effect criteria from VSP operations for per-pulse (PK) modelled sites in the water column and at the seabed

Fauna group	Behavioural	Injury			Mortality/ potential mortality
		TTS	PTS	Recoverable injury	
Water column					
Plankton	-	-	-	-	84 m
Fish (with no swim bladders, including sharks)	(N) High (I) Moderate (F) Low	922 m	-	30 m	30 m
Fish (with swim bladders)	(N) High (I) High (F) Moderate	922 m	-	84 m	84 m
Fish eggs and larvae	(N) Moderate (I) Low (F) Low	922 m	-	84 m	84 m
Low-frequency cetaceans (LFC)	2,900 m	20 m	*	-	-
Mid-frequency cetaceans (MFC)		*	*	-	-
High-frequency cetaceans (HFC)		350 m	200 m	-	-
Turtles	1,856 m	N/A	N/A	-	84 m
Seabed					
Sponges and corals	-	-	-	-	*
Molluscs	-	-	-	304 m	-
Crustaceans	-	-	-	304 m	-
* *Threshold not reached.* - *No exposure criterion is available to model.* *N/A Not assessed.*		*N (near) = tens of metres.* *I (intermediate) = hundreds of metres.* *F (far) = thousands of metres.*			

The following impact assessment is based on species-specific for underwater sound on the various groups of biological receptors in the activity area. Where available, threshold criteria associated with behavioural and physiological impacts for sensitive receptors have been used to compare measured and predicted sound levels for different sound sources to assess potential impacts.

Impacts to Plankton

Plankton (described in Section 5.4.3) is very widely dispersed throughout the ocean and is transported by prevailing wind and tide- driven currents. They cannot take evasive behaviour to avoid anthropogenic sound sources. However, the potential for impacts is limited due to their widespread distribution and rapid population growth rates. This means that only a small percentage of a cohort will be exposed at any one time. Invertebrate plankton species that have gas-filled flotation organs (such as cephalopods) are more likely to be affected by underwater noise.

Impacts to plankton are likely to be insignificant at both a local and population level or compared with natural variability and mortality rates for plankton organisms. The estimated distance for mortality of plankton (84 m) from VSP modelling also indicates a very localized area of impact.

Based on this evaluation, the impact consequence for plankton resulting from underwater noise generated by VSP is negligible at an ecosystem and population level.

Impacts to Fish and Sharks

Fish species known to occur within the impacts EMBA are listed and described in Section 5.4.4. All fish studied to date are able to detect sound, with the main auditory organs in teleost (bony) fish being the otolithic organs of the inner ear (Carroll et al., 2017). Hearing in fish primarily involved the ability to sense acoustic particle motion via direct inertial stimulation of the otolithic organs or their equivalent. Many species also have the ability to sense sound pressure using an indirect path of sound stimulation involving gas-filled chambers such as the swim bladder (Carroll et al., 2017).

Limited research has been conducted on responses from elasmobranchs (sharks and rays, including juveniles) to underwater sound. This may be because sharks and rays differ from bony fish in that they have no accessory organs of hearing (i.e., a swim bladder) and therefore are unlikely to respond to acoustic pressure (Myrberg, 2001). Elasmobranchs sense sound via the inner ear and organs and as they lack a swim bladder it is thought that they are only capable of detecting the particle motion component of acoustic stimuli (Myrberg, 2001).

Based on the VSP modelling results in Table 7.10, it is expected that any impacts to fish and sharks from VSP will be highly localised and have no lasting effect, with the main impact being temporary behavioural changes (avoidance) for those individuals that are close to the VSP array at the time of operations. Impacts to species with BIAs in the operational area (see Section 5.4.4), such as the northern river shark (adults/juveniles may occur), dwarf sawfish (adults known to occur), largetooth sawfish (adults known to occur), green sawfish (adults known to occur) are expected to be the same. Underwater sound is not listed as a threat for these species (see Table 5.7 in Section 5.4.4). As such, the impact consequence from VSP operations are assessed as minor.

The available evidence indicates sharks will generally avoid sound sources, so the likely impacts on sharks are expected to be limited to short-term behavioural responses, such as avoidance of waters around the VSP. For the purposes of this EIA, sharks are included in the same group as fish without swim bladders and for the reasons outlined above, along with the fact that the Recovery Plan for the White Shark (DSEWPC, 2013) does not list anthropogenic sound as a threat to this species, impacts to sharks are considered to be negligible.

The activity will not have a 'significant' impact on endangered or vulnerable fish species (see Section 5.4.4) when assessed against the EPBC Act Significant Impact Guidelines 1.1 (DoE, 2013), as outlined in Table 7.12.

Table 7.12. Assessment against EPBC Act Significant Impact Guidelines for Fish

Significant impact guideline	Assessment
Lead to a long-term decrease in the size of a population.	Underwater sound generated from drilling activities will not lead to a long-term decrease in the size of a population given the short duration of the activity and the small size of the VSP array and the short duration of VSP operations. Impacts are localised and temporary.
Reduce the area of occupancy of the species.	The area of occupancy may be temporarily reduced given fish primarily respond by avoiding emitted sound from sound sources, however there will be no long-term reduction in the area of occupancy of fish.
Fragment an existing population into two or more populations.	Underwater sound generated from drilling activities will not split up a single fish population into two or more populations.
Adversely affect habitat critical to the survival of a species.	Underwater sound generated from drilling activities will not affect habitat critical to the survival of a species. is no overlap between underwater noise emissions and critical fish habitat.
Disrupt the breeding cycle of a population.	Underwater sound generated from drilling activities will not disrupt the breeding cycle of a population. There is no overlap between underwater noise emissions and fish breeding sites.

Significant impact guideline	Assessment
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	Underwater sound generated from drilling activities will not modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. Impacts will be localised and temporary. Habitats for site-attached fish, such as rocky reef, do not occur in the activity area or immediate surrounds.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat.	The activity will not result in the introduction of IMS.
Introduce disease that may cause the species to decline.	The activity will not result in the introduction of disease.
Interfere with the recovery of the species.	Recovery of threatened fish species will not be interfered with given there is no overlap between underwater sound emissions and areas critical to species recovery (such as breeding or migration).

Impacts to Cetaceans

The impacts of underwater sound on cetaceans are assessed in Section 7.1.4 of the Beehive-1 PDSA EP (available here), which was accepted by NOPSEMA in March 2022.

This VSP modelling results presented in Table 7.10 indicate that mortality to cetaceans from VSP operations is not predicted. The maximum distance at which the NMFS (2018) marine mammal behavioural response criterion of 160 dB re 1µPa could be exceeded was modelled as 2,900 m (2.9 km). TTS and PTS are predicted to only affect HFC (species such as porpoises, that are not known to occur in the impacts EMBA), and even then to only a few hundred metres from the sound source. Given that threatened and other whale species are not likely to occur in the impacts EMBA at the time of drilling (see Figure 5.17), the impacts of VSP on whales are expected to have a negligible impact consequence. Dolphins are classified as MFC, and the VSP modelling results in Table 7.10 indicate that impacts will be limited to behavioural impacts (e.g., avoidance) within a 2,900 m radius of the sound source. Given the short-term nature of VSP, the impacts will be limited to short-term avoidance.

The proposed drilling activity will not have a 'significant' impact on threatened cetacean species (see Section 5.4.5) when assessed against the EPBC Act Significant Impact Guidelines 1.1 (DoE, 2013) as outlined in Table 7.13.

Table 7.13. Assessment against EPBC Act Significant Impact Guidelines for Cetaceans

Significant impact guideline	Assessment
Lead to a long-term decrease in the size of a population.	Underwater sound generated from drilling activities will not lead to a long-term decrease in the size of a population.
Reduce the area of occupancy of the species.	Underwater sound generated from drilling activities will not lead to a reduction in the area of occupancy of cetaceans.
Fragment an existing population into two or more populations.	Underwater sound generated from drilling activities would not be expected to split up a single population into two or more populations.

Significant impact guideline	Assessment
Adversely affect habitat critical to the survival of a species.	Underwater sound generated from drilling activities will not affect habitat critical to the survival of a species. There is no overlap between underwater noise emissions and critical habitat for cetaceans.
Disrupt the breeding cycle of a population.	Underwater sound generated from drilling activities will not disrupt the breeding cycle of a population. There is no overlap between underwater noise emissions and cetacean breeding sites.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	Underwater sound generated from drilling activities will not modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline. Impacts will be localised and temporary.
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat.	The activity will not result in the introduction of IMS.
Introduce disease that may cause the species to decline.	The activity will not result in the introduction of disease.
Interfere with the recovery of the species.	Recovery of threatened cetaceans will not be interfered with given there is no overlap between underwater sound emissions and areas critical to species recovery (such as areas of calving, breeding or migration).

Impacts to Turtles

Turtle BIAs overlapped by the impacts EMBA include that for the green turtle (foraging), flatback turtle (inter-nesting) and olive-ridley turtle (foraging) (see Section 5.4.6).

The impacts of underwater sound on turtles are assessed in Section 7.1.4 of the Beehive-1 PDSA EP (available here), which was accepted by NOPSEMA in March 2022.

This VSP modelling results presented in Table 7.11 indicate that mortality or potential mortality to turtles from VSP operations is only likely within 84 m of the sound source. Based on the limited data in regard to noise levels that illicit a behavioural response in turtles, a level of 166 dB re 1 µPa drawn from NSF (2011) is typically applied, both in Australia and by NMFS, as the threshold level at which behavioural disturbance could occur (Table 7.14).

Table 7.14. Exposure criteria for seismic sources – turtles

Mortality and potential mortal injury	Distance from the source	Impairment			Behaviour
		Recoverable injury	TTS	Masking	
210 db 24_{hr} SEL *or* >207 dB peak	Near	Moderate	Moderate	Low	Moderate
	Intermediate	Low	Low	Low	Low
	Far	Low	Low	Low	Low

Distance from the source
Near = tens of metres.
Intermediate = within hundreds of metres.
Far = thousands of metres.

In the worst-case, recoverable injury and TTS for any turtles present near the VSP operations could occur within tens of metres (per Table 7.13). Behavioural changes, such as avoidance and diving, may occur for individuals within tens of metres of the sound source. This will not result in short- or long-term population impacts to turtles. The impact consequence level is assessed as negligible.

Impacts to Crustaceans

Although there are no threatened crustacean species in the impacts EMBA, crustaceans are assessed here given the presence of the commercially important NPF (see Section 5.7.1). Crustaceans such as banana and tiger prawns that are present in the impacts EMBA are described in Section 5.4.1.

The impacts of underwater sound on crustaceans are assessed in Section 7.1.4 of the Beehive-1 PDSA EP (available here), which was accepted by NOPSEMA in March 2022.

There are no established criteria to model for the effects of underwater sound on crustaceans, so comparisons can only be made to results from acoustic studies. This VSP modelling results presented in Table 7.10 indicate that the distance to effects for recoverable injury (based on a PK-PK of 202 dB re 1µPa from Payne et al (2008)) is 304 m (noting there are no comparison criteria for behaviour, TTS, PTS or mortality).

Based on a Q1 start for the drilling activity, VSP operations may overlap with the spawning period for grooved tiger prawn and blue endeavour prawn, along with migration of juvenile banana prawns (see Figure 5.12 in Section 5.4.1).

Impacts to crustaceans (prawns) will have a negligible impact consequence at both an individual level and local population level based on the following:

- The sound will be temporary (several hours) and localised;
- The activity is 80 km from inshore habitats favoured as nursery grounds for juveniles and therefore will not be impacted by underwater sound generated from VSP; and
- Lethal effects to crustaceans have not been observed (Christian *et al*., 2003; Parry and Gason 2006; Payne *et al*., 2008; Day *et al.,* 2016a).

Impacts to Avifauna

There are no threatened seabird species or seabird BIAs in the impacts EMBA.

In the event that individual birds or flocks are present in the impacts EMBA area during VSP operations, an indirect impact may occur if sound pulses cause changes to the abundance or behaviour of prey species (fish). However, the extent to which temporary 'descending' or 'tightening' responses of schooling prey fish such as pilchards (if it occurs) affects availability to birds either positively or negatively, is not known. As described in the previously, the effects to fish from VSP will be very localised and short-term, and it is not likely that measurable impacts to predatory seabirds will be therefore occur.

Seabird species that may forage in the activity area (see Section 5.4.7) all have considerable foraging habitat present throughout JBG, will all listed as migratory. The short distance to behavioural effects for fish (tens to hundreds of metres for behavioural impacts) means that any temporary dispersal of fish due to VSP would not result in any significant decrease in availability of prey species that is of biological significance for seabird populations.

There are no thresholds or assessment criteria for noise impacts to birds. As most seabirds spend very little time under the water surface, and when they do it is for several seconds at a time, impacts to seabirds are predicted to be negligible. The operational area does not contain spatially limiting food sources, with JBG providing abundant foraging grounds.

7.5.5. Impact Assessment

Table 7.15 presents the impact assessment of underwater sound generated from the activity on biological receptors.

Table 7.15. Impact assessment for noise emissions on biological receptors

Summary		
Summary of impacts	Physiological or pathological impacts to local populations of marine fauna and avifauna from noise emissions generated during the drilling activity.	
Extent of Impact	Ten of metres and/or up to several hundred metres (due to VSP operations) depending on the source of sound.	
Duration of Impact	Very short-term (several minutes for helicopters) to the duration of drilling (support vessel movements, drilling sound).	
Level of certainty of impacts	Moderate to high.	
Impact decision framework context	Decision type	A – good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk and uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	• No population level impacts to marine fauna and avifauna from the activity. • Anthropogenic noise in BIAs will be managed such that turtles will continue to utilise the area without injury or displacement from foraging, migration and interesting areas.	

Impact consequence (inherent)	
Receptor	Consequence rating
Plankton	Negligible
Fish – with swim bladders	Negligible
Fish – without swim bladders	Negligible
Marine mammals	Negligible
Turtles	Negligible
Marine invertebrates (crustaceans)	Negligible
Avifauna	Negligible

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
EPBC Policy Statement 2.1 – Part A (Standard management procedures) for VSP operations **(IMP-05: EPS-01, -03 & -04)**	Engineering & administrative	Yes	**EB:** Improved ability to spot and identify marine fauna at risk of impact from underwater sound generated by VSP equipment. **C:** Little additional cost – time to induct VSP and deck crew and ensure compliance. **Ev:** Standard management procedures in Part A of the policy statement must be followed by all vessels conducting seismic surveys irrespective of location and time of year. The policy statement notes that these procedures should be sufficient in areas where there is a low likelihood of encountering whales, as is the case in the JBG.
EPBC Policy Statement 2.1 – Part A (Standard management procedures) – soft-start procedures for VSP.	Engineering	No	**EB:** Improved ability to avoid or minimise impacts of underwater sound to marine fauna. **C:** Cost associated with the extra time to undertake VSP, likely to be several hours. This would be in the order of $100,000 for the MODU time alone. **Ev:** The airguns used for VSP have a much lower sound source volume (600 cui) compared to traditional seismic surveys (up to 3,500 cui) that the Policy Statement 2.1 has been prepared for. Sound will also be generated by the support vessels, acting as a 'warning' to sound-sensitive species. This, the short duration of VSP and with the low likelihood of whales being in the activity area at the time of drilling means the high cost of implementing this control is disproportionate to the low risk.
Environmental awareness induction **(IMP-05: EPS-02)**.	Administrative	Yes	**EB:** Ensures VSP and deck crew are aware of their obligations regarding implementation of EPBC Policy Statement 2.1 when conducting VSP operations, thereby minimising impacts to megafauna. **C:** Minimal additional cost to prepare and present induction. **Ev:** Presenting inductions to ensure VSP and deck crew are aware of their obligations is an industry standard. The environmental benefits outweigh the minor costs.

EPBC Policy Statement 2.1 – Part B (Additional management measures) – use of a Marine Mammal Observer (MMO) during VSP operations)	Administrative	No	**EB:** Improved ability to spot and identify marine fauna at risk of impact from underwater sound generated by activity equipment. **C:** About $20-30,000 to contract two MMOs (back-to-back operations, based on day rate, travel and accommodation) for the duration of VSP operations plus standby time. **Ev**: The use of MMOs is covered by Part B (Additional Management Procedures) of the policy statement. Adoption of Part B (either all or parts thereof) is recommended in areas and/or seasons that have a moderate to high likelihood of encountering whales. The likelihood of encountering whales in the activity area during the activity window is low, so the use of an MMO is not considered necessary. Crew on the MODU can implement EPBC Policy Statement 2.1 with support of constant bridge observations from crew on the support vessels.
Undertake site-specific acoustic modelling and develop a noise management plan as per the Approved Conservation Advice for *Megaptera noveangliae* (humpback whale).	Administrative	No	**EB:** Increase the knowledge of potential impacts and potential reduction in impacts to whales. **C:** Several thousand dollars to undertake site-specific acoustic modelling and prepare the management plan. **Ev:** There is no environmental benefit with this control measure as there are no humpback whale BIAs in or near the activity area and the timing of the activity is outside the humpback whale migration period on the North West Shelf.
Vessels and helicopters will comply with EPBC Regulations 2000 – Part 8 Division 8.1 **(IMP-05: EPS-03)**.	Administrative	Yes	**EB:** Reduces the risk of physical and behavioural impacts to cetaceans from vessels and helicopters. **C:** Operational costs to adhere to marine fauna interaction restrictions, such as vessel speed and direction, are based on legislated requirements. **Ev:** Standard management procedures in Regulations 8.07 must be followed.
MODU machinery and support vessel engines and thrusters/DP are well maintained **(IMP-05: EPS-05)**.	Engineering	Yes	**EB:** Efficient engines, thrusters and other rotating equipment are likely to result in lower sound and vibration, thereby minimising impacts to sound-sensitive marine fauna. **C:** Maintenance costs can be significant. **Ev:** Planned maintenance is necessary to maintain MODUs and support vessels in sea-worthy condition. EOG would not hire a MODU or vessel that is not sea-worthy, so there are no alternative to implementing this control measure.

Environmental Controls and Performance Measurement		
Performance outcome	Performance standard (control)	Measurement criteria
VSP and pre-drilling geophysical operations		
No displacement or injury to threatened marine fauna from drilling or pre-drilling activities	**(IMP-05:EPS-01)** Geophysical and VSP team members, with the support of dedicated MODU deck crew and support vessel bridge crew, will implement parts of Part A of EPBC Policy Statement 2.1 during VSP and any pre-drill geophysical activities. Specifically:	
	A.3.1: Pre Start-Up Visual Observations • Pre-start visual observations out to 3 km for 30 minutes. • If a whale or turtle is observed during the pre-start observations, delay soft start for 30 minutes. • If no whales or turtles are observed, activate acoustic equipment.	Daily operations reports verify procedure was followed as required.
	A.3.4: Operations procedure • If a whale or turtle is observed within the shutdown zone of the source (500 m), the airguns will be shut down. • VSP can recommence after the whale or turtle has been observed to move outside the shutdown zone or if the whale has not been sighted for 30 minutes.	Daily operations reports verify procedure was followed as required.
	A.3.6 Night-time and low visibility procedure • Wherever practicable, commence VSP operations during daylight hours. • Night-time and low visibility operations will not commence if there have been 3 or more whale-instigated shutdown in the preceding daylight hours.	Daily operations reports verify procedure was followed as required.

Environmental Controls and Performance Measurement		
Performance outcome	Performance standard (control)	Measurement criteria
	(IMP-05: EPS-02) Environmental awareness induction will be provided to MODU, geophysical, VSP and support vessel crew prior to start of the activity. This includes: • Providing the policy statement to the Vessel Masters and Drilling Supervisor (DSV). • Providing photos/pictures of the different megafauna expected in the area at the time of the activity, including in the form of posters for display. • Instructions on the pre-start, shut-down and re-start requirements (as listed in **IMP-05:EPS-01**). • Instructions on distance estimation, including the specification that marine binoculars with reticles are used. • Instructions on how to detect marine megafauna based on observations on the water surface and surrounds. • Instructions on data to be recorded for marine megafauna sightings, including time of observation, type and number of species observed and estimated location coordinates.	Induction presentation and signed attendance sheet.
	(IMP-05: EPS-03) Support vessel and helicopter activities will be undertaken in accordance with EPBC Regulations 2000 – Part 8, Division 8.1. Specifically: • Vessels will not knowingly travel faster than 6 knots within 300 m of a whale or 150 m of a dolphin; • Vessels will not knowingly get closer than 100 m of a whale or 50 m of a dolphin; • If a cetacean approaches, the vessel within the above zones, the vessel will avoid rapid changes in engine speed or direction; • Helicopters will not fly lower than 1650 ft when within 500 m horizontal distance of a cetacean except when landing or taking off and will not approach a cetacean from head on.	Flight reports verify in the event of a cetacean sighting, that caution zone and interaction management actions were implemented.

Environmental Controls and Performance Measurement		
Performance outcome	Performance standard (control)	Measurement criteria
Cetacean sightings are reported to the DCCEEW.	**(IMP-05:EPS-04)** *EPBC Act Policy 2.1 – Part A.4* EOG will report cetacean sightings online to the DCCEEW within 2 months of activity completion (through the online Cetacean Sightings Application where possible or via email).	Transmittal of sighting records are available to verify reports were made.
MODU and support vessel operations		
MODU engines and support vessel engines and thrusters/DP are well maintained.	**(IMP-05: EPS-05)** Engines and thrusters are maintained in accordance with manufacturer's instructions via the PMS to ensure they are operating efficiently.	PMS records verify that engines and thrusters are maintained to schedule.

Impact consequence (residual)	
Receptor	Consequence rating
Plankton	Negligible
Fish – with swim bladders	Negligible
Fish – without swim bladders	Negligible
Marine mammals	Negligible
Turtles	Negligible
Marine invertebrates (crustaceans)	Negligible
Avifauna	Negligible

The consequence of underwater sound emissions is assessed as negligible because:

- Underwater sound emissions are localised and temporary;
- BIAs for cetaceans (as one of the more sound-sensitive fauna groups) do not occur in the impacts EMBA;
- The activity avoids temporal overlap with whales that may migrate through the region; and
- Distances to effect for underwater sound are very low.

Demonstration of ALARP
A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.

Demonstration of Acceptability	
Policy compliance	EOG's Safety and Environmental Policy objectives are met.
Management system compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.
Risk matrix standard	The residual impact consequence is negligible, which is considered acceptable.

Environmental Controls and Performance Measurement		
Performance outcome	Performance standard (control)	Measurement criteria
External context	There have been no objections or claims raised by relevant persons regarding underwater sound emissions for this activity.	
Legislative context	The performance standards outlined in this EP align with the requirements of: • EPBC Act 1999 (Cth): ○ Section 229, 229A – all cetaceans protected in Australian waters, and it is an offence to kill, injure or interfere with a cetacean. • EPBC Act Policy Statement 2.1 (Interaction between offshore seismic exploration and whales) management procedures.	
Industry practice	The consideration and adoption of the controls outlined in the below-listed codes of practice and guidelines demonstrates that BPEM is being implemented for this activity.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this activity take into account the management measures listed for exploration in Section 4.4.1 of the guidelines, which include: • Considering sensitive locations and times of year for critical activities of species that are present.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There are no guidelines specifically regarding underwater sound for offshore activities.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	There is no guidance specific regarding underwater sound.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • Noise (item 74). The preparation of this EP meets the objectives of these guidelines, whereby sensitive areas for marine life are identified, and stop procedures are in place when marine mammals are sighted within 500 m of the activity **(IMP-05: EPS-01)**.
	AEP CoEP (APPEA 2008)	The EPS developed for this activity meet the code's following objectives: • Reduce the impact on cetaceans and other marine life to ALARP and an acceptable level **(IMP-05: EPS-01, -02 & -03)**. • To reduce the impacts to benthic communities to ALARP and an acceptable level.
	Underwater sound-specific	

Environmental Controls and Performance Measurement		
Performance outcome	Performance standard (control)	Measurement criteria
	EPBC Act Policy Statement 2.1 – Interaction between offshore seismic exploration and whales (2008a)	The standard management procedures in Part A of the guidelines have been adopted **(IMP-05: EPS-01 & -03)**.
	EPBC Regulations 2000 – Part 8, Division 8.1	The standard management procedures in Part 8, Division 8.1, Regulation 8.07 have been adopted **(IMP-05: EPS-04)**.
Environmental context	MNES	
	AMPs	This hazard will not reach levels above ambient sound at AMPs.
	Ramsar wetlands	This hazard will not reach levels above ambient sound at any wetlands.
	TECs	This hazard will not reach levels above ambient sound at TECs.
	Nationally threatened and migratory species	This hazard will not reach levels above ambient sound for threatened and migratory species.
	Other matters	
	KEFs	This hazard will not reach levels above ambient sound at KEFs.
	NIWs	This hazard will not reach levels above ambient sound at NIWs.
	State marine parks	This hazard will not reach levels above ambient sound at state marine parks, which are located around islands and along mainland coastlines.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	The Conservation Management Plan for the Blue Whale (DoE, 2015b) and the Conservation Advice for the Humpback Whale (TSSC, 2015a); Sei Whale (TSSC, 2015b) and Fin Whale (TSSC, 2015c) identify noise interference as a threat to these species. The plans state that the risk of physical impacts is minimised by the implementation of EPBC Act policy Statement 2.1, which this activity is implementing. The Recovery Plan for the White Shark (DSEWPC, 2013) does not list anthropogenic sound as a threat to this species. The Recovery Plan for the Sawfish and River Sharks (DoE, 2015) does not list anthropogenic sound as a threat to this species. The Conservation Advice of the Whale Shark (TSSC, 2015d) does not list anthropogenic sound as a threat to this species.

Environmental Controls and Performance Measurement		
Performance outcome	Performance standard (control)	Measurement criteria
	The Recovery Plan for Marine Turtles in Australia (DoEE, 2017c) identifies noise interference as a threat to turtles, and for acute noise such as seismic surveys, states that surveys planned to occur inside important inter-nesting habitat should be scheduled outside the nesting season. This is not triggered by this activity given the absence of turtle BIAs in the EMBA.	
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the impacts from underwater sound to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Underwater sound emissions from the activity will not have long-term or significant impacts on MNES; • The management of underwater sound emissions will ensure it is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of underwater sound emissions will ensure it is not inconsistent with the aims of relevant marine reserve management plans; and • The management of underwater sound emissions will ensure it is not inconsistent with ESD principles.	
Environmental Monitoring		
• Monitoring for megafauna.		
Record Keeping		
• Daily operations reports. • VSP operations reports. • Transmittal of sighting records to DCCEEW. • Induction presentation and attendance sheets. • PMS records.		

7.6. IMPACT 6 – Discharge of Drill Cuttings and Muds

7.6.1. Hazard

Cuttings (and adhered fluids) are discharged directly to the seabed during riserless drilling and discharged from the MODU to the sea surface while drilling with the riser connected. Cuttings and adhered muds disposed from the MODU form a turbid plume, within which the larger particles (90-95%) fall to the seabed close to the discharge point, while the finer particles form an upper plume before dispersing, with a dilution factor of at least 10,000 within 100 m of the discharge point (Hinwood *et al*., 1994).

Drill cuttings from upper well sections generally accumulate in an approximate 80 x 80 m area around the well, commonly an ellipsoid shape according to tide and current behaviour (Hinwood *et al*., 1994). When cuttings from the lower sections of the well are discharged at the sea surface, the larger sediment particles settle rapidly to the seabed, generally with 90% of the discharge volume falling within 100 m of the discharge point (Hinwood *et al*., 1994).

The physical deposition of these cuttings, combined with the properties of the adhered fluids, may have an impact on flora and fauna and benthic habitat, depending on the discharge volumes, exposure levels and the sensitivity of the species themselves.

After drilling the riserless sections of the wells, muds will be circulated and continuously recycled to the surface. The mud is circulated to surface to separate cuttings from the fluid and in turn allows the mud to be pumped back down into the well. Cuttings are separated from the mud system using shale shakers to remove as much mud for reuse as possible. The cuttings with residual mud are intermittently discharged from the MODU from a discharge hose above sea level. Periodically, different solids control devices within the mud treatment system may also discharge to sea. The mud treatment system is continuously monitored for operability by the mud engineer and drilling fluid properties assessed at least twice daily by the DSV and Drilling Fluids Engineer to optimise separation efficiency. A bulk discharge of waste WBM will occur at the end of the drilling campaign.

At the completion of drilling, each well will be either P&A or TA (see Section 2.8), with either completion brine or WBM left in the wellbore.

Drill Cuttings and Fluid Solids Discharge Modelling

EOG commissioned RPS to undertake dispersion modelling of drill cuttings and muds based on the multi-well design described in Section 2.7 using the following three scenarios:

- Scenario 1 – WBM for all well sections in Table 2.5;
- Scenario 2 – WBM for all well sections, except for SBM in the 12”.25”, 8.5”and 8.5” sidetrack sections; and
- Scenario 3 – WBM for all well sections, except for SBM in the 12.25”section.

The modelling results apply to the drilling of a single well. Table 2.5 in Section 2.7 lists the estimated volume of drill cuttings, WBM, SBM and unrecoverable mud solids for each well interval and the end-of-well mud discharge.

Modelling Methodology

The following information is taken from the RPS modelling report (2024). MUDMAP is a three-dimensional plume model used to aid in assessing the potential environmental effects from operational discharges such as drill cuttings, drilling fluids and produced water. The model has been applied to hundreds of assessments in over 35 countries, including Australia.

The model itself is an enhancement of the Offshore Operators Committee (OOC) model and calculates the fates of discharges through three distinct stages, as defined by laboratory and field studies:

- Stage 1, Convective descent – free fall of the combined mass of fluids and cuttings;

- Stage 2, Dynamic collapse stage – the collapse of the combined mass as it meets the seabed (or water surface); and
- Stage 3, Dispersion stage – the transport and dispersion of discharged fluids and particles by the local currents. For cuttings and drilling mud particles that have higher density than seawater, this phase also calculates sinking and settlement to the seabed.

Each stage plays an integral role on different time and distance scales. Settling under currents is selective for particle size, with the larger particles (rock chips to sand) tending to settle quickly, forming a pile that aligns with the predominant water current axis. Smaller particles (especially silts and clays) will remain suspended for longer periods and will therefore be dispersed more widely by the ambient current conditions. Dispersion of the finer discharged material tend to be enhanced with increased current speeds and water depth and with greater variation in current direction over time and depth. Along with the advanced analyses tools, MUDMAP can simulate six classes of material (or 36 subcategories), each with unique density and particle-size distribution. During the dispersion stage, the model particles are transported in three dimensions according to the current data and horizontal and vertical mixing coefficients at each time step according to the governing equations.

MUDMAP has been extensively validated and applied for discharge operations in Australian coastal waters. The input data used to setup the dispersion model included:

- Volume and discharge duration of the cuttings and unrecovered muds;
- Particle size distributions and associated settling velocities of discharged cuttings and unrecoverable muds;
- Bulk density of the discharged cuttings and unrecoverable muds;
- Temperature and salinity profile of the receiving waters;
- The orientation of the discharge pipe;
- The height/depth of the discharge point relative to mean sea level; and
- Depth-varying current data to represent local physical forcing.

Table 7.17 provides a summary of the discharge configuration and the estimated volume of cuttings and muds used as input into the discharge model for a single well. Each simulation represented the sequential completion of each discharge operation with the sequence and rate of discharges set to represent the proposed drilling and discharge plan. Simulations were run for a longer period than the discharge duration to allow finer sediments to settle out of suspension or to disperse.

Table 7.17. Input data used for the drill cuttings and dispersion modelling

Parameter/description	Values/configuration
Volume of cuttings discharged near the seabed	88.4 m^3
Volume of mud solids discharged near the seabed	30.0 m^3
Volume of cuttings discharged near the sea surface	1,152 m^3
Volume of mud solids discharged near the sea surface	397.4 m^3
Total volume of cuttings discharged	1,240.8 m^3
Total volume of mud solids discharged	427.4 m^3
Density of drill cuttings	2,600 kg/m^3
Density of drilling mud solids	4,200 kg/m^3
Duration of discharge	34.25 days
Depth of near – seabed discharge	2 m above seabed
Depth of near – sea surface discharge	0 m (sea surface)
Water depth	40 m
Orientation of discharge pipe	Vertically downwards
Stochastic modelling approach and conditions	Randomly selected start simulation dates between January–December (2010–2019). 25 simulations per quarter (Q1: January–March, Q2: April–June, Q3: July–September and Q4: November–December).

As the well will be drilled using a conventional drilling approach, the particle sizes for cuttings and drilling muds were represented by literature data for conventional drilling (Table 7.18). It is important to note that grain size has a greater influence on the rate of settling than density (Neff, 2005), and grain sizes are expected to vary between 0.016 mm and 6 mm in diameter. The model was set up with four main particle classes to represent large, medium and light cuttings, and drilling fluid solids (i.e., mud particles). The fall velocities for the various size classes were derived from empirical data provided by Dyer (1986).

A stochastic modelling approach was followed with one hundred simulations (or 25 per quarter of the year) modelled for each of the three scenarios . Each discharge simulation for the respective well had the same information but different commencement times, and thus, prevailing current conditions were different. This approach ensured that the cuttings and muds experienced a wide range of current conditions (speeds and directions). The results from all 100 simulations per scenario, were integrated to identify the overall area of exposure on the seabed and in water. The outputs are presented as contours relative to the maximum predicted bottom thickness of deposited material on the seabed or total suspended solids (TSS) concentrations.

Table 7.18. Discharged grain sizes, settling velocities and percentage distributions for the cuttings and drilling muds, based on conventional hole drilling using WBM and SBM

Class	Grain size (mm)	Settling velocity (cm/s)	Well section consisting of drilling with WBM (composition %)	WBM class proportion (composition %)	Well section consisting of drilling with SBM (composition %)	SBM class proportion (composition %)
Large cuttings	6	53.62	8.6	40.3	8.2	38.5
	5	49.46	8.6		8.2	
	2	28.55	8.6		8.2	
	1	12.73	5.8		5.5	
	0.5	7.5	5.8		5.5	
	0.45	6.6	2.9		2.7	
Medium cuttings	0.4	6	2.9	16.9	2.7	16.3
	0.35	5	2.8		2.7	
	0.3	4	2.8		2.7	
	0.25	3.1	2.8		2.7	
	0.2	2.3	2.8		2.7	
	0.15	1.6	2.8		2.7	
Light cuttings	0.1	0.8	2.8	14.3	2.7	13.7
	0.05	0.22	2.8		2.7	
	0.04	0.15	2.9		2.7	
	0.03	0.08	2.9		5.4	
	0.02	0.04	2.9		0.0	

Class	Grain size (mm)	Settling velocity (cm/s)	Well section consisting of drilling with WBM (composition %)	WBM class proportion (composition %)	Well section consisting of drilling with SBM (composition %)	SBM class proportion (composition %)
Drilling fluids solids	0.063	0.34	0.4	28.5	0.0	31.5
	0.05	0.22	1.6		1.7	
	0.035	0.11	3.7		4.1	
	0.026	0.06	6		25.3	
	0.02	0.038	7.4		0.0	
	0.016	0.026	9.4		0.0	
Total composition (%)			**100**	**100**	**100**	**100**

Settling velocities per grain size sourced from Dyer (1986).

Reporting Thresholds

The following information on thresholds is taken from RPS (2024). The MUDMAP model can predict sediment concentrations and thickness to very low levels that may not be practical or ecologically significant; therefore, thresholds were carefully selected for reporting the model-predicted outcomes.

Based on available literature, thresholds of 1-10 mm and above 10 mm were used to define low and high exposure levels for this study, respectively (Table 7.19). In addition, Trannum et al (2009) reports a significant decrease in species count, abundance of individuals, Shannon-Wiener diversity, and biomass of marine animals with increasing depth of deposited cuttings (3-24 mm). Furthermore, a study by Kjeilen-Eilertsen et al (2004) reports that depositional thicknesses greater than 9.6 mm are likely to cause smothering impacts on benthic ecosystems, including corals. A study by Smit et al (2008) established that a thickness threshold of greater than 6.5 mm would be needed before potential harm to benthic macrofauna occur.

As a conservative measure, a thickness of 0.05 mm was adopted as a minimum reporting threshold for modelling (Table 7.19). Assuming newly settled cuttings and drilling muds will be less compact due to incorporation of water between grains of sediment deposits, a bulking factor of 2.5 was applied to predicted bottom thicknesses to account for porosity.

The minimum reporting threshold for TSS concentrations used for this study is 5 mg/L. Nelson et al (2016) reports <10 mg/L as a minimal or no effect, whilst concentrations above 10 mg/L have a sublethal effect to pelagic biota. Furthermore, IOGP (2016) cite that very high concentrations (>1,830 mg/L) of TSS has been shown to result in mortality of pelagic biota. Hence, a threshold range of 10-1,830 mg/L and greater than 1,830 mg/L were used to define low and high exposure, respectively (see Table 7.19).

Table 7.19. Reporting thresholds for sediment thickness and TSS concentrations for the drill cuttings and muds discharge modelling

Reporting criteria	Total sediment thickness (mm)	TSS concentration (mg/L)
Minimum reporting threshold	0.05	5
Low exposure	1 – 10	10 – 1,830
High exposure	> 10	> 1,830

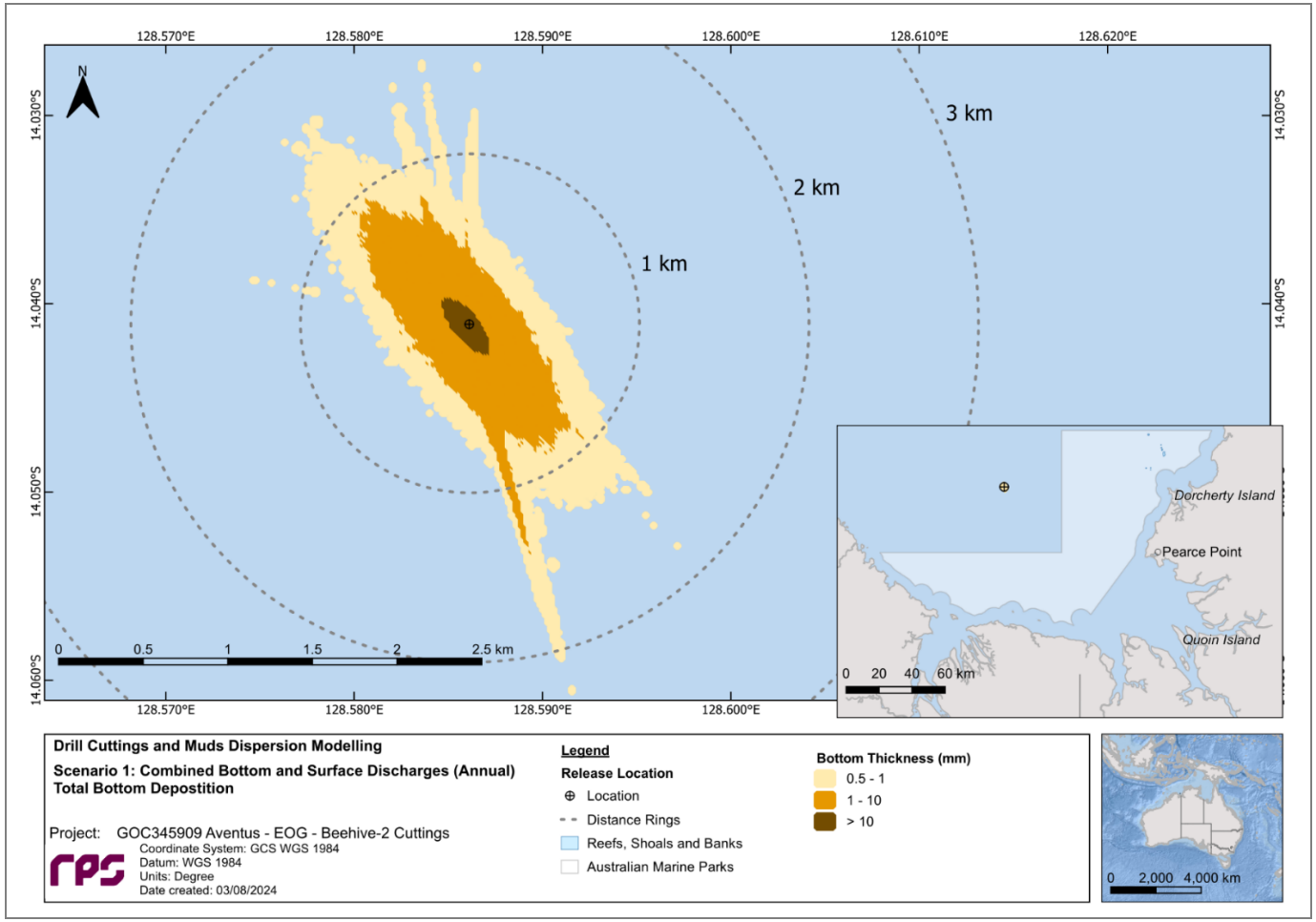
Stochastic Modelling Results – Sediment Thickness

Figure 7.4, Figure 7.5 and Figure 7.6 illustrate the predicted coverage and sediment thickness from the combined near-seabed and sea surface drill cuttings and unrecoverable muds discharges from all 100 simulations for each of the three scenarios for a single well. Table 7.20 presents the same results.

The total area of coverage on the seafloor above the minimum reporting threshold (0.5 mm) ranged between 1.70 km^2 (scenario 3) and 1.80 km^2 (scenario 2) for a single well. Assuming three wells are drilled, the total area of coverage increases to a range between 5.1 km^2 (scenario 3) and 5.4 km^2 (scenario 2). The predicted maximum distances of excursion of the minimum reporting thickness reporting threshold from the release location ranged between 1.99 km (scenario 2) to 2.03 km (scenario 1).

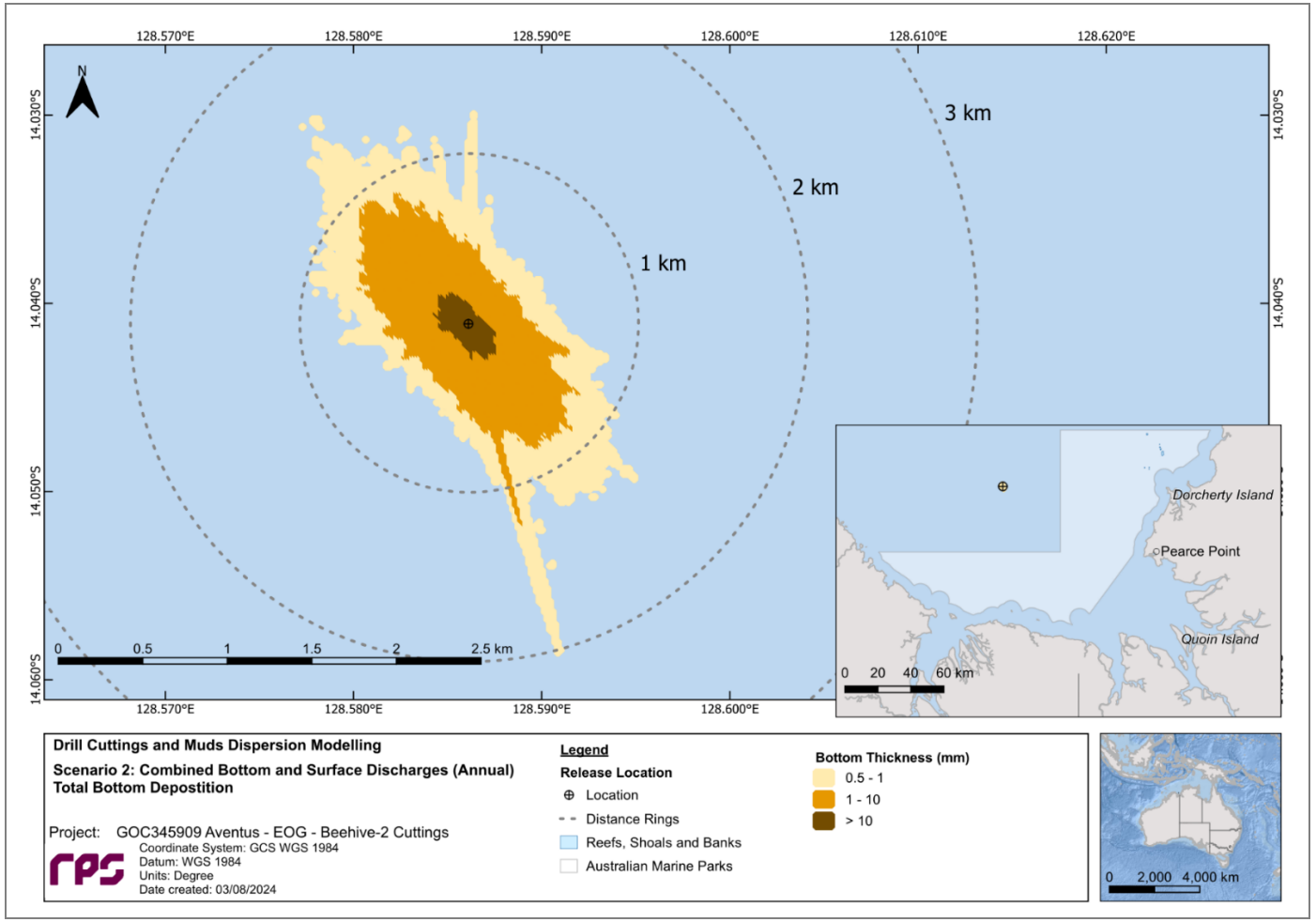
The area of coverage based on the low (1-10 mm) and high (>10 mm) exposure threshold criteria ranged from 0.77 km^2 (scenario 1) to 0.86 km^2 (scenario 2) and 0.05 km^2 (scenarios 1 and 3) to 0.07 km^2 (scenario 2), respectively, for a single well. Assuming three wells are drilled, the total area

of coverage increases to a range between 2.3 km^2 (scenario 1) and 2.6 km^2 (scenario 2) and 0.15 km^2 (scenarios 1 and 3) to 0.21 km^2 (scenario 2), respectively. The maximum distance from the release location to the low and high exposure thresholds ranged from 1.21 km (scenario 3) to 1.33 km (scenario 1) and 0.21 km (scenarios 1 and 3) to 0.24 km (scenario 2), respectively.



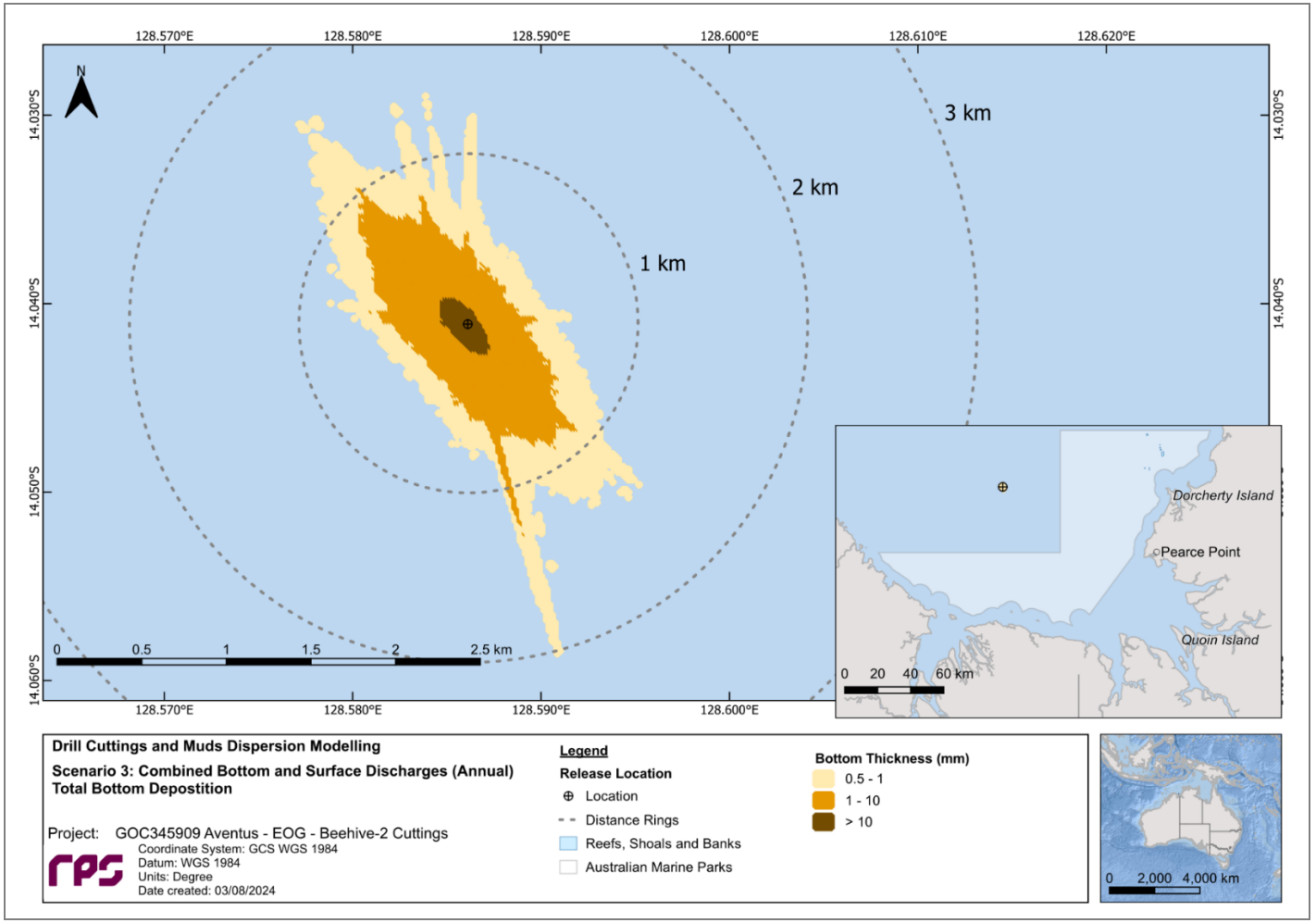
Source: RPS (2024).

Figure 7.4. Predicted distribution and sediment thickness of cuttings and muds discharges for scenario 1 (WBM for all well sections) based on 100 simulations with a 34.25-day modelled discharge period



Source: RPS (2024).

Figure 7.5. Predicted distribution and sediment thickness of cuttings and muds discharges for scenario 2 (WBM for all well sections, except for SBM in the 12.25", 8.5" and 8.5" sidetrack sections) based on 100 simulations with a 34.25-day modelled discharge period



Source: RPS (2024).

Figure 7.6. Predicted distribution and sediment thickness of cuttings and muds discharges for scenario 3 (WBM for all well sections, except for SBM in the 12.25”section) based on 100 simulations with a 34.25-day modelled discharge period

Table 7.20. Predicted annual area of coverage and maximum distance for each bottom thickness reporting threshold for each scenario based on 100 simulations with a 34.25-day modelled discharge period for a single well

Sediment reporting thickness (mm)	Reporting criteria	Collective assessment of all combined simulations		
		Area of coverage of cuttings and muds ≥0.05 mm thickness (km^2)	Percentage of modelled area covered by sediment	Maximum distance from the release location (km)
Scenario 1 – WBM for all sections				
0.05 – 0.1	Minimum reporting threshold	0.97	54.4	2.03
1 – 10	Low exposure	0.77	43.0	1.33
> 10	High exposure	0.05	2.6	0.21
	Total	**1.79**		
Scenario 2 – WBM for all sections, except for SBM in the 12.25”, 8.5” and 8.5” sidetrack sections				
0.05 – 0.1	Minimum reporting threshold	0.87	48.3	1.99
1 – 10	Low exposure	0.86	47.8	1.22
> 10	High exposure	0.07	4.0	0.24
	Total	**1.80**		
Scenario 3 – WBM for all sections, except for SBM in the 12.25” section				
0.05 – 0.1	Minimum reporting threshold	0.87	51.0	2.01
1 – 10	Low exposure	0.78	45.8	1.21
> 10	High exposure	0.05	3.1	0.21
	Total	**1.70**		

The modelling results demonstrate that the settlement of the cuttings and drilling muds occur predominantly along a northwest–southeast axis, coinciding with the dominant current directions at the release location. Given the similarity in the seasonal current speeds and directions, there was no discernible differences to the predicted areas of exposure between quarters of the year. However, the modelling results indicate that the maximum bottom thicknesses and area of coverage(s) of the exposure thresholds is directly attributable to the height of discharge. When the cuttings and muds were discharged from the surface, the sediments travelled further spread over a larger area forming a thinner pile on the seabed. While the cuttings and muds discharged near the seabed were unable to travel as far, this resulted in settling closer to the well location and a larger localised mound. Three such cuttings mounds would be created if all three wells are drilled.

Stochastic Modelling Results – TSS Concentrations

Figure 7.7, Figure 7.8 and Figure 7.9 illustrate the predicted maximum TSS concentrations (within any depth layer) from all 100 individual simulations (near-seabed and sea surface discharges) for

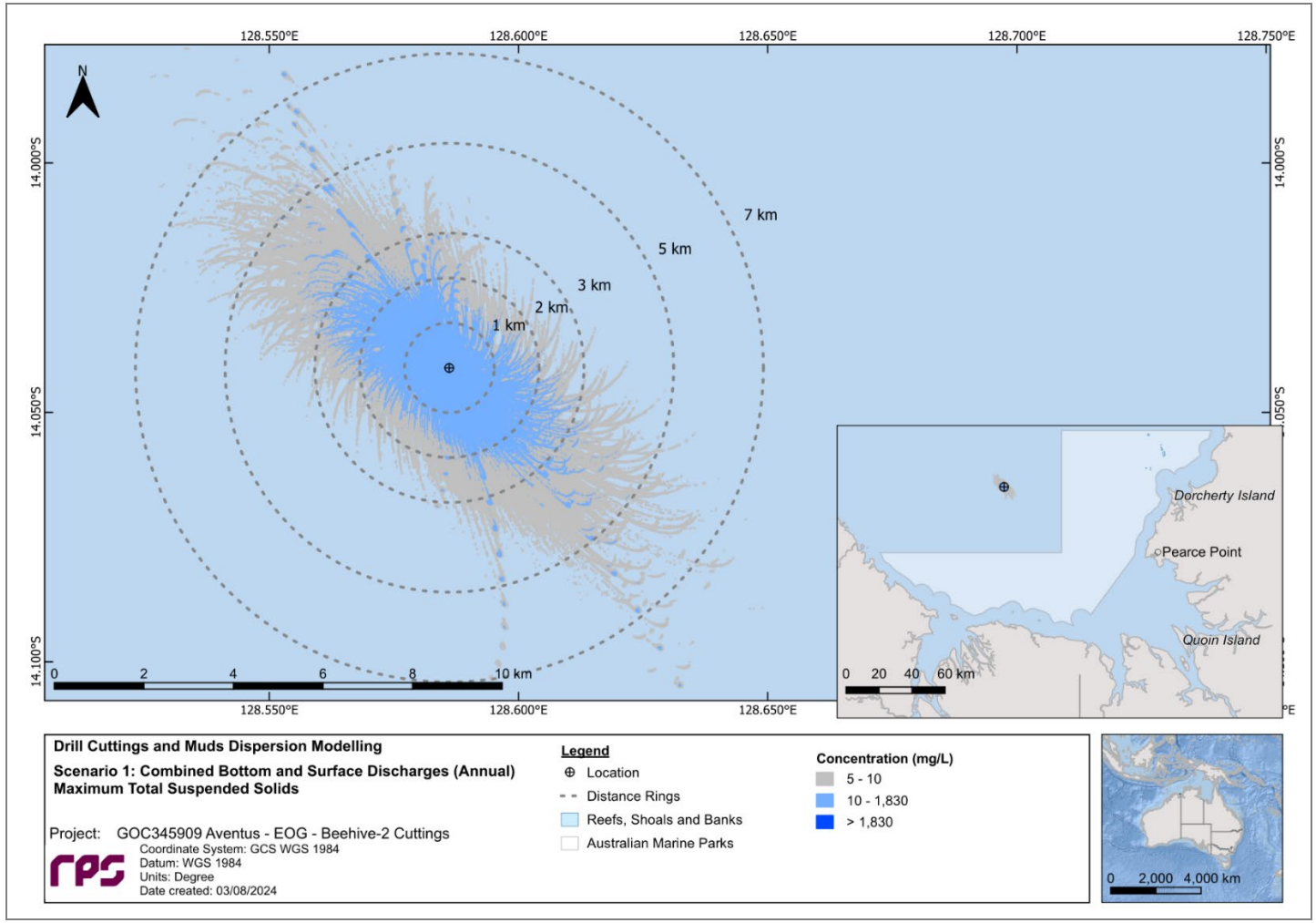
each scenario used to define the area of greatest extent from the discharge of drilling muds (at the completion of drilling) on an annualised basis for a single well.

The total area of coverage above the minimum reporting TSS threshold was 32.6 km^2, which was predicted to occur up to a maximum distance of 9.13 km from the drilling site. In comparison, the area of coverage based on the low (10-1,830 mg/L) exposure thresholds was 12.48 km^2, which was predicted to occur up to a maximum distance of 6.38 km from the drilling site (Table 7.22). No high exposure concentrations (>1,830 mg/L) were predicted for any modelled scenario. In the case where three wells are drilled, the area of coverage based on the low exposure thresholds would be 37.44 km^2.

The modelling results demonstrate the predicted TSS concentrations resulting from the cuttings and drilling muds discharges occurred predominantly along the northwest–southeast axis, coinciding with the dominant current directions at the release locations. Given the similarity in the seasonal current directions and speeds, no discernible differences to the predicted areas of exposure between quarters of the year was observed. For all the scenarios, the discharge of 60.6 m^3 of waste muds solids at sea surface following well drilling completion over the anticipated duration of 0.17 days (~4 hrs) resulted in a large contribution of the predicted TSS and was responsible for the overall outer predicted extents (i.e., area of coverage).

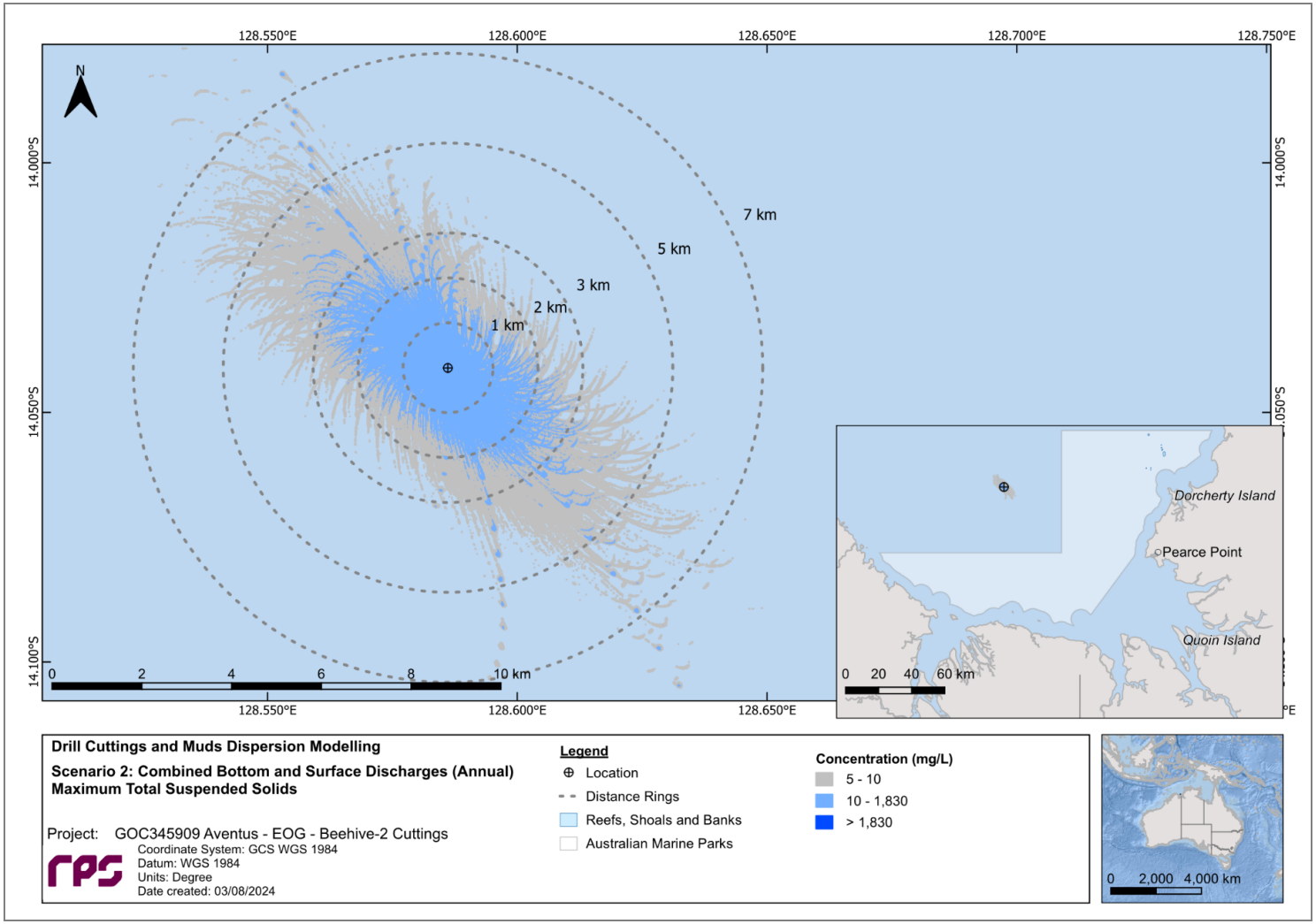
Table 7.22. Predicted annual area of coverage and maximum distance for each TSS reporting threshold for each scenario based on 100 simulations with a 34.25-day modelled discharge period for a single well

Maximum instantaneous TSS concentration (mg/L)	Reporting criteria	Collective assessment of all combined simulations		
		Area of coverage of maximum instantaneous TSS concentrations (km^2)	Percentage of area covered (%)	Maximum distance from release location (km)
Scenario 1 – WBM for all sections				
5 – 10	Minimum reporting threshold	20.11	61.72	9.13
10 – 1,830	Low exposure	12.48	38.28	8.67
> 1,830	High exposure	0.0	0.0	0.0
	Total	**32.59**		
Scenario 2 – WBM for all sections, except for SBM in the 12.25”, 8.5” and 8.5” sidetrack sections				
5 – 10	Minimum reporting threshold	20.11	61.72	9.13
10 – 1,830	Low exposure	12.48	38.28	8.67
> 1,830	High exposure	0.0	0.0	0.0
	Total	**32.59**		
Scenario 3 – WBM for all sections, except for SBM in the 12.25” section				
5 – 10	Minimum reporting threshold	20.11	61.72	9.13
10 – 1,830	Low exposure	12.48	38.28	8.67
> 1,830	High exposure	0.0	0.0	0.0
	Total	**32.59**		



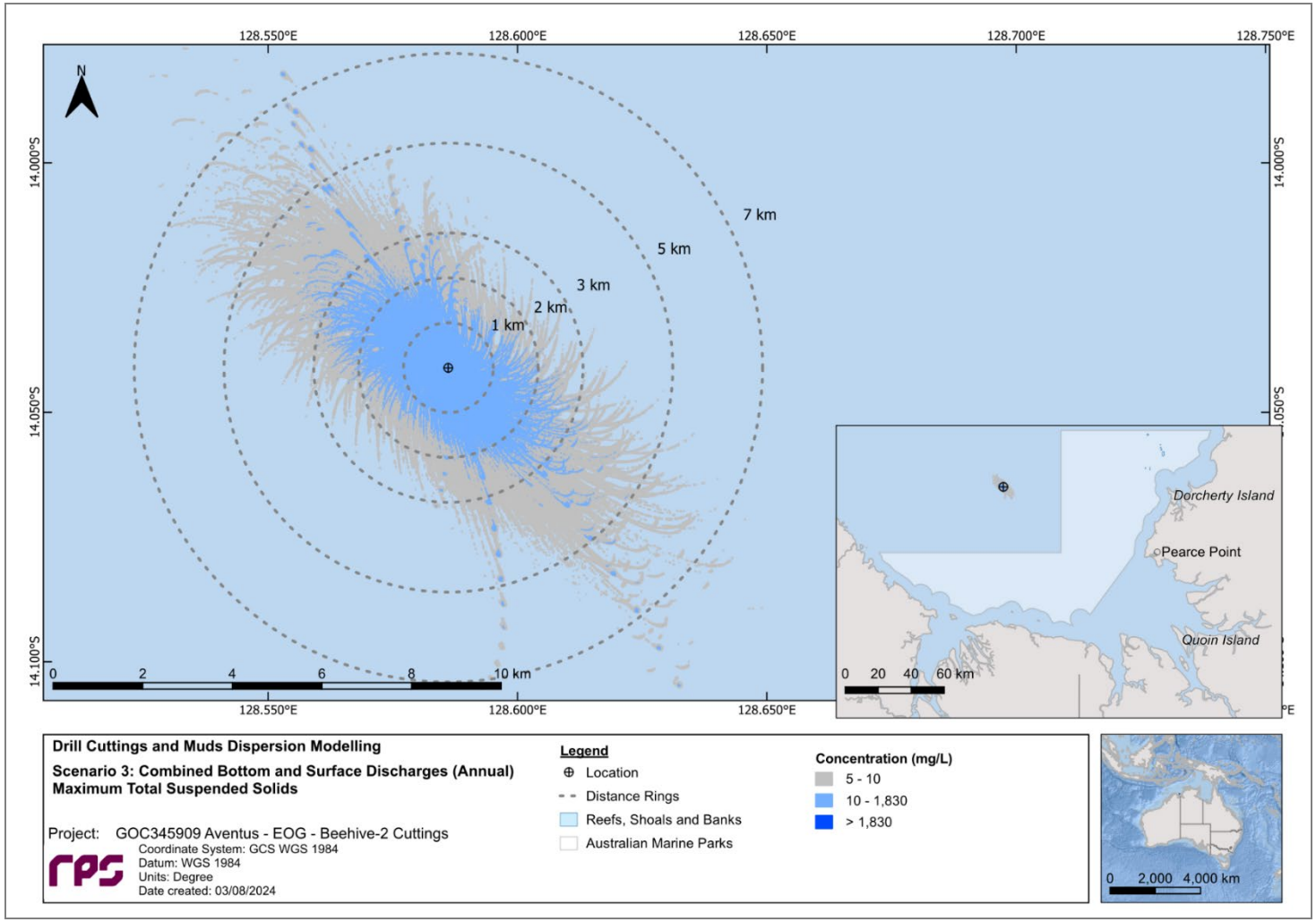
Source: RPS (2024).

Figure 7.7. Predicted maximum TSS concentrations for scenario 1 based on 100 simulations (near-seabed and sea surface discharges) with a 34.25-day modelled discharge period



Source: RPS (2024).

Figure 7.8. Predicted maximum TSS concentrations for scenario 2 based on 100 simulations (near-seabed and sea surface discharges) with a 34.25-day modelled discharge period



Source: RPS (2024).

Figure 7.9. Predicted maximum TSS concentrations for scenario 3 based on 100 simulations (near-seabed and sea surface discharges) with a 34.25-day modelled discharge period

7.6.2. Known and Potential Environmental Impacts

The known and potential environmental impacts of the discharge of drill cuttings and fluids discharges are:

- Localised and temporary increase in total suspended solids (TSS) (i.e., turbidity) of the water column;
- Smothering of benthic habitat and fauna; and
- Alteration of benthic substrate.

7.6.3. EMBA

The EMBA for drill cuttings and unrecovered muds discharges is up to 1.8 km from the well for sediment deposition and 9.1 km in a in a northwest to southeast direction from the well for TSS, as outlined in Section 7.6.1. Receptors known to occur or may occur within this EMBA are:

- Plankton;
- Benthic habitat and fauna; and
- Pelagic marine fauna.

7.6.4. Evaluation of Environmental Impacts

Increased Turbidity of the Water Column

During riserless drilling, the larger particles of the drill cuttings will settle in the immediate vicinity of the well, with smaller particles spreading further from the source aided by ocean currents. Once the riser is installed, drill cuttings are discharged just below the sea surface resulting in dissipation of the cuttings over a larger area. Hinwood et al (1994) and Neff (2005) note that within 100 m of the discharge point, a drilling cuttings and fluid plume will have diluted by a factor of at least 10,000, while Neff (2005) states that in well-mixed oceans waters (noting the activity area is considered a moderate-energy environment except when influenced by tropical cyclones), drilling mud is diluted by more than 100-fold within 10 m of the discharge.

When muds and mud-coated cuttings are discharged to the ocean, the larger particles, representing about 90% of the mass of the mud solids, form a plume that settles quickly to the bottom (or until the plume entrains enough seawater to reach neutral buoyancy). About 10% of the mass of the mud solids form another plume in the upper water column that drifts with prevailing currents away from the platform and is diluted rapidly in the receiving waters (Neff, 2005; 2010). Neff (2005) states that although the total volumes of muds and cuttings discharged to the ocean during drilling a well are large, the impacts in the water column environment are minimal, because discharges of small amounts of materials are intermittent. Drilling mud solids do not increase to high concentrations in the water column and affect only small parcels of water.

Periodic, minor increases in the turbidity and suspended particulate material concentrations in the upper water column during cuttings and mud discharges are unlikely to have an environmentally significant effect on phytoplankton, zooplankton and pelagic animal communities in the vicinity of the drill site (Neff, 2005).

Water column turbidity increases as a result from the suspended solids, with a subsequent minor decrease in available light in the water column, which may temporarily reduce primary production. Impacts to fauna may include obstructions to respiratory processes and other physiological

processes as well as behavioural changes due to a reduction in visibility and available oxygen (due to reduction in primary production).

The impacts from cuttings discharges are expected to be restricted to a small area around each drill site. The quantity of material discharged is extremely small compared with the water volume in which the material is dispersing, thus water quality is expected to quickly return to background levels close to the source of the discharge once the discharge ceases.

Bathymetry mapping in the activity area indicates there are no known water column sensitivities (e.g., emergent features such as shoals, banks, reefs) located within the TSS EMBA (9.1 km), so impacts to site-dependent species are not predicted. TSS concentrations above the minimum reporting threshold are not predicted to reach the JBG AMP (located 30 km east of the activity area). Given the relatively low productivity of the TSS EMBA, the absence of features that might lead to aggregations (e.g., shoals, banks, reefs) and the localised nature of discharge plumes, only low densities of marine fauna are expected to be exposed to the discharge plume. As such, the impact consequence of TSS associated with muds and cuttings discharges is considered negligible.

Smothering of Benthic Habitat and Fauna

In high energy environments, such as that of the activity area, drill cuttings and muds do not tend to accumulate on the seabed because they are redistributed by bottom currents soon after deposition (Neff, 2010). This is expected to be the case in the sediment deposition EMBA because it is strongly influenced by large tidal ranges that contribute to the vertical mixing of surface layers and sediments (see Section 5.2.3).

A review undertaken by the OGP (2003) of the findings of 75 studies relating to the discharge of SBM concluded that benthic community disturbance is in general very localised and temporary. The effects on soft bottom communities from SBM cuttings discharges are rarely seen beyond 250 to 500 m from the discharge point (Jensen *et al*., 1999).

Once particulate material has settled onto the seabed it requires energy to re-suspend similar to existing sediments present on the seabed. Re-suspension volumes are a function of the surface area available to re-distributing currents, tides and storm events (i.e., induced wave stress). Redistribution is expected in areas of shallow water (<50 m) and strong seabed currents (Breuer *et al.,* 2004). Because the activity area has a water depth of 40 m, the surface layer of deposited sediment is expected to re-suspend during strong currents (e.g., during storms and cyclones), however the magnitude of re-suspension is expected to be of a similar order to re-suspension of existing seabed sediments and should not result in a material impact to benthic habitats/fauna.

The main disturbance to the seabed is smothering and burial of sessile benthic and epibenthic fauna (Hinwood *et al*., 1994). Studies undertaken on faunal counts/diversity have shown no significant effects of drill cuttings as a function of thickness with respect to settling communities (i.e., recolonization) (Setvik, 2010). This is consistent with the findings of Daan & Muldur (1996) that identified no adverse impacts on benthic communities from WBM cuttings one year after deposition, even as close as 25 m from a former discharge site. Field and laboratory studies support that benthic fauna are not significantly harmed from WBM if the exposure is of short duration and the cuttings are rapidly diluted. Impacts of WBM are generally limited to within 100 m of the discharge point and recovery is well within one year (Setvik, 2010). Studies indicate that benthic infauna and epifauna recover relatively quickly, with substantial recovery within 3-10 years (Jones *et al*., 2012).

Santos (2022) reports that benthic monitoring at the Van Gogh-3 well (located 44 km north-northwest of Cape Range near Exmouth in a water depth of 350 m), conducted in 2008 by the Sea Serpent research program (run by the Sydney University of Technology), reported sediment deposition one month following drilling extended up to 180 m from the well location along the longest axis and 70 m along the shortest axis. Two months later, monitoring confirmed that the extent of deposition had decreased to a uniform distance of 55 m around the well with a total area reduction of approximately one third. The monitoring revealed that burrow-forming worms and crabs still persisted within the area of sediment deposition.

There are no areas of seabed sensitivity likely to be impacted by cuttings deposition (such as KEFs or coral reefs), with areas of low and high exposure limited to soft substrate seabed. The modelling results predict that drill cuttings will not reach the JBG AMP.

Impacts to the dominant seabed habitat of infaunal plains (flat, soft substrate with occasional rocky outcrops supporting sponge gardens) and barren sand banks (supporting limited biota) (see Section 5.4.1) within the sediment deposition EMBA will be temporary, with rapid re-colonisation of benthic infauna within the deposited cuttings soon after the cessation of drilling. Infaunal communities (dominated by polychaetes and other crustaceans) and epifauna (i.e., prawns) potentially occur in and around the activity area will not be impacted by sedimentation due to the very small area of exposure (0.05 – 0.07 km^2) to high sedimentation deposits (>10 mm).

On the basis of the modelling results, it is possible that smothering of benthic habitat (1-10 mm) may occur in an area of 0.77-0.86 km^2 for a single well, extending a maximum distance of 1.21-1.33 km from the drilling site. Assuming all three wells are drilled, this smothering at the 1-10 mm threshold would cover a cumulative area of 2.3-2.6 km^2. For sediment thickness >10 mm (that may cause harm to benthic macrofauna), the area of impact is limited to 0.05-0.07 km^2 extending a maximum distance of 210-240 m from each drill site. Assuming all three wells are drilled, this smothering at the 1-10 mm threshold would cover a cumulative area of 0.15-0.21 km^2.

Taking into account that the activity area is located entirely within the 'shelf' geomorphic feature of the JBG, typically characterised by extensive sediment plains and high sediment deposition and influenced by strong tidal movement, the impact of smothering of benthic habitat is expected to be short term (months up to a year). Species re-settlement within one year of the drilling campaign would be expected as per quoted studies of cuttings distribution offshore Australia. This impact area is miniscule compared with the available benthic habitat available throughout the JBG.

Modelling indicates that the maximum height of a sediment mound forming in the immediate vicinity (within 15 m) of any one of the wells is predicted to range between 39 cm (scenario 1) to 84 cm (scenario 2). If all three wells are drilled, three such mounds would form. This will alter the nature of the seabed in this localised area for up to a year. A cuttings mound will result in complete smothering of benthic fauna, though the mounds themselves (if they don't become quickly redistributed with ocean currents) will provide new habitat for benthic fauna to colonise. The cuttings mound may be readily and rapidly reworked into existing seabed sediments by natural process including movement through bottom currents and infauna burrowing.

Ecotoxicological effects may occur if cuttings and muds contain high concentrations of low-toxicity chemicals or organic matter. Chemical concentrations exceeding 1,000 ppm may occur in sediments immediately adjacent the wellhead and may affect infauna and epifauna colonising the cuttings mound. Microbes biodegrading organic matter in drilling muds may deplete sediment oxygen faster than can be replaced from the overlying water column, causing localised anoxia effects in the sediments (CSA, 2006).

Mobile benthic fauna such as crabs, shrimps and demersal fish in the area of the cuttings mound are expected to be able to avoid impacts from cuttings deposition (IOGP, 2016). Studies have shown increases in populations of some opportunistic species with a resultant decrease in local species diversity but Balcom et al (2012) concluded such impacts are minimal and highly localised.

The Carbonate bank and terrace system of the Sahul Shelf KEF (described in Section 11.4.7 of Appendix 11) is located 21 km west of the drill site and therefore outside the EMBA for sediment deposition. For these reasons, the impact consequence of smothering of benthic habitat is negligible.

Impacts to Fisheries

There is little commercial fishing in the EMBAs for TSS and sediment deposition. The only fishery that may operate in or immediately around the activity area is the Commonwealth-managed NPF (see Section 5.7.1). Fish species known to occur in the region are common and widely distributed and there is no spatially limiting habitat for the fin fish and benthic species known to occur in the EMBAs for TSS and sediment deposition.

The modelling indicates cuttings and mud plumes will not impact a significant area of muddy and sandy substrates of coastal waters and estuaries (habitat for banana and tiger prawns) given the very small area of exposure (0.05-0.07 km^2) to high sedimentation (>10 mm) for each well. In addition, there are no known sensitive benthic ecosystems in the EMBAs such as shoals, banks, reefs, seagrass meadows or mangroves (relevant to juvenile prawns).

The temporary nature of the drilling mud plumes, the rapid settling of cuttings and exclusion of fishing activities within the 500-m PSZ around the MODU at each drill site means that there will be few if any impacts to the NPF from cuttings and muds discharges. Therefore, the impact consequence to the NPF is considered to be negligible.

Potential Toxicity Impacts to Marine Fauna

The non-toxic nature of the WBM and low-toxicity nature of the SBM means that acute or chronic toxicity impacts to fauna, especially immobile benthic fauna smothered by the cuttings, are unlikely to occur. The lack of toxicity and low bioaccumulation potential of the drilling muds means that the effects of the discharges are highly localised and are not expected to spread through the food web (Neff, 2010).

Generally, SBM has a high n-octanol/water partition coefficient and is not expected to bioaccumulate in aquatic life, which has been supported by testing on SBM products entering the market. The American Chemistry Council (2006) evaluated the environmental fate and effects of olefin and paraffin SBM. Toxicity test results show that olefin and paraffin SBM are non-toxic to the water-dwelling organisms studied. It also concluded that all olefin and paraffin SBM base fluids biodegrade in the presence of oxygen (aerobic). In the absence of oxygen, SBM prepared from linear alpha olefins (LAO) and internal olefins (IO) biodegrade much more extensively (>50%) than base fluids prepared from paraffins and diesel oil (<5%).

Most minerals in cuttings are stable and have low solubility in sea water, and in particular barite (the most abundant particulate solid in WBM and SBM) has very low solubility in sea water. A high proportion of the chemicals associated with the coarser cuttings and retained in flocculated clay/barite deposits will settle directly to the seabed (IOGP, 2016) and be less available to water column biota, but more available to sediment biota.

Hinwood et al (1994) and Neff (2005) note that within 100 m of the discharge point, a drilling cuttings and fluid plume will have diluted by a factor of at least 10,000. Neff (2005) states that in well-mixed oceanic waters (as is the case in the activity area), drilling mud is diluted by more than 100-fold within 10 m of the discharge. Fluids will only comprise a small percentage of the discharge and prior to discharge they will be treated to reduce residual SBM on cuttings to a maximum of 10% by weight, and likely lower than this. Based on Neff (2005), this means that after release, any SBM fluids will be diluted approximately 100-fold within 10 m and 10,000-fold within 100 m of the discharge such that concentrations of chemicals in the SBM (and WBM) are expected to be reduced to 1,000 ppm within 10 m of the release location and 10 ppm within 100 m of the release location.

Metals present in drilling fluid generally resemble that of marine sediments, albeit with concentrations of some metals higher than clean marine sediments (Neff, 2005).

Barite is one of the main constituents used in drilling muds, and its use results in elevated levels of barium (Ba) in cuttings. Other chemicals of concern in cuttings, either because of their potential toxicity and/or abundance are arsenic (As), chromium (Cr), cadmium (Cd), copper (Cu), iron (Fe), lead (Pb), mercury (Hg), nickel (Ni) and zinc (Zn), (Breuer *et al*., 2004).

Dissolved barium and any heavy metal contaminants present in the barite may slowly leach out of an anoxic cuttings pile (Neff, 2005). Breuer et al (2008) has also observed that metals in cuttings migrate either upward to the overlying water (Ba, Mn, and Fe) or diffuse downward (Cr, Cu and Pb), where they become incorporated into iron monosulfides. The exposure of these iron monosulfides to oxygen as a result of transport of oxygen into the cuttings via bioturbation or advection and/or pile resuspension may then lead to the release of the associated metals into the water column (Saulnier and Mucci, 2000; Huerta-Diaz *et al*., 1998).

In a stable cuttings pile with little physical disturbance or bioturbation, it is probable that the fraction of the total cuttings pile metals that is in the dissolved, bioavailable fraction remains low. It is probable that some dissolved metals diffuse into the overlying water column and escape from the pile, as identified by Neff et al (2005). However, this efflux is not sufficient to raise the concentration of metals above natural background levels to an ecologically significant extent (Hartley *et al*., 2003). There is no indication that the levels of trace metals in fish and shellfish collected close to offshore installations are significantly above natural background concentrations (Bakke *et al*., 2013).

Marine fauna that are exposed in the laboratory or field to cuttings in sediments do not bioaccumulate significant quantities of metals (Hartley *et al*., 2003). There is some evidence of a limited bioavailability of a few metals, such as Pb and Zn, which are present in cuttings piles; however, doubt remains that metal bioaccumulation in marine fauna from cuttings piles is sufficient to cause harmful effects in marine fauna living on or near cuttings piles (OSPAR, 2019). Modelling of cuttings pile relocation (disturbance and re-deposition) has confirmed that potential impacts of metals are minimal and disturbance of cuttings drilled with WBM is not expected to result in any significant impact (OSPAR, 2019).

With regard to SBM, the rapid depletion of oxygen through the microbial breakdown to organic matter in the SBM can cause anoxic conditions within and around the cuttings pile. Studies have shown that exposure of fish to low toxicity oil-based mud (OBM) resulted in limited leaching of hydrocarbons and no leaching of metals. The American Chemistry Council (2006) evaluated the environmental fate and effects of olefin and paraffin SBM. Toxicity test results show that olefin and paraffin SBF are non-toxic to the water-dwelling organisms studied. It also concluded that all

olefin and paraffin SBM base fluids biodegrade in the presence of oxygen (aerobic). In the absence of oxygen (anaerobic), SBM prepared from LAO and IO biodegrade much more extensively (> 50%) than base fluids prepared from paraffins and diesel oil (<5%). The American Chemistry Council (2006) also found that because SBM adhered to discharged cuttings tend to clump together in particles that rapidly settle to the ocean floor, SBM-coated cuttings tend not to increase water column turbidity. Water column impacts are also minimised due to the low water solubility of the SBM and the short residence time of the solid cuttings as they settle to the sea floor.

APPEA (1998) reports that the conclusions from various studies into SBM discharges are:

- Major community effects are limited to within 500 m of the point of discharge.
- Community changes with varying degree of severity have been reported up to 2 km.
- The biota is not affected beyond 2 km.
- Elevated concentrations of heavy metals and/or hydrocarbons associated with drilling muds are generally contained with 2 km of the point of discharge; however, traces of contaminants below community effect levels have been reported up to 10 km from the point of discharge.

Case studies reported in APPEA (1998) from drilling activities on the North West Shelf regarding impacts of SBM discharge on the marine environment are outlined below:

- Wannea-3/6 – drilled by Woodside in 1994 found that 11 months after the cessation of drilling, low residual concentrations of hydrocarbons were detected (<200 ppm), reducing to less than 1 ppm within 200 m of the cuttings discharge point.
- North Rankin-A platform – drilled by Woodside in 1983 and completed in 1991 in a water depth of 125 m, with 11 of the 23 wells drilled using low-toxicity oil-based mud (OBM). Concentrations of hydrocarbons rapidly decreased from 75,000 ppm beside the platform to 40 ppm at 800 m and 2 ppm at 2 km from the platform in the direction of the prevailing current. Further monitoring conducted in the following years indicated that away from the cuttings pile, the degradation of residual hydrocarbons was occurring successfully with an annual half-life of one year.
- Mydas-1 and Hawksbill-1 – drilled in 1993 and 1994. Results from studies conducted indicated that impacts to seabed fauna were limited in extent and duration, the extent of contamination was approximately 100 m from the well head in the direction of the prevailing currents, the biomass and densities of some of the common and numerous taxa had decreased by 1-2 months after drilling and were limited to 100 m from the well, and in most cases, biomasses and densities of these taxa had recovered 6-8 months after drilling.
- In Bass Strait, studies conducted by Esso Australia Pty Ltd at the Fortescue platform, located in a water depth of 70 m, found that sediment concentrations of non-aquatic based fluids (OBM or SBM) were highest (average of 9,600 ppm) at the site closest to the platform, but not detectable (<0.2 ppm) at any site beyond 100 m from the platform. Four months after the end of drilling, the non-aquatic based fluids concentration had decreased to an average of 230 ppm at the sites closest to the platform, and was not detected at any monitoring station 11 months after drilling. It was concluded that the risks for long-term alteration of benthic infauna from the use of non-aquatic based fluids were low.

Neff (2010) identifies that field and laboratory studies performed in temperate and cold-water environments have shown that any metals present in drill cuttings are not bio-accumulated by marine organisms, primarily because they exist as extremely insoluble inclusions in cuttings minerals. Many field surveys investigating the concentrations of metals and hydrocarbons in tissues of marine animals in the vicinity of offshore WBM and cuttings discharges have shown that

metals and hydrocarbon concentrations in tissues of marine animals near drilling platforms are similar to concentrations in tissues of the same or similar species well away from and out of the influence of the drilling platforms (Neff, 2010).

Numerous studies have been carried out in the Gulf of Mexico to test and evaluate a range of biological, biochemical and chemical methodologies to detect and assess chronic sub-lethal biological impacts near long-duration activities associated with oil and gas exploration and production. Contaminant concentrations at most locations studied were below levels thought to induce biological responses (Kennicutt *et al*., 1996). Therefore, discharges associated with this activity are not expected to have long-term effects due to bioaccumulation.

Based on this information, the bioavailability of metals within cuttings generated from drilling activities is low and thus the impacts from disturbed cuttings to marine fauna and habitats are expected to be minor, whether one, two or three wells are drilled.

7.6.5. Impact Assessment

Table 7.24 presents the impact assessment for discharge of drill cuttings and muds.

Table 7.24. Impact assessment for discharge of drill cuttings and muds

Summary		
Summary of impacts	Increased water column turbidity and smothering of benthic habitat.	
Extent of impacts	Localised (up to several kilometres), in the direction of the dominant water currents (northwest to southeast direction).	
Duration of impacts	Temporary (days for TSS plumes, months for deposited cuttings).	
Level of certainty of impacts	HIGH – the impacts of drill cuttings and fluids discharges are well studied and understood.	
Impact decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	Discharges of drill cuttings and muds are managed to reduce volume and toxicity impacts to biodiversity or ecological integrity.	

Impact Consequence (inherent)	
Receptor	Consequence
Water column	Negligible
Seabed habitats	Negligible

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification

Recover drill cuttings from the seabed	Elimination	No	**EB:** Eliminates potential for benthic habitat smothering from cuttings deposition on the seabed. **C:** Significant additional cost (potentially hundreds of thousands of dollars) **Ev:** Additional cost and longer MODU time on location required to implement this control is not commensurate with the negligible consequences associated with the discharge of drill cuttings.
Cuttings reinjection	Elimination	No	**EB:** Avoids all impacts associated with the discharge of cuttings and muds overboard by reinjecting them down the well annulus. **C:** This would compromise the integrity of the well and is not justified for a single well program. An additional injection well would need to be drilled to implement this control measure, which would cost millions of dollars and add to the routine impacts and risks associated with drilling. **Ev:** Costs are considered grossly disproportionate given the negligible impact consequences of overboard discharges at this location.
Onshore disposal of WBM- and SBM-coated cuttings ('skip and ship')	Elimination	No	**EB:** Avoids all impacts associated with the discharge of cuttings and muds overboard. **C:** Significant storage space is required on the MODU before cuttings and adhered muds can be pumped to a vessel. There are limited facilities at the Port of Darwin to handle this waste in the necessary volumes. There are the usual safety and environmental emissions and discharges impacts and risks associated with numerous vessel movements between the MODU and shore bases. It would cost millions of dollars to implement this control measure. **Ev:** The 'skip and ship' disposal option simply moves disposal from an offshore to an onshore issue. Costs are considered grossly disproportionate given the negligible impact consequences of overboard discharges at this location.
Do not use drilling muds	Elimination	No	**EB:** Elimination of impacts associated with TSS and smothering of benthic habitats. **C:** Drilling muds are required to enable the hole to be drilled. Mud prevents the wellbore from collapsing and enables the well objectives to be met. **Ev:** Costs to the program outweighs the benefits.
No discharge of bulk powders	Elimination	No	**EB:** At the end of the drilling program, any dry, unopened sacks of chemicals left over will be left on board for the next operator to use or returned to shore. Open sacks however cannot be

			transferred back to vessels for transport, and therefore are mixed into a slurry and discharged overboard if the stock cannot be used, sold or returned to shore (see Table 2.6). **C:** The design of the piping and the tanks on the MODU is such that the reverse pumping of dry bulks back to marine vessels or to shore is not possible. Therefore, return of excess open dry bulk powders to shore is not a feasible option. **Ev:** The potential environmental impacts are negligible due to the chemical selection process and therefore the benefit is negligible. Disposal volumes are minimal due to careful stock management.
Use of riserless mud recovery (RMR)	Engineering	No	**EB:** RMR has the advantage of potentially reducing the volume of WBM discharged to the environment as well as preventing cuttings accumulation at the seabed and provides an opportunity to recover and re-use the WBM drilling fluids. **C:** Cost associated with changes to equipment and change to the well design with installation estimated at several million dollars including rig-up and rig-down, rental and interfacing of the package. RMR equipment requires additional space on the MODU and additional crew and introduces additional operational and maintenance and risks. RMR is traditionally used on subsea wellhead systems to enable a closed mud system (weighted and/or inhibited) before the subsea BOP and marine riser is installed. In this case, WBM and cuttings go through the MODU's solids control system and cuttings are discharged at sea surface. There are some examples of RMR being used on jack-up MODUs where a closed system is required before the BOP is installed. Implementing RMR on a jack-up MODU would require a bespoke system to connect to the 30" conductor at the tension deck level of the MODU and divert the returns back to the solids control system. **Ev:** The cost outweighs the minimal environmental benefit given that WBM is being used. Cuttings discharge would be no different as cuttings would both be released at sea level. In the RMR case, cuttings passing through the solids control system would have less WBM entrained

			on them, but the residual mud recovered in this process would be discharged anyway.
Extended cuttings dump chute to below sea surface	Engineering	No	**EB:** Releases drilled solids (cuttings) deeper in the water column, thereby potentially reducing the spatial extent and turbidity plume. **C:** Costs associated with re-design, engineering, fabrication, installation and the risk of issues during the activity whereby the chute is blocked. May inhibit the distribution of cuttings in the upper sections of the water column, leading to a smaller area of concentrated deposition. **Ev:** Chute does not reduce the volume of cuttings discharged and increases costs and risks to operational activities. The low environmental impact of the muds discharges and the short duration of discharge in a low sensitivity environment results in no significant increased environmental benefit.
Implement a slim well design	Engineering	No	**EB:** A slim well design would result in a reduction in diameter of the well and reduce the overall volume of cuttings discharged to sea. **C:** Cost of ~$2 million for additional engineering and equipment rental. Risks to well objectives whereby the equipment required for well evaluation (sidewall coring, LWD tools) may not fit in a narrower hole which could result in a requirement for side-tracking (an additional cost and additional time on location and increase in discharges to sea). In the event of hole problems or the technical requirement to set a drilling liner, there is no smaller hole size available, which would result in the well being completed and a change in well design or re-drill required. **Ev:** Disproportionate cost compared to the small benefit gained in reducing the volume of cuttings, but also presents a high risk of not achieving the objectives of drilling the well in the first instance, as it may require the well to be re-drilled to reach the target.
Establish a closed circulating system early in the program	Engineering	No	**EB:** Provides an opportunity to re-use drilling fluids, thereby reducing environmental discharges. Does not reduce the overall volume of drilled cuttings discharged to sea. **C:** Additional monetary costs, but can also lead to an increase in well design risk due to additional back pressure applied by use of a conductor (to bring the drilling fluid up to the rotary table) and can lead to stuck pipe and lost circulation.

			Ev: Significant costs and increased risks to well design outweigh the benefits given the low sensitivity of the seabed in the area.
Use a centrifuge and dryer while drilling with WBM	Engineering	No	**EB:** Reduces the volume of WBM adhered to cuttings more than the use of shakers alone. This is typically only used when drilling with SBM. **C:** Centrifuges and driers are prone to mechanical failure. Most MODUs do not have this as part of their standard fit out, so there would be significant cost to mobilise this equipment to the MODU. The zero or low toxicity nature of WBM means the use of this equipment is not warranted. **Ev:** Costs to the program outweighs the benefits.
Use a centrifuge and dryer while drilling with SBM **(IMP-06: EPS-09)**	Engineering	Yes	**EB:** Reduces the volume of SBM adhered to cuttings more than the use of shakers alone. **C:** Centrifuges and driers are prone to mechanical failure. Most MODUs do not have this as part of their standard fit out, so there is a significant cost to mobilise this equipment to the MODU. **Ev:** Environmental benefits outweigh the costs.
Eliminate the use of SBM	Engineering	No	**EB:** Eliminates potential ecotoxicity impacts to benthic fauna. **C:** Deviated sections of the well are most safely drilled using SBM in order to keep the wellbore stable, open and prevent collapse. SBM is a more expensive product than WBM. **Ev:** The safety benefits outweigh the environmental benefit in this case, noting that the environmental impacts of discharging SBM-coated cuttings have a neligible consequence.
Use WBM fluids for vertical sections of the wellbore rather than SBM **(IMP-06: EPS-01, -02)**	Engineering	Yes	**EB:** Eliminates potential ecotoxicity impacts to benthic fauna. **C:** Minor cost in selection of WBM rather than SBM. It is safe to drill vertical sections of offshore wells with WBM. **Ev:** Environmental benefit outweighs the cost to implement the measure.
Chemical selection procedure specifies the use of low-toxicity mud system and additives **(IMP-06: EPS-01, -02)**	Engineering	Yes	**EB:** Eliminates potential ecotoxicity impacts to benthic fauna. **C:** Minor cost differential in selecting low-toxicity mud system and additives compared to the alternative. **Ev:** Environmental benefit outweighs the cost to implement the measure.
Implement quality control limits for barite (concentration	Engineering	Yes	**EB:** Eliminates seabed contamination and ecotoxicity impacts to benthic fauna and ensures compliance with the Minimata Convention.

of mercury and cadmium) **(IMP-06: EPS-03)**.			**C:** Minor cost in selection of barite with low mercury and cadmium concentrations. **Ev:** Environmental benefit outweighs the cost to implement the measure.
Reduce SBM ROC to less than 10% average per well **(IMP-06: EPS-07, -08, -09, -10, -11, -12)**	Engineering	No	**EB:** Reduces the amount of residual SBM being discharged to the environment and potential ecotoxicity impacts. **C:** The equipment will be in place to manage SBM such that the ROC is <10%, and likely to be a few percentage points lower than this. However, in the event of unplanned downtime of the cuttings management equipment (shakers, dryer and/or centrifuge), the 10% ROC target provides some contingency such that drilling operations don't need to be suspended. The suspension of drilling increases the risk of stuck pipe events associated with wellbore destablisation over time, which may lead to the need to drill a side-track interval, which in turn increases time spent on location (and associated costs) and routine drilling discharges and emissions. **Ev:** The environmental benefits of reducing the SBM ROC to <10% is disproportionate to the safety and cost considerations of this control measure when considering the negligible consequence of SBM discharges and the nature of the receiving environment.
Pre- and post-drilling seabed ROV survey **(IMP-06: EPS-18)**	Engineering	Yes	**EB:** The surveys provide a visual record of seabed conditions pre- and post-drilling and therefore act as a tool for verifying some of the predicted impacts outlined in this EP (e.g., cuttings mound). **C:** Cost is negligible, given that an ROV contractor will be deployed to the MODU for the program. The time (and therefore cost) to undertake the surveys, analyse footage and prepare the associated report is negligible and part of the overall ROV contract **Ev:** The environmental benefits outweigh the minor costs to implement the measure.
Employ the services of an SBM Specialist ('Mud Cop') to implement the SBM control measures **(IMP-06: EPS-14)**.	Engineering/ Administrative	Yes	**EB:** By ensuring the control measures are effectively implemented, the environmental impacts (as well as potential delays to the drilling program) associated with non-compliance are avoided. **C:** Cost is significant to employ a specialist full-time for the duration of up to three wells. **Ev:** The benefits of employing an SBM Specialist outweigh the significant costs to implement the measure.

Fluids Program **(IMP-06: EPS-03, -04, -05, -06, -13, -15, -16, -17)**	Administrative	Yes	**EB:** Ensures drill fluids are managed in accordance with well-established industry processes. **C:** No additional cost. **Ev:** The environmental benefits outweigh the costs to implement the measure.
Minimum mud release duration	Administrative	No	**EB:** Extends the release duration for muds, thereby reducing concentration of muds in the water column. **C:** Cost of additional MODU time. **Ev:** The environmental benefits are outweighed by the costs to implement the measure in light of the absence of sensitive environmental receptors around the drilling location.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Only low toxicity, readily biodegradable and non-bioaccumulating WBM and SBM and additives will be used.	**(IMP-06: EPS-01)** The contractor ensures that, wherever feasible, only PLONOR, 'D'/'E' (non-CHARM) or 'Gold'/'Silver' (CHARM) OCNS-rated base fluids and additives (that do not have a substitution warning) are used in the drilling fluid system to minimise ecotoxicity impacts to marine fauna.	The Mud Chemical Inventory verifies that all chemicals are PLONOR, 'D'/'E' (non-CHARM) or 'Gold'/'Silver' (CHARM) OCNS-rated.
	(IMP-06: EPS-02) Where for technical reasons an additive is required that: • Is not rated as PLONOR, 'D'/'E' (non-CHARM) or 'Gold'/'Silver' (CHARM); or • Has a substitution warning; or • Has not been registered with CEFAS (and therefore does not have a rating), Then a risk assessment will be completed to understand the environmental risk of discharge to sea. This will include: • A pseudo-ranking using the OCNS process (where possible); • Consideration of end fate, volumes and concentrations; and • Final approval by EOG of the use of the chemical.	MoC documentation verifies that, for products that do not meet IMP-06:EPS-01, a risk assessment is completed and approved by EOG prior to discharge of the chemical.
	(IMP-06: EPS-03) When selecting barite, EOG will ensure that the contaminant limit concentrations are at or below the following: • Mercury (Hg) – 1 mg/kg (1 ppm) dry weight in stock barite. • Cadmium (Cd) – 3 mg/kg (3 ppm) dry weight in stock barite.	Mud inventory demonstrates containment limits are not breached.

WBM and SBM operations are managed to ensure cuttings discharges are optimised to minimise adhered muds.	**(IMP-06: EPS-04)** In accordance with the Fluid Program, the shaker screens are used during drilling to maximise fluid separation from cuttings prior to overboard disposal.	Daily Mud Report verifies shaker screens are used.
	(IMP-06: EPS-05) Operation of the separation treatment system is monitored on a full-time basis by the Derrickman/Shaker-Hand to ensure efficient system performance.	Performance of the system is logged by the Mud Engineer in Daily Fluids Reports.
	(IMP-06: EPS-06) Drilling fluid testing is performed by the Mud Engineer working under the direction of the DSV. The EOG subject matter expert will monitor the fluid testing on a daily basis.	Mud Engineer verifies through Daily Fluids Report that fluids properties have been tested and system optimisation activities actioned.
SBM operations are managed to ensure ROC of <10%.	**(IMP-06: EPS-07)** Cuttings samples will be collected at least once per day or every 500 ft (152 m) drilled formation (to a maximum of three measurements per day) and tested to determine the ROC%.	Daily Mud Report verifies that cuttings samples are collected every 12 hours and show the ROC%.
	(IMP-06: EPS-08) The ROC averages <10% SBM w/w dry weight across the entire length of well drilled with SBM.	End of Well Report verifies <10% average ROC for the SBM sections of the well.
	(IMP-06: EPS-09) In addition to the shaker screens, a cuttings dryer is used when drilling with SBM to maximise fluid separation from cuttings prior to overboard disposal.	Daily Mud Report verifies cuttings dryer is in use while drilling with SBM.
	(IMP-06: EPS-10) When an average of <10% ROC for the well cannot or is not being achieved: • The rate of penetration will be reduced to allow a wider margin of cuttings per hour through the dryer; or • Halt drilling operations while optimising the solids control equipment.	Daily Mud Report and End of Well Report verify <10% average ROC for the SBM sections of the well.
	(IMP-06: EPS-11) Preventative maintenance of solids control equipment (shakers, cuttings dryer) is undertaken in line with the PMS.	PMS records verify solids control equipment is appropriately maintained.
	(IMP-06: EPS-12) Retort equipment that measures ROC is calibrated in line with manufacturer's specifications.	PMS records verify that the retort equipment is calibrated in line with manufacturer specifications.
	(IMP-06: EPS-13) The SBM tank/s dump valves are locked to prevent unplanned dumping of whole muds, with the keys remaining secure in a key locker. A Permit to Work (PTW) will be required to unlock the dump valve/s, which involves an assessment by the OIM regarding the need for a specific operation.	Key register and visual inspection verify SBM tank dump valves are locked.
		Daily Fluids Report allow for material balance assessment to determine discharge volume of weighted brine.
		PTW records verify that a PTW was prepared prior to unlocking the dump valve/s.

	(IMP-0: EPS-14) An SBM specialist (known as a 'mud cop' in the industry) will be onboard the MODU to ensure that all EPS related to SBM operations are implemented.	SBM specialist listed in the POB.
		SBM Management Plan in place outlining how the EPS will be implemented.
Fluids discharged overboard from SBM tank cleaning will contain <1% by volume of oil in the fluid sample (<1% v/v)	**(IMP-06: EPS-15)** If SBM has been displaced out of the well bore, only interface fluids with residual synthetic-based oil content of <1% will be discharged overboard if no longer required.	Daily Mud Report verifies interface fluids <1% with residual synthetic-based oil content discharged overboard.
	(IMP-06: EPS-16) Mud residues from mud tank cleaning will be monitored to ensure there is <1% v/v oil prior to overboard discharge.	Daily Mud Report verifies the 1% v/v target is achieved.
	(IMP-06: EPS-17) If the mud residue cannot meet the 1% v/v oil limit, it will be transferred to a holding ('slops') tank for further settling and measurement prior to overboard disposal, or transferred to a support vessel for onshore disposal where slops cannot be processed.	Daily Mud Report verifies non-specification mud residues were not discharged overboard.
The extent of impacts to the seabed from cuttings will be recorded.	**(IMP-06: EPS-18)** A pre-spud and post-drilling ROV transect-based survey will be undertaken at each well location to verify the condition of the seabed prior to drilling and the nature of cuttings deposition/cuttings mound post-drilling.	Video footage and associated written records verifies that pre-drill and post-drill ROV seabed surveys were conducted.

Impact Consequence (residual)	
Receptor	Consequence
Water column	Negligible
Seabed habitats	Negligible

The impact of drill cuttings and mud discharges is assessed as negligible because:

- The activity will be of a short duration;
- The area of impact on the seabed is extremely small;
- There is an absence of site-attached fauna in the water column and absence of sensitive benthic habitats in the impacts EMBA;
- The impacts EMBA is distant from the Carbonate bank and terrace system of the Sahul Shelf KEF;
- The seabed is widely represented in the region and pre-impact conditions will be rapidly re-established.

Demonstration of ALARP

A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.

Demonstration of Acceptability

Policy compliance	EOG's Safety and Environmental Policy objectives are met.

EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.	
External context	There have been no objections or claims raised by relevant persons regarding the discharge of drill cuttings or muds for this activity.	
Legislative context	The EPS outlined in this table align with the requirements of: • OPGGS Act 2006 (Cth). ○ Section 460(2) – a person carrying on activities in an offshore area under the permit must carry on those activities in a manner that does not interfere with….the conservation of the resources of the sea and seabed…..to a greater extent than is necessary for the reasonable exercise of the rights and performance of the duties of the first person.	
Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed guidelines and codes of practice demonstrates that BPEM will be implemented for this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this hazard are in line with the management measures listed for drilling wastes (cuttings and muds) in Section 4.5.8 of the guidelines, which include: • Select drilling fluid components to include the least ecotoxic options available that are suitable for the project **(IMP-06: EPS-01, -02)**. • Solids control equipment available onboard the drill rig to reduce the amount of residual drill fluids on cuttings prior to discharge **(IMP-06: EPS-04, -05, -06)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	The EPS developed for this hazard reflect the BAT in Section 17.2 of the guidance document, being: • Ensure engineering design for handling of drill cuttings/muds accounts for the minimisation of potential for environmental impact and exposure to hazardous materials in the event of a planned discharge or unplanned release **(IMP-06: EPS-01, -02)**. • For geographical areas where no previous environmental baseline survey has been performed, carry out an environmental baseline survey prior to drilling **(geophysical survey undertaken)**. • Ensure that the handling of drill cuttings and drilling muds is addressed as part of management measures detailed in an EIA **(IMP-06: All EPS)**. • Where it is planned to discharge drill cuttings into the marine environment, perform analysis as part of a specialist technical study **(specialist study conducted)**. • Implement additional approaches as considered necessary to manage risks for specific operations, including but not limited to avoiding the use of oil-based muds, avoid cuttings and mud discharges in sensitive environments, discharge to achieve maximum dispersion of solids on the seabed **(IMP-06: EPS-01)**.
	Health, Safety and	No specific environmental guidance regarding cuttings and mud management (Section 3.3.2).

	Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	One of the key objectives is to describe the details of the mud treatment equipment/systems that discharge to the environment, which has been outlined in this section.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • 51 - The selection of a drilling fluid should be made after evaluating its technical suitability and environmental impact. The use of fluids that contain diesel as the principal component of the drilling mud liquid phase is not good practice for offshore drilling programs and should be avoided **(IMP-06: EPS-01, -02, -03)**. • 56 - Feasible alternatives for the disposal of spent WBM and cuttings from well sections drilled with either WBM or non-aqueous drilling fluids (e.g., SBM) should be evaluated. Options include injection into a dedicated disposal well offshore, injection into the annular space of a well, and containment and transfer to shore for treatment and disposal. When no alternative options are available, residual WBM might be discharged to sea at the end of a drilling program, provided that the overall EIA conducted for the site has considered this scenario, demonstrating the environmental acceptability of this practice. • 57 - When discharge to sea is the only alternative, a drilled cuttings and fluid disposal plan should be prepared, taking into account cuttings and fluid dispersion, chemical use, environmental risk and necessary monitoring. Discharge of cuttings to sea from wells drilled with non-aqueous drilling fluids should be avoided. If discharge is necessary, cuttings should be treated before discharge **(IMP-06: All EPS)**.
	AEP CoEP (APPEA 2008)	The EPS developed for this activity meet the code's following objectives for drilling: • To reduce the impact on other marine resource users to ALARP and to an acceptable level. • To reduce risks to public safety to ALARP and an acceptable level.
Environmental context	MNES	
	AMPs	This hazard will not intersect nearby AMPs.
	Ramsar wetlands	This hazard will not intersect any Ramsar wetlands.
	TECs	This hazard will not intersect any TECs.
	Nationally threatened and migratory species	This hazard will not have any impacts on threatened or migratory species.
	Other matters	
	KEFs	This hazard will not intersect any KEFs.

	NIWs	This hazard will not intersect any NIWs.
	State marine parks	This hazard will not intersect any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	None triggered by this hazard.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the impacts from discharge of drill cuttings and muds to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Discharge of drill cuttings and muds will not have long-term or significant impacts on MNES; • The management of drill cuttings and mud discharges will ensure it is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of drill cuttings and mud discharges will ensure it is not inconsistent with the aims of relevant marine reserve management plans; and • The management of underwater sound emissions will ensure it is not inconsistent with ESD principles.	
Environmental Monitoring		
• Mud chemical inventory. • Mud volumes discharged overboard. • Separation treatment system monitoring.		
Record Keeping		
• DDRs • Daily mud report (including chemical inventory). • End-of-well fluids report. • MoC documents. • Incident reports.		

7.7. IMPACT 7 – Discharge of Cement

7.7.1. Hazard

Activities that use cement are:

- Drilling – cement is used on board the MODU to cement the drill casing in place (sealing the annulus); and
- P&A – cement is used for setting abandonment plugs.

Cement is usually mixed as required ('on-the-fly') and hence waste is minimal. See Table 2.7 for the discharge volumes expected during the activity. Bulk dry cement remaining onboard the MODU at the completion of drilling one well will be left on the MODU for use on the next Beehive well or by the next operator. Failing that, the cement will be mixed with seawater and discharged overboard as a slurry.

7.7.2. Known and Potential Environmental Impacts

Cement discharges, like drill cuttings, can impact the environment through:

- Localised and temporary increased turbidity of the water column;
- Smothering of benthic habitat and fauna; and
- Alteration of benthic substrate.

7.7.3. EMBA

The EMBA for cement discharges is likely to be within the immediate vicinity of the discharge points (e.g., tens of metres to several hundred metres). Receptors that may occur within this EMBA, either as residents or migrants, are:

- Plankton;
- Benthic fauna;
- Benthic habitat (sand substrates);
- Demersal fish; and
- Pelagic fish.

7.7.4. Evaluation of Environmental Impacts

Water column turbidity

Similar to drill cuttings dispersion and settling (see Section 7.6.4), cement discharges from the MODU (i.e., cement hose and equipment flushing) will form a turbid surface plume, where the larger, coarser components of the cement will precipitate. This would be expected to settle on the seabed within a radius of 100-200 m from the MODU for each of the wells drilled. The remaining finer components are rapidly dispersed by ocean currents, aiding dispersion and dilution, and minimising water column turbidity. Although turbidity can decrease the available oxygen and light at the water surface (thereby reducing planktonic photosynthetic activity), the brief discharge periods and small volumes discharges result in only localised and temporary impacts.

Smothering of benthic habitat and fauna/alteration of seabed substrate

The minor volumes of cement that will be discharged at the seabed during cementing of the top hole section will result in localised smothering of benthic habitat and fauna. The discharge of cement on sandy seabed habitat will not result in impacts to sensitive benthic communities and this seabed type is widely represented in the region. A small area of hardened cement around the drill site will provide a surface for colonisation by epifauna that is not readily available in or around the activity area, so there will be no net loss of seabed habitat.

Given the mobile nature of the sandy seabed sediments (see Section 5.2.3), any unconsolidated cement on the seabed will rapidly shift and disperse. Should colonising benthic species be present, impacts to them and their habitats will therefore be insignificant.

Toxicity impacts to marine fauna

Cement is considered inert (with the key component Portland cement being mostly calcium silicates, and aluminate and aluminoferrite). Portland cement is classified as non-CHARMable 'E' PLONOR under the OCNS.

While the cementing program has not yet been finalised, cement additives will be of low toxicity (according to OSPAR rankings, in line with drill fluids). As such, these constituents of the cement will have negligible chronic or acute toxicity impacts to benthic fauna or other fauna exposed to the cement.

In summary, cement discharges are small in volume, inert, unlikely to result in permanent smothering of benthic impact and are generally restricted to a highly localised area around each drill site (other than cement fines that rapidly disperse through the water column).

The impact consequence for cement discharges remains negligible even in the event that all three wells are drilled.

7.7.5. Impact Assessment

Table 7.25 presents the impact assessment for cement discharges.

Table 7.25. Impact assessment for cement discharges

Summary		
Summary of impacts	Localised and temporary turbidity of the water column, smothering of benthic habitat.	
Extent of impacts	Localised – tens to hundreds of metres from the discharge point in the direction of dominant water currents.	
Duration of impacts	Short-term – intermittently during drilling.	
Level of certainty of impacts	HIGH – the impacts associated with cement discharges are well understood.	
Impact decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	Cement discharges are limited to the necessary amount to safely complete the well.	
Impact Consequence (inherent)		
Negligible		

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
No cement discharges	Eliminate	No	**EB:** Eliminates impacts to benthic communities and the water column. **C:** Cementing is essential to maintain well integrity and the well cannot be drilled without cement. This is not an option. **Ev:** Cement discharges are a necessary component of safely completing the well casing. Adopting this measure would pose significant risks to the project.
Skip-and-ship (take cement discharges to shore)	Eliminate	No	**EB:** No cement discharges to the marine environment. **C:** Very high cost associated with vessel movements between the MODU and port, and onshore disposal costs. Increased vessel movements result in increased fuel use and associated GHG emissions. **Ev:** Environmental benefit is outweighed by the significant cost to implement this measure, especially given the negligible impact.
No discharge of excess cement powder as a slurry at end of well	Elimination	No	**EB:** At the end of the drilling program, any dry, unopened cement left over will be left on board for the next operator to use or returned to shore. Open sacks however, cannot be transferred back to vessels for transport, and therefore are mixed into a slurry and discharged overboard if the stock cannot be used, sold or returned to shore (see Table 2.6). **C:** The design of the piping and the tanks on the MODU is such that the reverse pumping of dry bulks back to marine vessels or to shore is not possible. Therefore, return of excess open dry bulk powders to shore is not usually a feasible option, **Ev:** The potential environmental impacts are negligible due to the chemical selection process and therefore implementing this measure has negligible benefit. Disposal volumes are minimal due to careful stock management.
Chemical selection process **(IMP-07: EPS-01, -02)**	Engineering	Yes	**EB:** Ensures only low-toxicity chemicals are used in the cement system. **C:** Minor cost. **Ev:** Environmental benefit outweighs the minor cost to implement this measure.
Cement program **(IMP-07: EPS-03, -04, -05)**	Administrative	Yes	**EB:** Ensures cement jobs are conducted in accordance with procedures and processes in order to minimise losses. **C:** No additional cost. **Ev:** Environmental benefit outweighs the cost to implement this measure.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Only low toxicity cement additives will be used.	**(IMP-07: EPS-01)** The Cement Engineer ensures that only PLONOR, 'D'/'E' (non-CHARM) or 'Gold'/'Silver' (CHARM) OCNS-rated cement additives are used to minimise ecotoxicity impacts to marine fauna.	The Cement Chemical Inventory verifies that all additives are PLONOR, 'D'/'E' (non-CHARM) or 'Gold'/'Silver' (CHARM) OCNS-rated.
	(IMP-07: EPS-02) Where for technical reasons a cement additive is required that: • Is not rated as PLONOR, 'D'/'E' (non-CHARM) or 'Gold'/'Silver' (CHARM); or • Has a substitution warning; or • has not been registered with CEFAS (and therefore does not have a rating), A risk assessment will be completed to understand the environmental risk of discharge to sea. This will include: • A pseudo-ranking using the OCNS process (where possible); • Consideration of end fate, volumes and concentrations; and • Final approval by EOG of the use of the chemical.	MoC documentation verifies that, for products that do not meet **IMP-07:EPS-01**, a risk assessment is completed and approved by EOG prior to discharge of the chemical.
Cement losses to the seabed during top hole cementing operations are minimised.	**(IMP-07: EPS-03)** Cementing will take place in accordance with the Cement Plan.	The Cement Job Report notes details the pumping schedule.
Cement remaining at the completion of drilling is managed so as to avoid or minimise its discharge overboard.	**(IMP-07: EPS-04)** As far as is practicably reasonable, all remaining cement slurry will be used in the casing job. Where cement cannot be transferred to the next operator at the completion of drilling, it will be mixed with seawater and discharged overboard.	Records are available to verify that, in order of preference: • Effort was made to transfer cement to the next operator, and if that was not possible, then; • Effort was made to minimise the inventory of cement on board, and if that was not possible then; • Any leftover cement slurry was used in well plugs.
	(IMP-07: EPS-05) Bulk dry cement will not be discharged overboard (unless in an emergency situation).	
Impact Consequence (residual)		
Negligible		
The impact of cement discharges is assessed as negligible because:		

<table>
<tr><td colspan="3">

The discharges will be small in volume and intermittent; and
The area of impact extremely small;
There is an absence of known sensitive seabed features in the activity area (e.g., shoals, reefs); and
The sandy seabed is well represented in the region.

</td></tr>
<tr><th colspan="3">Demonstration of ALARP</th></tr>
<tr><td colspan="3">A ‘negligible’ residual impact consequence is considered to be ALARP and a ‘lower order’ impact. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.</td></tr>
<tr><th colspan="3">Demonstration of Acceptability</th></tr>
<tr><td>Policy compliance</td><td colspan="2">EOG’s Safety and Environmental Policy objectives are met.</td></tr>
<tr><td>EMS compliance</td><td colspan="2">Chapter 10 describes the EP implementation strategy to be employed for this activity.</td></tr>
<tr><td>Risk matrix standard compliance</td><td colspan="2">The residual impact consequence is negligible, which is considered acceptable.</td></tr>
<tr><td>External context</td><td colspan="2">There have been no objections or claims raised by relevant persons regarding the discharge of cement for this activity.</td></tr>
<tr><td>Legislative context</td><td colspan="2">There are no legislative controls regarding offshore cement discharges.
In the absence of Australian regulations or guidelines, cement additive selection complies with the North Sea OCNS, which implements the OSPAR Convention.</td></tr>
<tr><td rowspan="5">Industry practice</td><td colspan="2">The consideration and alignment of EPS with the mitigation measures outlined in the below-listed guidelines and codes of practice demonstrates that BPEM will be implemented for this activity</td></tr>
<tr><td>Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)</td><td>The EPS developed for this hazard are in line with the management measures listed for offshore cement management Section 4.5.8 of the guidelines, which include:
Volume of cement to be used for each well to be planned to minimise excess bulk at the end of campaign and volumes discharged into the ocean (IMP-07: EPS-04).</td></tr>
<tr><td>Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)</td><td>No guidance is provided regarding cement management.</td></tr>
<tr><td>Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)</td><td>No guidance is provided regarding cement management.</td></tr>
<tr><td>Environmental, Health and Safety Guidelines for Offshore Oil and Gas</td><td>No guidance is provided regarding cement management.</td></tr>
</table>

	Development (World Bank Group, 2015)	
	AEP CoEP (APPEA 2008)	The EPS developed for this activity meet the code's following objectives for offshore drilling: • To reduce the risk of release of material into the marine environment to ALARP and to an acceptable level. • To reduce the impacts to benthic communities to acceptable levels and to ALARP.
Environmental context	MNES	
	AMPs	This hazard will not intersect nearby AMPs.
	Ramsar wetlands	This hazard will not intersect any Ramsar wetlands.
	TECs	This hazard will not intersect any TECs.
	Nationally threatened and migratory species	This hazard will not have any impacts on threatened or migratory species.
	Other matters	
	KEFs	This hazard will not intersect any KEFs.
	NIWs	This hazard will not intersect any NIWs.
	State marine parks	This hazard will not intersect any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	None triggered by this hazard.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the impacts from discharge of cement to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Discharge of cement will not have long-term or significant impacts on MNES; • The management of cement discharges will ensure it is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of cement discharges will ensure it is not inconsistent with the aims of relevant marine reserve management plans; and • The management of cement discharges will not be inconsistent with ESD principles.	
Environmental Monitoring		
• Real-time ROV observations during conductor cementing operations. • Tracking of cement volumes and chemical additives.		
Record Keeping		

• Cement chemical inventory. • Cement job report (and DDRs). • MoC documents.	• End-of-well cement report. • ROV footage and/or report.

7.8. IMPACT 8 – Routine Discharges – Putrescible Waste

7.8.1. Hazard

The generation of food waste (putrescible waste) from the MODU and support vessel galleys will result in the overboard discharge of this waste. The average volume of putrescible waste discharged overboard depends on the number of Persons on Board (POB) at any time, and the types of meals prepared.

Based on the monitoring data from a MODU that has regularly worked in Australian waters, the typical volume of macerated waste discharged overboard is about 50 grams per person. Based on an assumed maximum POB of:

- MODU – assumed maximum POB for 120, equating to a discharge of ~7 kg/day.
- Support vessels – assumed POB of 30 for two vessels, equating to a discharge of 1.5 kg/day.

This waste is likely to float for a short time and if not consumed by fauna (such as pelagic fish and seabirds) quickly at the sea surface, it will become water-logged and sink through the water column.

NERA (2017) estimates the volume of putrescible waste to be in the order of 1-2 kg (0.001-0.002 m^3) per person per day. While this is likely to be an over-estimate, based on the same POB numbers listed above, an estimated 150-300 kg (0.15 – 0.3 m^3) of putrescible waste may be generated and discharged overboard daily using the NERA estimates. Assuming all three wells are drilled, this equates to an estimated total of 25-50 m^3 of putrescible waste discharges (for 55 days of drilling per well) or 67.5-135 m^3 of putrescible waste discharges (for 150 days of drilling per well).

7.8.2. Known and Potential Environmental Impacts

The known and potential environmental impacts of putrescible waste discharges are:

- Temporary and localised increase in the nutrient content of waters surrounding the discharge point; and
- An associated increase in scavenging behaviour of marine fauna and seabirds (at the sea surface or within the water column).

7.8.3. EMBA

The EMBA for putrescible waste discharges is likely to be the top 10 m of the water column and a 100 m radius from the discharge point. This is based on modelling of continuous wastewater discharges undertaken by Woodside for its Torosa South-1 drilling program (in the Scott Reef complex, WA).

In addition to the quality of the receiving waters, receptors that may occur within this EMBA, either as residents or migrants, are:

- Plankton;

- Pelagic fish;
- Marine mammals;
- Marine reptiles; and
- Seabirds.

7.8.4. Evaluation of Environmental Impacts

The overboard discharge of macerated food wastes creates a localised and temporary increase in the nutrient load of near-surface waters. This in turn acts as a food source for scavenging marine fauna and/or seabirds, whose numbers may temporarily increase as a result. The rapid consumption of putrescible waste by scavenging fauna, its physical and microbial breakdown, together with the absence of habitats nearby sensitive to increased nutrients, ensures that the impacts of such discharges are insignificant and therefore have a negligible impact consequence.

The impact consequence for putrescible waste discharges remains negligible even in the event that all three wells are drilled.

7.8.5. Impact Assessment

Table 7.26 presents the impact assessment for putrescible waste discharges.

Table 7.26. Impact assessment for putrescible waste discharges

Summary		
Summary of impacts	Increase in nutrient content of near-surface waters around the discharge point, which may lead to an increase of scavenging behaviour of pelagic fish and seabirds.	
Extent of impacts	Localised – up to 100 m horizontally and 10 m vertically from the discharge point.	
Duration of impacts	Intermittent and temporary – until the discharge is completely consumed (likely to be several hours).	
Level of certainty of impacts	HIGH – the impacts of putrescible waste discharges on marine fauna are well known.	
Impact decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	Putrescible waste discharges to sea meet legislated requirements such that there are no adverse impacts to biodiversity, ecological integrity or human health.	
Impact Consequence (inherent)		
Negligible		

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Store all putrescible waste onboard for onshore disposal.	Eliminate	No	**EB:** Eliminates impacts to water quality and scavenging behaviour by marine fauna. **C:** Additional cost due to onshore disposal, additional fuel usage required to transfer wastes to shore, increased health and safety risk involved with storing organic wastes onboard in a tropical environment. The discharge of macerated putrescible waste (and unmacerated putrescible waste when >12 nm from shore) is permitted by legislation. **Ev:** Cost of this control measure is grossly disproportionate to the negligible consequence.
GMP **(IMP-08: EPS-01)**.	Engineering	Yes	**EB:** Reduces probability of garbage being inappropriately discharged to sea, reducing potential impacts to fauna. **C:** Negligible; part of routine MODU and vessel operations. **Ev:** Benefits of ensuring responsible and compliant garbage handling outweighs negligible cost.
Putrescible waste is treated as per MARPOL Annex V requirements prior to discharge **(IMP-08: EPS-02, -03, -04).**	Engineering	Yes	**EB:** Reduces probability of putrescible waste being inappropriately discharged to sea, reducing impacts to water quality and marine fauna. **C:** Negligible; part of routine MODU and vessel operations. Occasional high costs of replacing the macerator. **Ev:** Benefits of ensuring responsible and compliant putrescible waste handling outweighs minimal costs.
Environmental induction for MODU and vessel crews **(IMP-08: EPS-05)**.	Administrative	Yes	**EB:** Reduced likelihood of inappropriate waste disposal to the sea. **C:** Negligible; part of routine MODU and vessel operations. **Ev:** Environmental benefits can be achieved with little additional cost.

Environmental Performance Objectives and Measurement		
EPO	EPS	Measurement criteria
Putrescible waste discharges meet MARPOL Annex V requirements.	**(IMP-08: EPS-01)** A MARPOL Annex V-compliant GMP is in place (for vessels >100 GRT tonnes or certified to carry 15 persons or more) that sets out the procedures for minimising, collecting, storing, processing and discharging garbage.	A GMP is in place, readily available onboard and kept current.
	(IMP-08: EPS-02) A macerator is on board the MODU and vessels, functional, in use and set to macerate putrescible waste to a particle size ≤25 mm using to ensure rapid breakdown upon discharge.	PMS records verify that the macerator is functional and regularly maintained or replaced.

	(IMP-08: EPS-03) Records of food waste disposal to be maintained in a Garbage Record Book.	A Garbage Record Book is in place and verifies waste discharge locations and volumes.
	(IMP-08: EPS-04) Only macerated putrescible waste (≤25 mm) is discharged overboard (noting that un-macerated putrescible waste is permitted to be discharged as the MODU and support vessels will be >12 nm from shore). Un-macerated putrescible waste is only discharged overboard in the event of macerator malfunction or other emergency.	
	(IMP-08: EPS-05) Waste management and housekeeping requirements are communicated to all MODU and vessel crews to ensure discharges are in accordance with MARPOL Annex V.	MODU and vessel induction includes waste management requirements.
Impact Consequence (residual)		
Negligible		
The consequence of putrescible waste discharges is assessed as negligible because of: • The temporary duration of the activity; • The intermittent nature of the discharge; • The small discharge volumes; • Maceration of the waste prior to discharge; • High dilution and dispersal factor in open waters; • The long distance from shore; • Rapid consumption by fauna; • High biodegradability and low persistence of the waste; and • The absence of sensitive habitats in the activity area.		
Demonstration of ALARP		
A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.		
Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.	
External context	No objections or claims have been made by relevant persons with regard to putrescible waste discharges for this activity.	

Legislative context	The EPS align with the requirements of:
	• *Navigation Act* 2012 (Cth):
	  ○ Chapter 4 (Prevention of Pollution).
	  ○ AMSA Marine Order 95 (Marine Pollution Prevention - garbage).
	• *Protection of the Sea (Prevention of Pollution from Ships) Act* 1983 (Cth):	

	○ Section 26F (which implements MARPOL Annex V).	
Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS listed in this table meet the relevant mitigation measures listed for offshore activities with regard to: • Section 4.5.1 - organic (food) waste from the kitchen should, at a minimum, be macerated to <25 mm prior to discharge to sea, in compliance with MARPOL Annex V requirements **(IMP-08: EPS-02 and -04)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	The EPS listed in this table meet these guidelines for offshore activities with regard to: • Environmental monitoring (item 26). The BAT guidelines are met for the activity with regard to monitoring waste streams.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	There is no specific guidance regarding putrescible waste discharges. Section 2.3.6.2 (management of waste) of the guideline states that, among other things, waste management and disposal options should be evaluated. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • Other waste waters (item 44). Food waste from the kitchen should, at a minimum, be macerated to acceptable levels and discharged to sea, in compliance with MARPOL requirements **(IMP-08: EPS-04)**.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the volume of wastes produced to ALARP and to an acceptable level.
Environmental context	MNES	
	AMPs	This hazard will not impact the conservation values of nearby AMPs.
	Ramsar wetlands	This hazard will not intersect any Ramsar wetlands.
	TECs	This hazard will not intersect any TECs.
	Nationally threatened and migratory species	This hazard will not have any significant impacts on threated or migratory species.
	Other matters	
	KEFs	This hazard will not intersect any KEFs.

	NIWs	This hazard will not intersect any NIWs.
	State marine parks	This hazard will not intersect any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	This hazard will not compromise the specific objectives or actions (regarding marine pollution) of any of the species Recovery Plans, Conservation Management Plans or Conservation Advice referenced in this EP.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the impacts from putrescible waste discharges to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Putrescible waste discharges will not have long-term or significant impacts on MNES; • Putrescible waste discharges are not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • Putrescible waste discharges are not inconsistent with the aims of relevant marine reserve management plans; and • The management of putrescible waste discharges is not inconsistent with ESD principles.	
Environmental Monitoring		
• Volume/weight of non-macerated waste sent ashore.		
Record Keeping		
• GMP. • PMS records. • Garbage Record Book.	• Training matrix. • Induction records.	

7.9. IMPACT 9 - Routine Discharges – Sewage and Grey Water

7.9.1. Hazard

The use of ablution, laundry and galley facilities by MODU and support vessel crew will result in the discharge of sewage and grey water. The composition of sewage and grey water (when untreated) may include:

- Particulate matter – such as solids composed of floating, settleable, colloidal and dissolved matter, substances that affect aspects of aesthetics such as ambient water colour, the presence of surface slicks/sheens and odour.
- Chemical contaminants – including:
  - Nutrients (e.g., ammonia, nitrite, nitrate and orthophosphate);
  - Organics (e.g., volatile and semi-volatile organic compounds, oil and grease, phenols, endocrine disrupting compounds); and

- Inorganics (e.g., hydrogen sulphide, metals and metalloids, surfactants, phthalates, residual chlorine);

- Biological pathogens – including bacteria, viruses, protozoa and parasites.

Total volumes of sewage and grey water typically generated at offshore facilities range between 0.04 and 0.45 m^3 per person per day (NERA, 2017). Assuming a POB of 120 on the MODU and 30 on both support vessels (a total of 150 people), this equates to between 6 and 68 m^3 of sewage and grey water generated daily using the NERA estimates. Assuming all three wells are drilled, this equates to a total of 990 – 11,220 m^3 of sewage and grey water discharges (for 55 days of drilling per well) or 8,100 – 30,600 m^3 of sewage and grey water discharges (for 150 days of drilling per well).

NERA (2017) states that most large vessels generate 5-15 m^3 wastewater per day, the majority of which is grey water (wastewater from showers, laundry, galley and wash basins). Assuming all three wells are drilled, this equates to a total of 825 – 2,475 m^3 of grey water discharges (55 days of drilling per well) or 2,250 – 6,750 m^3 of sewage and grey water (for 150 days of drilling per well).

7.9.2. Known and Potential Environmental Impacts

The known and potential environmental impact of treated sewage and grey water discharges is:

- Temporary and localised increase in the nutrient content of surface waters around the MODU and support vessels; and
- An associated increase in scavenging behaviour of marine fauna and seabirds (at the sea surface or in the water column).

7.9.3. EMBA

The EMBA for sewage and grey water discharges associated with MODU and support vessel activities is likely to be the top 10 m of the water column and a 50 m radius from the discharge point. This is based on modelling of continuous wastewater discharges (including treated sewage and greywater) undertaken by Woodside for its Torosa South-1 drilling program (in the Scott Reef complex), which found:

- Rapid horizontal dispersion of discharges occurs due to wind-driven surface water currents;
- Vertical discharge is limited to about the top 10 m of the water column due to the neutrally buoyant nature of the discharge; and
- A concentration of a component within the discharge stream is reduced to 1% of its original concentration at no less than 50 m from the discharge point under any condition (Woodside, 2008).

In addition to the quality of the receiving waters, receptors that may occur within this EMBA, either as residents or migrants, are:

- Plankton;
- Pelagic fish;
- Marine mammals;
- Marine reptiles; and
- Seabirds.

7.9.4. Evaluation of Environmental Impacts

Water quality

Nutrients in sewage, such as phosphorus and nitrogen, may contribute to eutrophication of receiving waters (although usually only still, calm, inland waters), causing algal blooms, which can degrade aquatic habitats by reducing light levels and producing certain toxins, some of which are harmful to marine life and humans. Given the tidal movements and currents in the open oceanic waters of the JBG, eutrophication of receiving waters will not occur. Sewage will be treated through a sewage treatment plant (STP) to a tertiary level, so there are no impacts relating to the release of chemicals and pathogens in untreated sewage.

Grey water can contain a wide variety of pollutant substances at different strengths, including oil and some organic compounds, hydrocarbons, detergents and grease, metals, suspended solids, chemical nutrients, food waste, coliform bacteria and some medical waste. Grey water is treated through the STP, so pollutants will be largely removed from the discharge stream.

The effects of sewage and sullage discharges on the water quality at Scott Reef were monitored for a drill rig operating near the edge of the deep-water lagoon area at South Reef. Monitoring at stations 50 m, 100 m and 200 m downstream of the rig and at five different water depths confirmed that the discharges were rapidly diluted in the upper 10 m water layer 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 (Woodside, 2011).

Treated sewage and grey water discharges will be rapidly diluted in the surface layers of the water column and dispersed by currents. The biological oxygen demand of the treated effluent is unlikely to lead to oxygen depletion of the receiving waters (Black *et al.*, 1994), as it will be treated prior to release. On release, surface water currents will assist with oxygenation of the discharge.

Biological receptors

Plankton forms the basis of all marine ecosystems, and plankton communities have a naturally patchy distribution in both space and time (ITOPF, 2011a). They are known to have naturally high mortality rates (primarily through predation), however in favourable conditions (e.g., supply of nutrients), plankton populations can rapidly increase. Once the favourable conditions cease, plankton populations will collapse and/or return to previous conditions. Plankton populations have evolved to respond to these environmental perturbations by copious production within short generation times (ITOPF, 2011a).

Any potential change in plankton diversity, abundance and composition as a result of treated sewage and grey water discharges is expected to be very low (given the waste stream is treated) and localised (as outlined in the EMBA) and is likely to return to background conditions within tens to a few hundred metres of the discharge location (NERA, 2017). Accordingly, impacts higher up the food chain (e.g., fish, reptiles, birds and cetaceans) are expected to be negligible.

The impact consequence for sewage and grey water discharges remains negligible even in the event that all three wells are drilled.

7.9.5. Impact Assessment

Table 7.27 presents the impact assessment for the discharge of treated sewage and grey water.

Table 7.27. Impact assessment for the discharge of treated sewage and grey water

Summary			
Summary of impacts	Reduction in water quality around the discharge point, increase in nutrients.		
Extent of impacts	Localised – up to 50 m horizontally and 10 m vertically from the discharge point.		
Duration of impacts	Temporary – until the discharge is completely diluted (likely to be minutes to hours).		
Level of certainty of impact	HIGH – the impacts of sewage and grey water discharges to water quality are well known.		
Impact decision framework context	Decision type	A - good industry practice required.	
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.	
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.	
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.	
Defined acceptable level	Sewage and grey water discharges to sea meet legislated requirements such that there are no adverse impacts to biodiversity, ecological integrity or human health.		
Impact Consequence (inherent)			
Negligible			
Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
No discharge of treated sewage and grey water at sea.	Eliminate	No	**EB:** Eliminates biodegradable waste stream that may result in decreased water quality and scavenging behaviour by marine fauna. **C:** Additional cost of transport to port for onshore disposal, associated increase in emissions (such as GHG) and increased health and safety risk involved with storing organic wastes onboard, particularly in a tropical environment. Discharges are permitted by legislation. **Ev:** Cost is grossly disproportionate to the negligible consequence associated with the discharges.
Sewage and grey water treatment and discharges are managed in accordance with MARPOL Annex IV **(IMP-09: EPS-01, -02, -03, -04)**	Engineering	Yes	**EB:** Reduces potential impacts of inappropriate discharge and ensures compliance with Marine Order 96 and MARPOL requirements as appropriate for vessel class. **C:** Cost of installing and maintaining STPs can be high, but are part of routine MODU and support vessel operations. **Ev:** Environmental benefits outweigh the costs.
Environmental Controls and Performance Measurement			
EPO	EPS		Measurement criteria

Water pollution is avoided by treating sewage and grey water prior to discharge.	**(IMP-09: EPS-01)** The STPs meet MARPOL standards.	ISPP certificates are valid and verify the installation of MARPOL-approved STPs.
	(IMP-09: EPS-02) The STPs are maintained in accordance with the MODU and support vessels' PMS.	PMS records confirm that the STPs are maintained to schedule.
	(IMP-09: EPS-03) All sewage and grey water is treated in the STPs prior to overboard discharge.	No reports of discharge being diverted around the STP in DDRs.
	(IMP-09: EPS-04) In accordance with Regulation 11 of MARPOL Annex IV (as enacted by Marine Order 96), sewage is comminuted, disinfected and discharged from the support vessels: • When they are >3 nm from the nearest shore. • At a moderate rate while proceeding en route at a speed not less than 4 knots. In the event of a STP malfunction or other emergency, untreated sewage and grey water can be discharged (because they are >12 nm from shore when in the operational area).	Records verify that treated sewage is only discharged when the support vessel is >3 nm from shore and at a speed not less than 4 knots (unless the STP has malfunctioned or in an emergency).
Impact Consequence (residual)		
Negligible		
The consequence of treated sewage and grey water discharges is assessed as negligible because of: • The temporary and intermittent nature of the discharges; • The consistent movement of the support vessels; • Low discharge volumes; • Treatment of the waste stream prior to discharge; • High dilution and dispersal factor in open waters; • The long distance from shore; • High biodegradability and low persistence of the waste; and • Absence of sensitive habitats in the activity area.		
Demonstration of ALARP		
A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.		
Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.	

External context	No objections or claims have been made by relevant persons regarding treated sewage and grey water discharges for this activity.	

Legislative context	The EPS align with the requirements of:
	• *Navigation Act* 2012 (Cth):
	  ○ Chapter 4 (Prevention of Pollution).
	  ○ AMSA Marine Order 95 (Marine Pollution Prevention – sewage).
	• *Protection of the Sea (Prevention of Pollution from Ships) Act* 1983 (Cth):
	  ○ Section 26D (which implements MARPOL Annex IV).	

Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this hazard are in line with the management measures listed in Section 4.5.1 – offshore discharges (sewage and grey water): • Grey and sewage water from showers, toilets, and kitchen facilities should be treated in an appropriate on-site marine sanitary treatment unit **(IMP-09: EPS-03)**. • Sewage units to be in compliance with MARPOL Annex V requirements **(IMP-09: EPS-01)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There are no guidelines for offshore activities with regard to managing sewage and grey water discharges.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	While Section 3.4.5 of the guideline states that the arrangements for sewage and grey water discharges are to be described, there is no specific guidance regarding sewage and grey water discharges. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • Other waste waters (item 44). Grey and black water should be treated in an appropriate on-site marine sanitary treatment unit in compliance with MARPOL **(IMP-09: EPS-01, -03)**.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the volume of wastes produced to ALARP and to an acceptable level.
Environmental context	MNES	
	AMPs	This hazard will not impact the conservation values of the JBG AMP.
	Ramsar wetlands	This hazard will not intersect any Ramsar wetlands.

	TECs	This hazard will not intersect any TECs.
	Nationally threatened and migratory species	This hazard will not have any significant impacts on threated or migratory species.
	Other matters	
	KEFs	This hazard will not intersect any KEFs.
	NIWs	This hazard will not intersect any NIWs.
	State marine parks	This hazard will not intersect any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	None triggered by this hazard.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle I is not relevant).	
Statement of Acceptability	EOG considers the impacts from treated sewage discharges to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Sewage and grey water discharges will not have long-term or significant impacts on MNES; • The management of sewage and grey water discharges is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of sewage and grey water discharges is not inconsistent with the aims of relevant marine reserve management plans; and • The management of sewage and grey water discharges is not inconsistent with ESD principles.	
Environmental Monitoring		
• None required.		
Record Keeping		
• ISPP certificate. • STP PMS records. • DDRs		

7.10. IMPACT 10 - Routine Discharges – Cooling and Brine Water

7.10.1. Hazard

Seawater is used as a heat exchange medium for cooling machinery engines and other equipment on the MODU and support vessels. Seawater is drawn up from the ocean, where it is de-oxygenated and sterilised by electrolysis (by release of chlorine from the salt solution) and then circulated as coolant for various equipment through the heat exchangers (in the process transferring heat from the machinery) and is then discharged to the ocean at depth (not at surface). Upon discharge, it will be warmer than the ambient water temperature and may contain

low concentrations of residual biocide and scale inhibitors if they are used to control biofouling and scale formation.

The maximum cooling water discharge rate for the MODU and support vessels that may be used is unknown. Also unknown is the temperature at which the heat exchangers are designed to discharge the cooling water at (though this is generally several degrees Celsius above ambient sea temperature). The volume depends on the equipment being cooled, but for this activity, it is likely to be tens of cubic meters each day.

Brine water (hypersaline water) is created through the desalination process that creates freshwater for drinking, showers, cooking etc. This is achieved through reverse osmosis (RO) or distillation resulting in the discharge of seawater with a slightly elevated salinity (~10-15% higher than seawater). The freshwater produced is then stored in tanks on board. Upon discharge, the concentration of the brine is (based on other modern vessels) likely to range from 44-61 ppm, which is 9-26 ppm higher than seawater salt concentration (35 ppm). Brine concentration is dependent on throughput and plant efficiency.

7.10.2. Known and potential environmental impacts

The known and potential environmental impacts of cooling water and brine discharges are:

- Temporary and very localised increase in sea water temperature, causing thermal stress to marine fauna;
- Temporary and very localised increase in sea surface salinity, potentially causing harm to fauna unable to tolerate higher salinity; and
- Potential toxicity impacts to marine fauna from the ingestion of residual biocide and scale inhibitors.

7.10.3. EMBA

The EMBA for cooling water and brine discharges associated with MODU and vessel activities is likely to be the top 10 m of the water column and a 100 m radius from the discharge point. This is based on modelling of continuous wastewater discharges undertaken by Woodside for its Torosa South-1 drilling program (in the Scott Reef complex) (Woodside, 2008).

In addition to the quality of the receiving waters, receptors that may occur within this EMBA, either as residents or migrants, are:

- Plankton;
- Pelagic fish;
- Marine mammals;
- Marine reptiles; and
- Seabirds.

7.10.4. Evaluation of Environmental Impacts

Temporary and localised increase in seawater temperature

Once in the water column, cooling water will remain in the surface layer, where turbulent mixing and heat transfer with surrounding waters will occur. Prior to reaching background temperatures, the impact of increased seawater temperatures down current of the discharge may result in

changes to the physiological processes of marine organisms, such as attraction or avoidance behaviour, stress or potential mortality.

Modelling of continuous waste water 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 less than 1°C above background levels within 100 m (horizontally) of the discharge point, and will be within background levels within 10 m vertically (Woodside, 2008). As such, impacts to most receptors are expected to be negligible even within this mixing zone.

Temporary and localised increase in sea surface salinity

Brine water will sink through the water column where it will be rapidly mixed with receiving waters and be dispersed by ocean currents. Walker and MacComb (1990) found that most marine species are able to tolerate short-term fluctuations in water salinity in the order of 20-30%, and it is expected that most pelagic species passing through a denser saline plume would not suffer adverse impacts. Other than plankton, pelagic species are mobile and would be subject to slightly elevated salinity levels for a very short time as they swim through the 'plume.' As such, impacts to receptors are expected to be negligible.

Potential toxicity impacts

Scale inhibitors and biocide are likely to be used in the heat exchange and desalination process to avoid fouling of pipework. Scale inhibitors are low molecular weight phosphorous compounds that are water-soluble, and only have acute toxicity to marine organisms about two orders of magnitude higher than typically used in the water phase (Black *et al*., 1994). The biocides typically used in the industry are highly reactive and degrade rapidly and are very soluble in water (Black *et al*., 1994).

These chemicals are inherently safe at the low dosages used, as they are usually 'consumed' in the inhibition process, ensuring there is little or no residual chemical concentration remaining upon discharge and thus have a negligible impact consequence.

The impact consequence for cooling and brine water discharges remains negligible even in the event that all three wells are drilled.

7.10.5. Impact Assessment

Table 7.28 presents the impact assessment for the discharge of cooling and brine water.

Table 7.28. Impact assessment for the discharge of cooling and brine water

Summary	
Summary of impacts	Increased sea surface temperature and salinity around the discharge point. Potential toxicity impacts to marine fauna from residual biocide and scale inhibitors.
Extent of impacts	Localised – up to 100 m horizontally and 10 m vertically from the discharge point.
Duration of impacts	Temporary – duration of the activity.
Level of certainty of impact	HIGH – the impacts of sea surface temperature and salinity increases on marine fauna are well known.

Impact decision framework context	Decision type–A - good industry practice required.	
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	Cooling water and brine discharges to sea meet legislated requirements such that there are no adverse impacts to biodiversity, ecological integrity or human health.	

Impact Consequence (inherent)			
Negligible			
Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Store brine onboard prior to discharge onshore.	Elimination	No	**EB:** Eliminates impacts to the marine environment. **C:** Very high costs associated with MODU and vessel modifications to enable onboard storage. **Ev:** Cost outweighs the environmental benefit given the minor inherent consequence.
Low toxicity chemicals **(IMP-10: EPS-01)**.	Substitution	Yes	**EB:** Reduces potential water quality impacts through use of environmentally suitable chemicals. **C:** Low toxicity chemicals are generally more expensive than higher toxicity chemicals, but not by high margins. **Ev:** The minimal additional cost is outweighed by the environmental benefits.
Biocide dosing **(IMP-10: EPS-02)**.	Engineering	Yes	**EB:** Minimises the likelihood of out-of-specification discharges. **C:** Negligible; part of routine MODU and support vessel operations. **E:** Environmental benefits can be achieved with negligible additional cost.
Freshwater generation volumes **(IMP-10: EPS-03)**.	Engineering	Yes	**EB:** Minimises the volume of brine discharges. **C:** Negligible; part of routine MODU and support vessel operations. **E:** Environmental benefits can be achieved with negligible additional cost.
PMS **(IMP-10: EPS-04)**.	Engineering	Yes	**EB:** Minimises the likelihood of out-of-specification discharges. **C:** Negligible; part of routine MODU and vessel operations.

			E: Environmental benefits can be achieved with little additional cost.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Only the minimum required low-toxicity chemicals are used in the cooling and brine water systems.	**(IMP-10: EPS-01)** Only OCNS 'Gold'/'Silver' (CHARM) or 'D'/'E' (non-CHARM)-rated chemicals (i.e., low toxicity) are used in the cooling and brine water systems.	Chemical inventories records verify that biocides and scale inhibitors are of low toxicity.
	(IMP-10: EPS-02) Biocide dosing is kept to a minimum in accordance with the equipment manufacturer's specifications.	PMS data verifies minimum biocide dosage.
The RO plant and equipment that requires cooling by water is well maintained.	**(IMP-10: EPS-03)** Freshwater generation is limited to volumes necessary for operational requirements.	Tank volumes verify minimum requirement for freshwater generation.
	(IMP-10: EPS-04) Plant and equipment that requires cooling by water is maintained in good working order in accordance with the PMS.	PMS records verify that equipment that requires cooling is well maintained.

Impact Consequence (residual)
Negligible
The consequence of cooling and brine water discharges is assessed as negligible because of the: • Temporary nature of the activity; • Support vessels will be constantly moving; • Low discharge volumes; • Intermittent nature of the discharge; • 'Consumption' of the chemicals prior to discharge; • High dilution and dispersal factor in the open waters of the JBG; and • Absence of sensitive habitats in the activity area.
Demonstration of ALARP
A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.

Demonstration of Acceptability	
Policy compliance	EOG's Safety and Environmental Policy objectives are met through implementation of this EP.
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.
External context	No objections or claims have been made by relevant persons regarding cooling and brine discharges for this activity.

Legislative context	There are no legislative controls regarding cooling and brine water discharges.	
Industry practice	The consideration of the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this hazard are in line with the management measures listed for offshore discharges (cooling water and desalination brine) in Section 4.5.3 of the guidelines: • Biocide dosing kept to a minimum in accordance with the equipment manufacturer's specifications **(IMP-10: EPS-02)**. • Freshwater generation to be limited to volumes necessary for operational requirements **(IMP-10: EPS-03)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There are no guidelines for offshore activities with regard to managing cooling and brine water discharges.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	There is no specific guidance regarding cooling and brine water discharges. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • Cooling water (items 41 & 42). Antifouling chemical dosing to prevent marine fouling of cooling water systems should be carefully considered and appropriate screens to be fitted to the seawater intake to avoid entrainment and impingement of marine flora and fauna **(IMP-10:EPS-02)**. The cooling water discharge depth should be selected to maximise mixing and cooling of the thermal plume to ensure it is within 3°C of ambient seawater temperature within 100 m of the discharge point. • Desalination brine (item 43). Consider mixing desalination brine from the potable water system with cooling water or other effluent streams.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the volume of wastes produced to ALARP and to an acceptable level.
Environmental context	MNES	
	AMPs	This hazard will not impact the conservation values of nearby AMPs.

	Ramsar wetlands	This hazard will not intersect any Ramsar wetlands.
	TECs	This hazard will not intersect any TECs.
	Nationally threatened and migratory species	This hazard will not have any significant impacts on threated or migratory species.
	Other matters	
	KEFs	This hazard will not intersect any KEFs.
	NIWs	This hazard will not intersect any NIWs.
	State marine parks	This hazard will not impact the conservation values of nearby AMPs.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	None triggered by this hazard.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of Acceptability	EOG considers the impacts from cooling water and brine discharges to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Cooling water and brine discharges will not have long-term or significant impacts on MNES; • The management of cooling water and brine discharges is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of cooling water and brine discharges is not inconsistent with the aims of relevant marine reserve management plans; and • The management of cooling water and brine discharges is not inconsistent with ESD principles.	
Environmental Monitoring		
• None required.		
Record Keeping		
• PMS records. • Potable water tank volumes. • Chemical inventories.		

7.11. IMPACT 11 – Routine Discharges – Bilge Water and Deck Drainage

7.11.1. Hazard

Bilge tanks on the MODU and support vessels receive fluids from closed deck drainage and machinery spaces that may contain contaminants such as oil, detergents, solvents, chemicals and solid waste. An oily water separator (OWS) then treats this water prior to discharge overboard in order to meet the MARPOL requirement that no greater than 15 ppm oil-in-water (OIW) is discharged overboard. The volume of these discharges is small and intermittent (as required, based on bilge tank storage levels). Where no OWS is present, these fluids are retained in tanks for onshore disposal.

MODU and support vessel decks that are not bunded and drain directly to the sea may lead to the discharge of contaminated water, caused by ocean spray and rain ('green water') or deck washing activities capturing trace quantities of contaminants such as oil, grease and detergents, or a chemical (e.g., hydraulic fluids, lubricating oils) or hydrocarbon spill or leak washed overboard.

7.11.2. Known and Potential Environmental Impacts

The known and potential environmental impacts of the discharge of bilge water and deck drainage are:

- Temporary and localised reduction of surface water quality around the discharge point; and
- Acute toxicity to marine fauna through ingestion of contaminated water in a small mixing zone.

7.11.3. EMBA

The EMBA for bilge and deck water discharges is likely to be the top 10 m of the water column and less than a 100 m radius from the discharge point. This is based on modelling of continuous wastewater discharges undertaken by Woodside for its Torosa South-1 drilling program in the Scott Reef complex (Woodside, 2008).

In addition to the quality of the receiving waters, receptors that may occur within this EMBA, either as residents or migrants, are:

- Plankton;
- Pelagic fish;
- Marine mammals;
- Marine reptiles; and
- Seabirds.

7.11.4. Evaluation of Environmental Impacts

Temporary and localised reduction of surface water quality

Small volumes and low concentrations of oily water (<15 ppm) from bilge discharges and traces of chemicals or hydrocarbons discharged to the ocean through open deck drainage may temporarily reduce water quality.

Given the absence of sensitive habitat types in the water column of the EMBA for these discharges, the greatest risk will be to plankton and pelagic fish. These discharges will be rapidly diluted, dispersed and biodegraded to undetectable levels within a very small mixing zone (as per the EMBA) and thus have a negligible impact consequence.

Potential toxicity impacts

While small volumes and low concentrations of oily water from bilge discharges may temporarily reduce water quality, such discharges are not expected to induce acute or chronic toxicity impacts to marine fauna or plankton through ingestion or absorption through the skin.

In the event a OWS malfunction and discharge of off-specification water, toxicity impacts may occur to marine fauna swimming through the discharge, though this is only likely in a highly localised mixing zone (meaning that few individuals would be exposed), meaning it will have a negligible impact consequence.

The impact consequence for bilge water and deck drainage discharges remains negligible even in the event that all three wells are drilled.

7.11.5. Impact Assessment

Table 7.29 presents the impact assessment for the discharge of bilge water and deck drainage.

Table 7.29. Impact assessment for the discharge of bilge water and deck drainage

Summary			
Summary of impacts	Increased sea surface temperature and salinity around the discharge point. Potential toxicity impacts to marine fauna from residual biocide and scale inhibitors.		
Extent of impacts	Localised – up to 100 m horizontally and 10 m vertically from the discharge point.		
Duration of impacts	Intermittent during MODU and vessel operations.		
Level of certainty of impacts	HIGH – the impacts of oily water discharges to the ocean are well known.		
Impact decision framework context	Decision type	A - good industry practice required.	
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.	
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.	
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.	
Defined acceptable level	Bilge water discharges and deck drainage meet legislated discharge requirements such that there are no adverse impacts to biodiversity, ecological integrity or human health.		
Impact Consequence (inherent)			
Negligible			
Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification

Store treated bilge onboard for disposal onshore.	Eliminate	No	**EB:** Eliminates oily water discharge, thereby eliminating potential impacts to water quality and marine fauna. **C:** Significant cost of re-designing and configuring storage space on the MODU and vessels. **Ev:** Cost to implement control measures outweighs the benefit given the negligible inherent consequence.
Oily water treatment system **(IMP-11: EPS-01, -03, -04).**	Engineering	Yes	**EB:** Oily water is treated prior to discharge, thereby reducing impacts to water quality and marine fauna. Complies with Marine Order 91 and MARPOL requirements. **C:** Significant cost to install, but it is legislated requirement and part of routine MODU and support vessel operations. **Ev:** Benefits to the marine environment outweigh the costs.
Maintain bilge water systems **(IMP-11: EPS-02).**	Engineering	Yes	**EB:** Efficient OWS ensures MARPOL requirements are met and impacts to water quality and marine fauna are minimised. **C:** Minor costs to maintain the OWS and part of routine MODU and support vessel operations. **Ev:** Benefits to the marine environment outweigh the costs.
Bunding of hydrocarbons and chemical storage areas **(IMP-11: EPS-07, -08)**	Engineering	Yes	**EB:** Reduces the likelihood that a spill will be discharged overboard. **C:** Minor equipment installation and maintenance costs. **Ev:** Environmental benefit outweighs the costs.
SMPEP **(IMP-11: EPS-05, -09, -10).**	Administrative	Yes	**EB:** Documented and coordinated response to a spill reduces the area of impact to the marine environment. **C:** Minor equipment installation cost and maintenance costs, minor costs in time of training crew. **Ev:** Environmental benefit outweighs the costs.
Use of non-toxic, biodegradable deck cleaning product selection **(IMP-11: EPS-06).**	Administrative	Yes	**EB:** Avoids toxic water discharges. **C:** Minor additional cost of environmentally acceptable deck cleaning products. **Ev:** Environmental benefits outweigh the minimal cost.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria

No discharge of bilge water unless compliant with MARPOL Annex I requirements.	**(IMP-11: EPS-01)** For vessels >400 gross tonnes, all bilge water passes through a MARPOL-compliant OWS set to limit OIW to <15 ppm prior to overboard discharge.	IOPP certificate is current.
	(IMP-11: EPS-02) The OWS is maintained in accordance with the PMS.	PMS records verify that the OWS is maintained to schedule.
	(IMP-11: EPS-03) The OWS is calibrated in accordance with the PMS to ensure the 15 ppm OIW limit is met.	PMS records verify that the OWS is calibrated to schedule.
	(IMP-11: EPS-04) The residual oil from the OWS is pumped to tanks and disposed of onshore.	The Oil Record Book verifies that waste oil is transferred to shore.
Level 1 spills (<10 m^3) of oil or oily water overboard are rapidly responded to by the MODU and support vessel contractor.	**(IMP-11: EPS-05)** The MODU or vessel-specific SMPEPs are implemented in the event of an overboard spill of hydrocarbons or chemicals.	Incident report verifies that the SMPEP was implemented.
Planned open deck discharges are non-toxic.	**(IMP-11: EPS-06)** Deck cleaning detergents are biodegradable.	Safety Data Sheets (SDS) verify that deck cleaning agents are biodegradable.
Hydrocarbon or chemical spills to deck are prevented from being discharged overboard.	**(IMP-11: EPS-07)** Hydrocarbon and chemical storage areas (process areas) are bunded and drain to the bilge tank.	Site inspections (and associated completed checklists) verify that bunding is in place and piping and instrumentation diagrams (P&IDs) verify that they drain to the bilge tank.
	(IMP-11: EPS-08) Portable bunds and/or drip trays are used to collect spills or leaks from equipment that is not contained within a permanently bunded area (non-process areas).	Site inspections (and associated completed checklists) verify that portable bunds and/or drip trays are used in non-process areas as required.
Personnel are competent in spill response and have appropriate resources to respond to a spill.	**(IMP-11: EPS-09)** The MODU and support vessel crews are competent in spill response and have appropriate response resources in order to prevent or minimise hydrocarbon or chemical spills discharging overboard.	Training records verify that MODU and support vessel crews receive spill response training.
	(IMP-11: EPS-10) Fully stocked SMPEP response kits and scupper plugs or equivalent drainage control measures are readily available and used in the event of a spill to deck to prevent or minimise discharge overboard.	Site inspections (and associated completed checklists) verify that fully stocked spill response kits and scupper plugs (or equivalent) are available on deck in high-risk locations.

		Review of incident reports indicate that the spills of hydrocarbons or chemicals to deck are cleaned up.
Impact Consequence (residual)		
Negligible		
The consequence of bilge water discharges and deck drainage is assessed as negligible because the: • Activity is of a temporary nature; • Support vessels will be constantly moving; • Discharges will be low volume and intermittent; • High energy offshore waters of the JBG will aid in dilution of discharges; and • EMBA does not contain sensitive habitats.		
Demonstration of ALARP		
A 'negligible' residual impact consequence is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the impact to the point that any additional or alternative control measures either fail to lower the impact any further or are grossly disproportionate to the residual impact consequence.		
Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual impact consequence is negligible, which is considered acceptable.	
External context	There have been no objections or claims raised by relevant persons regarding bilge water discharges and deck drainage for this activity.	

Legislative context	The EPS align with the requirements of:
	• *Navigation Act* 2012 (Cth):
	  ○ Chapter 4 (Prevention of Pollution).
	  ○ AMSA Marine Order 91 (Marine Pollution Prevention - oil).
	• *Protection of the Sea (Prevention of Pollution from Ships) Act* 1983 (Cth):
	  ○ Part II (Prevention of pollution by oil).
	  ○ Part III (Prevention of pollution by noxious substances).	

Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this hazard are in line with the management measures listed for offshore discharges (deck drainage and bilge water) in Section 4.5.2 of the guidelines: • MODU and vessels must have an IOPP Certificate (for vessels >400 gross tonnes) and equipped with MARPOL/IMO-compliant oil/water treatment system (as appropriate to vessel class) **(IMP-11: EPS-01)**.

		• Hydrocarbon and chemical storage areas are to be bunded with no residues/spills permitted to enter the overboard drainage system unless it first goes through a closed drainage treatment system **(IMP-11: EPS-07, -08)**. • MODU and vessels to maintain an Oil Record Book (applicable to vessels >400 gross tonnes), including the discharge of dirty ballast or cleaning water **(IMP-11: EPS-04)**. • Discharge into the sea of oil or oily mixtures is prohibited except when the OIW of the discharge without dilution does not exceed 15 ppm **(IMP-11:EPS-01, -03)**. • Contaminated deck drainage and bilge water to be contained and treated prior to discharge. If treatment is not possible, these waters should be contained and shipped to shore for disposal. • Extracted hydrocarbons from OWS to be stored in suitable containers and transported to shore for treatment and/or disposal by a certified waste oil disposal contractor **(IMP-11: EPS-04)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	The EPS listed in this table meet these guidelines for offshore activities with regard to: • Management of drain water (item 24). The BAT are met for MODU and vessel operations with regard to ensuring deck coaming is in place, maintaining a chemical inventory, implementing an inspection, maintenance and repair schedule and ensuring that personnel are trained in the use of spill kits **(IMP-11: EPS-09)**.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	While Section 3.2.3.2 (ballast and bilge systems for jack-ups) of the guideline states that bilges be kept clean, there is no specific guidance regarding discharges. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to:

		• Other waste waters (item 44). Bilge waters from machinery spaces in the MODU and vessels should be routed to the closed drain system or contained and treated before discharge to meet MARPOL requirements **(IMP-11: EPS-01)**. Deck drainage water should be routed to separate drainage systems. This includes drainage water from process and non-process areas. All process areas should be bunded to ensure that drainage water flows into the closed drainage system **(IMP-11: EPS-07)**.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the risk of release of substances into the marine environment to ALARP and to an acceptable level.
Environmental context	MNES	
	AMPs	This hazard will not impact the conservation values of nearby AMPs.
	Ramsar wetlands	This hazard will not intersect any Ramsar wetlands.
	TECs	This hazard will not intersect any TECs.
	Nationally threatened and migratory species	This hazard will not have any significant impacts on threated or migratory species.
	Other matters	
	KEFs	This hazard will not intersect any KEFs.
	NIW	This hazard will not intersect any NIWs.
	State marine parks	This hazard will not intersect any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	None triggered by this hazard.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of Acceptability	EOG considers the impact from bilge water discharges and deck drainage to be acceptable because: • It will adhere to the company's Safety and Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Relevant legislation and industry best practice will be complied with; • Bilge water discharges and deck drainage will not have long-term or significant impacts on MNES;	

	• The management of bilge water discharges and deck drainage is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of bilge water discharges and deck drainage is not inconsistent with the aims of relevant marine reserve management plans; and • The management of bilge water discharges and deck drainage is not inconsistent with ESD principles.
Environmental Monitoring	
• None required	
Record Keeping	
• PMS records. • IOPP certificate. • Oil Record Book. • Crew training records. • Inspection and checklist records.	• P&IDs. • SDS (for deck cleaning agents). • Incident reports. • SMPEP.

8. Environmental Risk Assessment – Unplanned Events

This chapter presents the environmental risk assessment (ERA) for the environmental risks identified for the activity using the methodology described in Chapter 6, as required under Regulations 21(5)(6) of the OPGGS(E).

This chapter presents the control measures, EPO, EPS and measurement criteria required to manage (i.e., avoid, minimise or mitigate) the identified risks. The definitions for these terms as listed at the start of Chapter 7 apply here. A summary of the risk rankings for each hazard identified and assessed in this chapter is presented in Table 8.1.

Table 8.1. Summary of environmental risk rankings

Identifier	Hazard	Inherent	Residual
1	Accidental release of waste overboard	Low	Negligible
2	Vessel collision with megafauna	Low	Negligible
3	Introduction and establishment of IMS	High	Medium
4	Interference with other marine users	Medium	Low
5	Unplanned discharge of drilling muds, chemicals or hydrocarbons	Negligible	Negligible
6	MDO release	Negligible	Negligible
7	Loss of Well Control		
	- Benthic fauna	High	Medium
	- Macroalgal and seagrass	High	Medium
	- Coral	High	Medium
	- Mangroves and saltmarsh	High	Medium
	- Sandy beaches	High	Medium
	- Rocky shores	Low	Low
	- Plankton	Low	Low
	- Fish	Low	Low
	- Marine mammals	High	Medium
	- Marine reptiles	High	Medium
	- Seabirds and shorebirds	High	Medium
	- Commercial fisheries	High	Medium
	- Protected areas	High	Medium
8	Hydrocarbon spill response activities		
	- Source control; relief well	Negligible	Negligible
	- Monitor and evaluate	Negligible	Negligible
	- Dispersant application	Low	Low
	- Nearshore containment and recovery	Negligible	Negligible

Identifier	Hazard	Inherent	Residual
	- Shoreline protection and deflection	Negligible	Negligible
	- Shoreline assessment and clean up	Low	Low
	- Oiled wildlife response	Low	Low
	- Waste management	Negligible	Negligible
	Faunal receptors		
	- Fauna disturbance	Negligible	Negligible
	- Fauna injury	Negligible	Negligible
	- Fauna death	Negligible	Negligible

The following sections assess the environmental risks associated with the activity, and Figure 8.1 presents a simplified pictorial representation of these risks. In this chapter, reference to support vessels includes any vessel undertaking GVI (see Section 2.8.2).

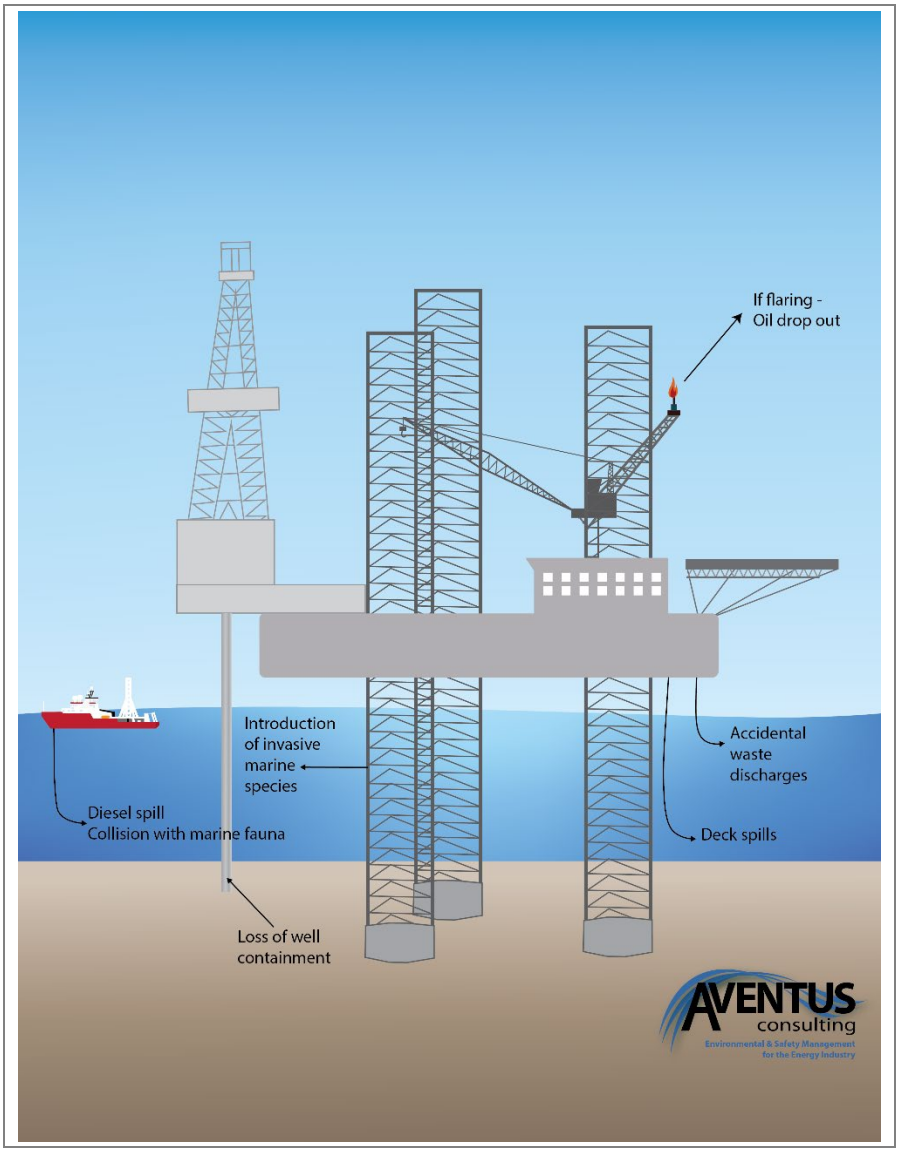


Figure 8.1. Simplified pictorial representation of the risks associated with the drilling activity

8.1 RISK 1 – Accidental Release of Waste Overboard

8.1.1 Hazard

The handling and storage of materials and waste on board the MODU and support vessels has the potential to result in accidental overboard disposal of hazardous and non-hazardous materials, waste, chemicals and fuel, creating marine debris and pollution.

Small quantities of hazardous and non-hazardous materials are used in routine operations and maintenance and waste is created, and then handled and stored on the MODU or support vessels. In the normal course of operations, solid and liquid hazardous and non-hazardous materials and wastes will be stored until it is disposed of via port facilities for disposal, reuse or recycling at licensed onshore facilities. However, accidental releases to sea are a possibility, especially in poor weather and ocean conditions when items may roll off or be blown off the deck.

The following non-hazardous materials and wastes will be disposed of to shore, but have the potential to be accidentally dropped or disposed overboard due to poor waste management (e.g., overfull bins), strong winds, high seas or crane operator error:

- Paper and cardboard;
- Wooden pallets;
- Scrap steel, metal and aluminium;
- Glass;
- Foam (e.g., ear plugs); and
- Plastics (e.g., hard hats).

The following hazardous materials (defined as a substance or object that exhibits hazardous characteristics, is no longer fit for its intended use and requires disposal, and as outlined in Annex III to the Basel Convention, may be toxic, flammable, explosive and poisonous) may be used and waste generated through the use of consumable products and will be disposed to shore, but may be accidentally dropped or disposed overboard or could be lost as a result of hose connection failure, overfilling of tanks or emergency disconnection of hoses:

- Hydrocarbons, hydraulic oils and lubricants;
- Hydrocarbon-contaminated materials (e.g., oily rags, pipe dope, oil filters);
- Batteries, empty paint cans, aerosol cans and fluorescent tubes;
- Contaminated personal protective equipment (PPE);
- Laboratory wastes (such as acids and solvents); and
- Larger dropped objects (that may be hazardous or non-hazardous) may be lost to the sea through accidents (e.g., crane operations) include:
    - Sea containers;
    - Towed equipment;
    - ROV; and
    - Entire skip bins/crates.

8.1.2 Potential Environmental Risks

The risks of the release of hazardous and non-hazardous materials and waste to the ocean are:

- Marine pollution (litter and a temporary and localised reduction in water quality);
- Acute toxicity to marine fauna through ingestion or absorption;
- Injury and entanglement of individual animals (such as seabirds and seals); and
- Localised (and normally temporary) smothering or pollution of benthic habitats.

8.1.3 EMBA

The EMBA for the accidental disposal of hazardous and non-hazardous materials and waste is likely to extend for kilometres from the release site (as buoyant waste drifts with currents) or localised for non-buoyant items that sink and settle on the seabed.

Receptors susceptible to waste that may occur within this EMBA, either as residents or migrants, are:

- Benthic fauna;
- Benthic habitat (sandy seabed);
- Pelagic fauna (fish, cetaceans and turtles); and
- Seabirds.

The EPBC Act-listed species documented as being negatively impacted by the ingestion of, or entanglement in, harmful marine debris (and known to occur in the operational area or EMBA) are:

- The six turtle species (loggerhead, green, flatback, olive ridley, leatherback and hawksbill);
- Sawfish and river sharks;
- Seabirds (Australian noddy, shearwater); and
- Cetaceans (Australian snubfin dolphin, Australian humpback dolphin, PBW).

8.1.4 Evaluation of Environmental Risks

Non-hazardous Materials and Waste

If discharged overboard, non-hazardous wastes can cause smothering of benthic habitats as well as injury or death to marine fauna or seabirds through ingestion or entanglement (e.g., plastics caught around the necks of turtles or ingested by seabirds and fish). For example, the TSSC (2015d) reports that there have been 104 records of cetaceans in Australian waters impacted by plastic debris through entanglement or ingestion since 1998 (humpback whales being the main species).

Marine fauna including cetaceans, turtles and seabirds can be severely injured or die from entanglement in marine debris, causing restricted mobility, starvation, infection, amputation, drowning and smothering (DoEE, 2018). Seabirds entangled in plastic packing straps or other marine debris may lose their ability to move quickly through the water, reducing their ability to catch prey and avoid predators, or they may suffer constricted circulation, leading to asphyxiation and death. In marine mammals and turtles, this debris may lead to infection or the amputation of flippers, tails or flukes (DoEE, 2018). Plastics have been implicated in the deaths of a number of marine species including marine mammals and turtles, due to ingestion.

The following turtles may be at risk from waste at sea:

- Green turtle – foraging BIA is overlapped by the operational area (see Figure 5.26). They generally feed in shallow waters far from the operational area, so their risk of ingesting waste (such as plastics) is low given the distance of shallow waters from the activity area.
- Flatback turtle – inter-nesting BIA is overlapped by the operational area (see Figure 5.27). Their foraging BIA is about 90 km from the operational area, but because adults consume soft-bodied invertebrates, they may be at risk of ingesting plastic wastes floating in the ocean. This risk is low given the distance of the foraging BIA from the operational area.
- Olive ridley turtle – foraging BIA is overlapped by the operational area (see Figure 5.28). Although this species forages primarily at the seabed, they also consume soft-bodied invertebrates and therefore may be at risk of ingesting plastic wastes floating in the ocean. This risk is moderate given the foraging BIA overlaps the operational area.

If dropped objects such as skip bins are not retrievable (e.g., by crane), these items may permanently smother small areas of seabed (tens of square metres), resulting in the loss of benthic habitat. However, as with most subsea infrastructure, the items themselves are likely to become colonised by benthic fauna over time (e.g., sponges and corals) and become a focal area for sea life, so the net environmental impact is likely to be neutral. The benthic habitats in this EMBA are broadly similar to those elsewhere in the region (e.g., extensive sandy seabed, see Section 5.4.1), so impacts to small areas of seabed will not result in the long-term loss of benthic habitat or species diversity or abundance. Seabed substrates can rapidly recover from temporary and localised impacts.

Hazardous Materials and Waste

Hazardous materials and wastes released to the sea cause pollution and contamination, with either direct or indirect effects on marine organisms. For example, chemical or hydrocarbon spills can (depending on the volume released) impact marine life from plankton to pelagic fish communities, causing physiological damage through ingestion or absorption through the skin. Impacts from an accidental release would be limited to the immediate area surrounding the release, prior to the dilution of the chemical with the surrounding seawater. In an open ocean environment such as the JBG, it is expected that any minor release would be rapidly diluted and dispersed, and thus temporary and localised. The absence of particularly sensitive seabed habitats and the widespread nature of the sandy seabed present in the activity area further limits the extent of potential impacts.

Solid hazardous materials, such as paint cans containing paint residue, batteries and so forth, would settle on the seabed if dropped overboard. Over time, this may result in the leaching of hazardous materials to the seabed, which is likely to result in a small area of substrate becoming toxic and unsuitable for colonisation by benthic fauna. The benthic habitats of the activity area are broadly similar to those elsewhere in the region (e.g., extensive sandy seabed), so impacts to very small areas of seabed will not result in the long-term loss of benthic habitat or species diversity or abundance.

All hazardous waste will be safely transported offshore in suitable receptables and disposed of at appropriately licensed facilities, by licenced contractors, so impacts such as illegal dumping or disposal to an unauthorised onshore landfill that is not lined are highly unlikely to result from the activity.

The conservation advice for the humpback whale (TSSC, 2015c) lists entanglement from marine debris as a threat to the species. Marine debris includes plastic garbage such as bags, bottles, ropes, derelict fishing gear and non-biodegradable floating materials list or disposed of at sea. There have been 104 records of cetaceans in Australian waters impacted by plastic debris through entanglement or ingestion since 1998. The vast majority (92.2%) of cetacean incidents relate to entanglement (TSSC, 2015c), and humpback whales dominated the available records, with around 48 entanglement incidents recorded. An assessment of the entanglement management actions against the activity is

provided in Table 8.2. Though the relevant management actions target the commercial fishing industry, the guiding principle of the management action has been applied to the activity.

Table 8.2. Assessment of the relevant management actions of the Approved Conservation Advice for the Humpback Whale

Management Action	Assessment
Reducing commercial fishing entanglement	
Commonwealth and state governments with the pot and set net fishing industries to develop and implement codes of conduct to minimise interactions between commercial fishers and humpback whales.	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with these management actions.
Investigate alternative fishing techniques and technologies to reduce the risk of entanglement.	

TSSC (2015c).

The Threat Abatement Plan for the Impacts of Marine Debris on the Vertebrate Wildlife of Australia's Coasts and Oceans (DoEE, 2018) lists specific management actions and objectives. Given that the activity has the potential (albeit low) to contribute to marine debris, an assessment of the management actions and objectives has been provided in Table 8.3.

Table 8.3. Assessment of the objectives and management actions of the Threat Abatement Plan for the Impacts of Marine Debris on the Vertebrate Wildlife of Australia's Coasts and Oceans

Objective and associated management actions	Assessment
1. *Contribute to long-term prevention of the incidence of marine debris*	
Establish a threat abatement plan (TAP) team to coordinate actions for the life of the TAP.	The activity will not have any impacts on this management action.
Limit the amount of single-use plastic material lost to the environment in Australia.	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with these management actions.
Encourage development of a circular economy in Australia.	The activity will not have any impacts on this management action.
Encourage innovation in recovery and waste treatment technologies.	The activity will not have any impacts on this management action.
Improve management of abandoned, lost and discarded fishing gear.	The activity will not have any impacts on this management action.
Improve shipping waste management.	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with these management actions.
2. *Understand the scale of impacts from marine plastic and microplastic on key species, ecological communities and locations*	

Objective and associated management actions	Assessment
Update the list of marine debris impacted EPBC Act-listed vertebrate species as scientific evidence is published.	The activity will not have any impacts on this management action.
Monitor relevant ecological research to determine if further EPBC Act-listed ecological communities are threatened by marine debris.	The activity will not have any impacts on this management action.
Identify locations where aggregations of debris intersect with the temporal and spatial distribution of EPBC Act-listed species, especially during vulnerable life stages (e.g., whale and turtle migrations).	The activity will not have any impacts on this management action.
Build understanding related to plastic and microplastic pollution.	The activity will not have any impacts on this management action.
Survey marine plastic pollution in the Southern Ocean, sub-Antarctic islands and other high value offshore island environments.	The activity will not have any impacts on this management action.
Determine the relevance of microplastics to the Australian Government's Science and Research Priorities and corresponding Practical Research Challenges.	The activity will not have any impacts on this management action.
3. *Remove existing marine debris*	
Support beach-based clean-up efforts.	The activity will not have any impacts on this management action.
Improve the effectiveness of Australian Government grants in relation to marine debris outcomes.	The activity will not have any impacts on this management action.
Remove derelict fishing gear from Australia's oceans and coasts.	The activity will not have any impacts on this management action.
Develop understanding of the potential for biological breakdown of plastic to prevent it entering the marine environment or aid its removal.	The activity will not have any impacts on this management action.
4. *Monitor the quantities, origins, types and hazardous chemical contaminants of marine debris, and assess the effectiveness of management arrangements for reducing marine debris*	
Continue collection of data in long-term beach surveys.	The activity will not have any impacts on this management action.
Develop a nationally consistent monitoring system for land-based plastic pollution.	The activity will not have any impacts on this management action.
Maintain a national database for long-term marine debris beach survey data and promote standard methods for collecting and ongoing monitoring of beach clean-up debris.	The activity will not have any impacts on this management action.
Assess the effectiveness of Australia's product stewardship and waste management in reducing	The activity will not have any impacts on this management action.

Objective and associated management actions	Assessment
the levels of plastics entering the marine environment.	
Continue to monitor persistent organic pollutant contamination using plastic resin pellets from Australian beaches.	The activity will not have any impacts on this management action.
Regularly assess mean surface plastic loads and associated hazardous chemical contaminants across Australian jurisdictions and territories.	The activity will not have any impacts on this management action.
Enhance collection of data related to ghost net retrievals from Commonwealth waters across northern Australia.	The activity will not have any impacts on this management action.
Improve understanding of the impact and origins of ghost nets.	The activity will not have any impacts on this management action.
5. *Increase public understanding of the causes and impacts of harmful marine debris, including microplastic and hazardous chemical contaminants, to bring about behaviour change*.	
Raise the profile of marine debris impacts on marine vertebrate species, especially EPBC Act-listed threatened species.	The activity will not have any impacts on this management action.
Improve public communication about consumer waste and litter.	The activity will not have any impacts on this management action.

DoE (2018).

Marine debris is identified as a threat to turtles in the Recovery Plan for Marine Turtles 2017-2027 (DoEE, 2017c). As such, an assessment of relevant interim recovery objectives and targets with the activity is provided in Table 8.4.

Table 8.4. Assessment of the relevant interim recovery objectives and targets of the Recovery Plan for Marine Turtles 2017-2027 with the activity

Interim Objective or Target	Assessment
Interim Objective 3: Anthropogenic threats are demonstrably minimised.	
Target 3.1: Robust and adaptive management regimes that lead to a reduction in anthropogenic threats to marine turtles and their habitats are in place	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this recovery target.
Target 3.2: Threat mitigation strategies are supported by high quality information	The activity will not have any impacts on this recovery target.

DoEE (2017c).

Habitat degradation and modification (e.g., through the presence of marine debris following accidental discharge) are a listed threat in the Sawfish and River Sharks Multispecies Recovery Plan (DoE, 2015a). Threatened species addressed in this plan that are relevant to the activity include the largetooth sawfish, green sawfish, dwarf sawfish and the northern river shark. An assessment of the relevant objectives and management actions of the Sawfish and River Sharks Multispecies Recovery Plan (DoE, 2015a) with the activity is provided in Table 8.5.

Table 8.5. Assessment of the relevant recovery objectives and relevant actions of the Sawfish and River Sharks Multispecies Recovery Plan with the activity

Objective or management action	Assessment
Objective 5: Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this objective.
Action 5a. Ensure all future developments will not significantly impact upon sawfish and river shark habitats critical to the survival of the species or impede upon the migration of individual sawfish or river sharks.	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this management action.
Action 5b. Determine the effect of river and estuarine barriers on the movements of sawfish and river sharks and undertake an audit of barriers to establish whether removal or modification is feasible to allow for the riverine migration of sawfish and river sharks.	The activity will not have any impacts on this management action.
Action 5c. Identify risks to important sawfish and river shark habitat and measures needed to reduce those risks.	The activity will not have any impacts on this management action.
Action 5d. Implement measures to reduce adverse impacts of habitat degradation and/or modification	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this management action.
Objective 6: Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species noting the linkages with the Threat Abatement Plan for the Impact of Marine Debris on Vertebrate Marine Life.	The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this objective.
Action 6a. Assess the impacts of marine debris including ghost nets, fishing gear and plastics on sawfish and river shark species.	The activity will not have any impacts on this management action.
Action 6b. Partner with marine debris organisations to support initiatives that reduce marine debris likely to impact on sawfish and river sharks.	The activity will not have any impacts on this management action. The EPS listed in Table 8.6 will reduce the likelihood of accidental discharge of wastes to the ocean to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this management action.

DoE (2015c).

The risk evaluation for the accidental release of waste overboard does not change regardless of whether one, two or three wells are drilled.

8.1.5 Risk Assessment

Table 8.6 presents the risk assessment for the accidental release of hazardous and non-hazardous materials and waste.

Table 8.6. Risk assessment for the accidental release of waste overboard

Summary		
Summary of risk	Marine pollution (litter and a temporary and localised reduction in water quality), injury and entanglement of individual animals (such as seabirds, cetaceans, turtles and sawfish) and smothering or pollution of benthic habitats.	
Extent of risks	Non-buoyant waste may sink to the seabed near where it was lost. Buoyant waste may float long distances with ocean currents and winds.	
Duration of risks	Short-term to long-term, depending on the type of waste and location.	
Level of certainty of risk	HIGH – the effects of inappropriate waste discharges are well known.	
Risk decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	No unplanned release of hazardous or non-hazardous solid waste or materials.	

Risk Assessment (inherent)		
Likelihood	Consequence	Risk rating
Occasional	Minor	Low

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Transfer wastes from the MODU and support vessels to shore-based facilities during the activity.	Eliminate	No	**EB:** Reduces likelihood of accidental waste disposal through transfer to shore-based facilities, noting that there are risks of waste overboard during the transfer process. **C:** High costs for the use of a dedicated vessel to take waste, which also results in additional routine vessel impacts and risks. **Ev:** Cost to implement is grossly disproportionate to the benefit given the low inherent risk rating.
MODU and vessel wastes are managed in accordance with the GMP **(RSK-01: EPS-01, -02, -03, -04).**	Engineering	Yes	**EB:** Reduces the likelihood of waste being discharged to sea, reducing potential impacts to marine fauna and water quality. **C:** Negligible; it is a standard MARPOL requirement. Minor administrative cost to produce documents and educate personnel.

			Ev: Benefits of ensuring responsible waste management outweighs the negligible cost.
Recover accidentally discharged solid wastes or lost equipment (if safe to do so) **(RSK-01: EPS-05)**	Administrative	Yes	**EB:** Removes debris from the environment, thereby reducing impacts to marine fauna and water quality. **C:** Medium to high costs dependent on the duration of down-time to retrieve materials. **Ev:** Environmental benefit of recovering marine debris outweighs the costs.
Handling and storage procedures **(RSK-01: EPS-06, -12, -13, -14, -15).**	Administrative	Yes	**EB:** Reduces the likelihood that materials will be accidentally lost overboard. **C:** Negligible; it is a standard maritime requirement. Minor administrative cost to produce documents and educate personnel. **Ev:** Environmental benefit outweighs the negligible costs.
Dropped object prevention procedure **(RSK-01: EPS-07, -09, -10, -11).**	Engineering	Yes	**EB:** Reduces the likelihood that materials will be accidentally lost overboard and impacts on marine fauna and water quality. **C:** Negligible; it is a standard maritime requirement. Minor administrative cost to produce documents and roll out to personnel. **Ev:** Environmental benefit outweighs the negligible costs.
PMS **(RSK-01: EPS-08)**	Engineering	Yes	**EB:** The maintenance of lifting equipment minimises the likelihood of dropped objects. **C:** Negligible; it is a standard maritime requirement. Minor administrative costs associated with maintaining the PMS. **Ev:** Environmental benefit outweighs the negligible costs.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
No unplanned release of hazardous or non-hazardous solid wastes or materials.	**(RSK-01: EPS-01)** A MARPOL Annex V-compliant GMP is in place for the vessel (if >100 gross tonnes or certified to carry 15 persons or more) that sets out the procedures for minimising, collecting, storing, processing and discharging garbage.	A GMP is in place, readily available on board and kept current.
	(RSK-01: EPS-02) Waste is stored, handled and disposed of in accordance with the GMP. This includes measures including:	GMP is available and current.
		Inspections verify that waste is stored and handled according to its waste classification.

	• No discharge of general operational or maintenance wastes or plastics or plastic products of any kind. • Waste containers are covered with secure lids to prevent solid wastes from blowing overboard. • All solid wastes are stored in designated areas before being sent ashore for recycling, disposal or treatment. • Any liquid waste storage on deck must have at least one barrier to minimise the risk of spills to deck entering the ocean. This can include containment lips on deck (primary bunding) and/or secondary containment measures (bunding, containment pallet, transport packs, absorbent pad barriers) in place. • Correct segregation of solid and hazardous wastes.	Inspections verify that waste receptacles are properly located, sized, labelled, covered and secured for the waste they hold. A licensed shore-based waste contract is in place for the management of onshore waste transport and disposal.
	(RSK-01: EPS-03) MODU and vessel crews and visitors are inducted into waste management procedures to ensure they understand how to implement the GMP.	Induction and attendance records verify that all crew members are inducted.
	(RSK-01: EPS-04) Waste types and volumes are tracked and logged.	Waste manifest is available and current.
	(RSK-01: EPS-05) Solid waste that is accidentally discharged overboard is recovered if reasonably practicable.	Incident records are available to verify that credible and realistic attempts to retrieve the materials lost overboard were made.
	(RSK-01: EPS-06) A chemical locker is available, bunded and used for the storage of all greases and non-bulk chemicals (i.e., those not in tote tanks) so as to prevent discharge overboard.	Site inspection verifies that greases and chemicals are stored in a chemical locker.
Avoid objects being dropped overboard	**(RSK-01: EPS-07)** Large bulky items are securely fastened to or stored on the deck to prevent loss to sea.	A completed pre-departure inspection checklist verifies that bulky goods are securely sea-fastened.
	(RSK-01: EPS-08) The MODU and vessel PMS are implemented to ensure that lifting equipment remains in certification and fit for use at all times to minimise the risk of dropped objects.	PMS records verify that lifting equipment is maintained to schedule and in accordance with Original Equipment Manufacturer (OEM) requirements.
	(RSK-01: EPS-09) The crane handling and transfer procedure is in place and implemented by crane operators (and others, such as dogmen) to prevent dropped objects.	Completed handling and transfer procedure checklist, permit to work (PTW) and/or risk assessments verify that the procedure is implemented prior to each transfer.

	(RSK-01: EPS-10) Crane operators are trained to be competent in the handling and transfer procedure to prevent dropped objects.	Training records verify that crane operators are trained in the loading and unloading procedure.
	(RSK-01: EPS-11) Visual inspection of lifting gear is undertaken every quarter by a qualified competent person (e.g., maritime officer) and lifting gear is tested regularly in line with the MODU and vessel PMS.	Inspection of PMS records and Lifting Register verifies that inspections and testing have been conducted to schedule.
Chemicals and hydrocarbons are stored and transferred in a manner that prevents bulk release.	**(RSK-01: EPS-12)** All hydrocarbons and chemicals are stored within secure receptacles within bunded areas or dedicated chemical lockers that drain to bilge tanks.	Visual inspection verifies that hydrocarbons and chemicals are stored within secure receptacles within bunded areas or dedicated chemical lockers that drain to bilge tanks.
	(RSK-01: EPS-13) MODU and vessel PMS is implemented to ensure the integrity of chemical and hydrocarbon storage areas and transfer systems are maintained in good order.	Vessel PMS records verify that chemical and hydrocarbon storage areas and transfer systems (e.g., bunds, tanks, pumps and hydraulic hoses) are maintained to schedule and in accordance with OEM requirements.
	(RSK-01: EPS-14) Where hydrocarbons and chemicals are stored within open draining decks, receptacles are stored on/in temporary bunds.	Visual inspection verifies that where hydrocarbons and chemicals are stored within open draining decks, receptacles are stored on/in temporary bunds.
	(RSK-01: EPS-15) Crane transfers of bulk chemicals and hydrocarbons are undertaken in accordance with the vessel contractor lifting and loading procedure, or equivalent, and under a PTW.	PTW records verify that crane transfers of bulk chemicals and hydrocarbons are undertaken in accordance with the procedure.

Risk Assessment (residual)		
Likelihood	Consequence	Risk rating
Rare	Minor	Negligible

The risk of accidental discharge of waste to the ocean is assessed as negligible because:

- Volumes of waste generated will be small due to the nature of the activity; and
- Implementation of the control measures reduces the likelihood to accidental discharge of waste to the ocean to ALARP.

Demonstration of ALARP

A ‘negligible’ residual risk rating is considered to be ALARP and a ‘lower order’ risk. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.

Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met.	
EMS compliance	Chapter 10 outlines the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual risk is negligible, which is considered acceptable.	
External context	No objections or claims have been raised by relevant persons regarding accidental release of wastes to the ocean for this activity.	

Legislative context	The EPS align with the requirements of:
	• *Navigation Act* 2012 (Cth):
	  ○ Chapter 4 (Prevention of Pollution).
	  ○ Marine Orders Part 94 (Marine pollution prevention – packaged harmful substances).
	  ○ Marine Orders Part 95 (Marine pollution prevention – garbage).
	• *Protection of the Sea (Prevention of Pollution from Ships) Act* 1983 (Cth):
	  ○ Part III (Prevention of pollution by noxious substances).
	  ○ Part IIIA (Prevention of pollution by packaged harmful substances).
	  ○ Part IIIC (Prevention of pollution by garbage).	

Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this activity are in line with the management measures listed for hazardous waste and non-hazardous waste discharges in Sections 4.6.2 and 4.6.3 of the guidelines, which include: • Segregating hazardous and non-hazardous wastes prior to disposal **(RSK-01: EPS-01)**. • Managing hazardous waste in accordance with their SDS and tracking it to final destination. • Not deliberately discharging waste overboard.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	The EPS listed in this table meet these guidelines for offshore activities with regard to: • Risk management for handling and storage of chemicals (item 19). The BAT are met for the activity with regard to implementing chemical transfer procedures and ensuring chemicals are stored in separate, labelled containers (**RSK-01: EPS-12, -14, -15**).
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	The EPS developed for this activity meet the following requirements. • Section 2.3.6.2 (management of waste) of the guideline states that regulatory requirements should be identified, waste tracking methods be developed and that waste minimisation opportunities should be identified.

		• Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • Waste management (items 46). Materials should be segregated offshore and shipped to shore for reuse, recycling or disposal. A waste management plan should be developed and contain a mechanism allowing waste consignments to be tracked **(RSK-01: EPS-01)**. • Hazardous materials management (item 72). Principles relate to the selection of chemicals with the lowest environmental and health risks.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling activities: • To reduce the risk of any unplanned release of material into the marine environment to ALARP and to an acceptable level **(All EPS for RSK-01)**.
	Waste management-specific	
	Guidelines for the Development of GMPs (IMO, 2012)	The MODU and vessels' GMPs are developed in accordance with these guidelines **(RSK-01: EPS-01)**.
	International Dangerous Goods Maritime Code (IMO, 2014)	The storage and handling of dangerous goods on the vessels is managed in accordance with this code **(RSK-01: EPS-02, -06, -12, -14)**.
Environmental context	MNES	
	AMPs	The unplanned discharge of solid or hazardous waste is highly unlikely to intersect nearby AMPs. The North Marine Parks Network Management Plan 2018 (DNP, 2018a) identifies marine debris as a threat to the AMP network. The EPS listed in this table aim to minimise the generation of marine debris and potential for accidental discharge and are aligned with the strategies outlined in the plan.
	Ramsar wetlands	The unplanned discharge of solid or hazardous waste is highly unlikely to reach Ramsar wetlands.
	TECs	The unplanned discharge of solid or hazardous waste is highly unlikely to reach any TECs.
	Nationally threatened and migratory species	The unplanned discharge of solid or hazardous waste is highly unlikely to have any impacts on threated or migratory species.

	Other matters	
	KEFs	The unplanned discharge of solid or hazardous waste will not affect any KEFs.
	NIWs	The unplanned discharge of solid or hazardous waste is highly unlikely to reach any NIWs.
	State marine parks	The unplanned discharge of solid or hazardous waste is highly unlikely to reach any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	Assessments of the activity against the following species have been undertaken and presented earlier, and the control measures adopted ensure the activity will be conducted in a manner that is not inconsistent with each plan: • The conservation advice for humpback whales (TSSC, 2015b) - Table 8.2. • Threat Abatement Plan for the Impacts of Marine Debris on Vertebrate Wildlife of Australia's coasts and oceans (DoEE, 2018) - Table 8.3. • Recovery Plan for Marine Turtles 2017-2017 (DoEE, 2017c) - Table 8.4. • The Sawfish and River Shark Multispecies Recovery Plan (DoE, 2015c) - Table 8.5.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the risk of accidental discharge of waste to the ocean to be acceptable because: • It will adhere to the company's Safety & Environmental Policy; • The residual risk rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Input from engagement with relevant persons has been considered and incorporated into the design of the activity; • Relevant legislation and industry best practice will be complied with; • Accidentally discharged wastes will not have long-term or significant impacts on MNES; • The management of wastes is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of wastes is not inconsistent with the aims of relevant marine reserve management plans; and • The management of wastes is not inconsistent with ESD principles.	
Environmental Monitoring		
• Waste tracking.		

Record Keeping	
• Contractor pre-qualification reports. • GMPs. • Garbage Record Books. • Crew induction and attendance records.	• Inspection records/checklists. • Shore-based waste contract. • Incident reports.

8.2 RISK 2 – Vessel Collision with Megafauna

8.2.1 Hazard

The movement of the drilling support vessels throughout the operational area on a 24-hr basis for the duration of the activity has the potential to result in collision with megafauna, this being marine mammals (whales, dolphins, dugong), whale sharks and turtles.

The MODU legs will not present a strike hazard to megafauna as they are stationary and readily detected and avoided by megafauna. In petroleum production provinces around Australia, marine mammals such as whales, dolphins and seals swim around platform jackets without any apparent risk of injury.

8.2.2 Potential Environmental Risks

The risks of vessel strike with megafauna are:

- Injury; and
- Death.

8.2.3 EMBA

The EMBA for vessel strike with megafauna is the immediate area around the support vessel.

8.2.4 Evaluation of Environmental Risks

Cetaceans

Cetaceans are naturally inquisitive marine mammals that are often attracted to offshore vessels, and dolphins commonly 'bow ride' with offshore vessels. The reaction of whales to the approach of a vessel is quite variable. Some species remain motionless when in the vicinity of a vessel while others are known to be curious and often approach ships that have stopped or are slow moving, although they generally do not approach, and sometimes avoid, faster moving ships (Richardson et al., 1995).

Peel et al (2016) reviewed vessel strike data (2000-2015) for marine species in Australian waters and identified the following:

- Whales including the humpback, pygmy blue, fin, Bryde's, pygmy, sperm, and pygmy sperm were identified as having interacted with vessels. The humpback whale exhibited the highest incidence of interaction. A number of these species may migrate through the waters of the activity area (see Section 5.4.5).
- Dolphins including the Australian humpback, common bottlenose and Risso's dolphin species were also identified as interacting with vessels. The common bottlenose dolphin exhibited the highest incidence of interaction. A number of these species may reside in or pass through the waters of the activity area (see Section 5.4.5).
- All turtle species present in Australian waters are identified as interacting with vessels. The green and loggerhead species exhibited the highest incident of interaction. The presence of turtles in the activity area and EMBA is considered likely (see Section 5.4.6).

Collisions between vessels and cetaceans occur more frequently where high vessel traffic and cetacean habitat coincide (WDCS, 2006). There have been recorded instances of cetacean deaths in Australian waters (e.g., a Bryde's whale in Bass Strait in 1992), though the data indicates this is more likely to be associated with container ships and fast ferries (WDCS, 2006). Some cetacean species, such as humpback whales, can detect and change course to avoid a vessel (WDCS, 2006). The Australian National Marine Safety Committee (NMSC) reports that during 2009, there was one Report of a vessel collision with an animal (species not defined) (NMSC, 2010).

The DoE (2015b) reports that there were two blue whale strandings in the Bonney Upwelling (western Victoria) with suspected ship strike injuries visible. When the vessels are stationary or slow moving, the risk of collision with cetaceans is extremely low, as the vessel sizes and underwater noise 'footprint' will alert cetaceans to its presence and thus elicit avoidance. Laist et al (2001) identifies that larger vessels moving in excess of 10 knots may cause fatal or severe injuries to cetaceans with the most severe injuries caused by vessels travelling faster than 14 knots. When the support vessels are operating within the operational area, they will be travelling very slowly or will be stationery, so the risk associated with fast moving vessels is eliminated for this activity.

The Conservation Management Plan for the Blue Whale (DoE, 2015b) lists 'vessel disturbance in the form of collisions' to be a threat that may inhibit the recovery of the species. An assessment of the relevant management actions listed in the Conservation Management Plan against the activity is provided in Table 8.7.

Table 8.7. Assessment of relevant management actions of the Conservation Management Plan for the Blue Whale with the activity

Management Action	Assessment
Relevant Interim Recovery Objectives	
4. Anthropogenic threats are demonstrably minimised.	Vessel disturbance in the form of collision is a threat to blue whales. The EPS listed in Table 8.13 will reduce the likelihood of vessel strike with blue whales to ALARP. Therefore, the activity will be managed in a manner that is not inconsistent with this interim recovery objective.
Relevant Interim Recovery Objective Targets	
Target 4.1: robust and adaptive management regimes leading to a reduction in anthropogenic threats to Australian blue whales are in place.	The EPS listed in Table 8.13 represent a robust and adaptive management regime for the activity with regard to blue whales. This results in a significant reduction in anthropogenic threats generated by the activity on blue whales. Therefore, the activity will be managed in a manner that is not inconsistent with this interim objective target.
Target 4.2: management decisions are supported by high quality information and high priority research projects identified in this plan are achieved or underway.	The information presented throughout this section and the subsequent EIA presented in Table 8.13 is based on high quality information, scientific literature and research projects. This in turn has informed the management decisions relevant to the activity. Therefore, the activity will be managed in a manner that is not inconsistent with this interim objective target.
Relevant Action Areas	
A.4. Minimising vessel collisions	The control measures adopted and associated EPS listed in Table 8.13 will reduce the likelihood of vessel strike with blue whales to ALARP. With control measures implemented, the

Management Action	Assessment
	activity will be managed in a manner that is not inconsistent with this management action.
Relevant Actions	
2. Ensure all vessel strike incidents are reported in the National Ship Strike Database.	Reporting of vessel strike incidents has been adopted for this activity and an appropriate EPS developed in Table 8.13. Therefore, the activity will be consistent with this action.
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.	This section of the EP provides an assessment of vessel strike risk and EPS have been adopted for the activity in Table 8.13. Therefore, the activity will be consistent with this action.

DoE (2015b).

The Approved Conservation Advices for the Sei Whale (TSSC, 2015b) and the Fin Whale (TSSC, 2015c) list vessel strike as a threat with a minor consequence rating. An assessment of the listed management actions with the activity is provided in Table 8.8.

Table 8.8. Assessment of relevant management actions of the Approved Conservation Advice for the Sei Whale and Fin Whale with the activity

Management Action	Assessment
Ensure all vessel strike incidents are reported in the National Vessel Strike Database.	Reporting of vessel strike incidents has been adopted as a control measure for this activity and an appropriate EPS developed in Table 8.13. Therefore, the activity will be consistent with this action.

TSSC (2015b;c).

The Approved Conservation Advice for the Humpback Whale (TSSC, 2015a) lists vessel strike as a threat to the species. An assessment of the listed management actions with the activity is provided in Table 8.9.

Table 8.9. Assessment of relevant management actions of the Approved Conservation Advice for the Humpback Whale with the activity

Management Action	Assessment
Maximise the likelihood that all vessel strike incidents are reported in the National Ship Strike Database. All cetaceans are protected in Commonwealth waters and, the EPBC Act requires that all collisions with whales in Commonwealth waters are reported. Vessel collisions can be submitted to the National Ship Strike Database at https://data.marinemammals.gov.au/report/shipstrike	Reporting of vessel strike incidents has been adopted for this activity as a control measure with an appropriate EPS developed in Table 8.13. Therefore, the activity will be consistent with this action.
Ensure the risk of vessel strike on humpback whales is considered when assessing actions that increase vessel traffic in areas where humpback whales occur and, if required appropriate mitigation measures are implemented to reduce the risk of vessel strike.	This section of the EP provides an assessment of vessel strike risk and EPS have been adopted for the activity in Table 8.13. Therefore, the activity will be consistent with this action.

TSSC (2015a).

There is a CMP in place for the southern right whale, but given it is unlikely to occur in the activity area, an assessment of the activity against this plan is not presented.

Table 8.10 provides an assessment of the objectives and relevant management actions of the National Strategy for Reducing Vessel Strike on Cetaceans and Other Marine Megafauna (DoEE, 2017a) with the activity.

Table 8.10. Assessment of the objectives and relevant management actions of the National Strategy for Reducing Vessel Strike on Cetaceans and Other Marine Megafauna with the activity

Relevant Objectives and Management Actions	Assessment
Relevant objectives	
Reduce the likelihood and severity of megafauna vessel collision.	The adopted EPS listed in Table 8.12 are aligned with best-practice mitigation measures, which will reduce the likelihood of vessel strike with megafauna to ALARP. Therefore, the activity will be consistent with this objective.
Identify and adopt best-practice mitigation measures and emerging technologies, and encourage the development of new mitigation measures.	
Management actions	
Develop a mitigation measures toolkit that provides guidance to stakeholders and managers on what measures are most suited to specific locations, species and vessel types.	The adopted EPS listed in Table 8.12 will reduce the likelihood of vessel strike with cetaceans to ALARP. Therefore, the activity will be consistent with these actions.
Develop and implement vessel strike management plans which identify appropriate mitigation measures in locations where the relative risk of vessel strike is higher, as determined by a risk assessment.	
Adaptive management principles, including the use of regular reviews are used during the implementation of mitigation measures.	

DoEE (2017a).

Turtles

The operational EMBA overlaps the following turtle BIAs (Figure 7.2):

- Green turtle – foraging;
- Flatback turtle – inter-nesting; and
- Olive Ridley turtle – foraging.

When these turtles are migrating through or foraging in the operational area, they may be at risk of colliding with support vessels when they surface to breathe and rest. However, only a small portion of their time is spent at the surface, as they typically spend more than 90% of their time underwater (Lutcavage and Lutz, 1997; Hochscheid *et al*., 2010).

The Recovery Plan for Marine Turtles in Australia lists vessel strike as a threat to marine turtles (DoEE, 2017c). Table 8.11 presents an assessment of the relevant objectives and targets of the Recovery Plan for Marine Turtles in Australia with the activity.

Table 8.11. Assessment of the relevant interim recovery objectives and targets of the Recovery Plan for Marine Turtles 2017-2027 with the activity

Interim Objective or Target	Assessment
Interim Objective 3: Anthropogenic threats are demonstrably minimised.	
Target 3.1: Robust and adaptive management regimes that lead to a reduction in anthropogenic threats to marine turtles and their habitats are in place	The EPS listed in Table 8.12 will reduce the likelihood of vessel strike with cetaceans to ALARP and ensure the activity is conducted in a manner that is not inconsistent with this recovery target.
Target 3.2: Threat mitigation strategies are supported by high quality information	The activity will not have any impacts on this recovery target.

DoEE (2017c).

Whale sharks

The whale shark may occur in the operational area and are known to seasonally aggregate in shallow tropical waters off the North West Cape in WA in March and April (DCCEEW, 2024b). Given there is little spatial overlap between this species' known migration routes, and it's unlikely to be a temporal overlap with the drilling window, vessel collisions with whale sharks and the support vessels has a low risk of occurring.

Nevertheless, whale sharks do spend considerable time close to the surface. Whale sharks tagged off the WA coast (Wilson *et al*., 2006; Gleiss *et al*., 2013) spent approximately 25% of their time less than 2 m from the sea surface, which increases their vulnerability to vessel strike (DoEE, 2017b).

The Approved Conservation Advice (TSSC, 2015d) notes that the threat to the recovery of the species includes strikes from vessels.

Table 8.12. Assessment of the relevant conservation actions of the Conservation Advice for whale sharks with the activity

Interim Objective or Target	Assessment
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 WA coastline along the 200 m isobath.	The activity is 300 km from the whale shark BIA, 1,700 km from known aggregation areas (Ningaloo Reef) and 450 km south of the 200 m isobath. The EPS listed in Table 8.13 will reduce the likelihood of vessel strike with whale sharks to ALARP.
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.	The EIA presented in Chapter 7 of the EP indicates the emissions and discharges associated with this activity will have a negligible impact on marine fauna.
Conduct further research into the impacts of boat strike on whale sharks to determine the significance of the threat. Consider possible mitigation actions (collision avoidance systems) if required.	The activity will have no impacts on this research priority

TSSC (2015).

Despite the support vessels being within the activity area for a longer period of time if all three wells are drilled, the risk evaluation for vessel collision with megafauna does not change.

8.2.5 Risk Assessment

Table 8.13 presents the risk assessment for vessel collision or entanglement with megafauna.

Table 8.13. Risk assessment for vessel collision with megafauna

Summary		
Summary of risks	Injury or death of megafauna.	
Extent of risks	Localised – limited to individuals coming into contact with a support vessel.	
Duration of risks	Temporary (if individual animal dies or has a minor injury) to long-term (if there is a serious injury).	
Level of certainty of risk	HIGH – injury may result in the reduced ability to swim and forage. Serious injury may result in death.	
Risk decision framework context	Decision type	A – good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	No collision with megafauna.	

Risk Assessment (inherent)		
Likelihood	Consequence	Risk rating
Occasional	Minor	Low

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Eliminate the use of support vessels.	Eliminate	No	**EB:** Eliminates the potential collision hazard. **C:** The activity could not proceed. **Ev:** The use of support vessels is the only way in which the activity can proceed. The cost of not using them is the cost of not fulfilling exploration obligations associated with the exploration permit and potential future lost hydrocarbon production.
No night-time/low visibility operations.	Eliminate	No	**EB:** Reduces the likelihood of collision with megafauna. **C:** Doubles the length of time required to complete the activity and subsequent costs, resulting in increased impacts and risks in other areas such as routine discharges, greater collision risk due to additional time spent on-water, etc).

			Ev: Cost outweighs the environmental benefit given the low residual risk to marine megafauna populations.
Restrict support vessel speed to no greater than 6 knots in the activity area.	Administrative	No	**EB:** Reduces the risk of collision with megafauna. **C:** In the event of an emergency, the support vessels may need to travel at speeds >6 knots. There may be a human health or safety cost of not being able to do so. **Ev:** Preventing vessels from travelling at speed in the event of an emergency is not commensurate with the negligible risk rating for this hazard.
Dedicated marine fauna observer (MFO) onboard the support vessels.	Administrative	No	**EB:** Improves the ability to spot megafauna by allowing vessel Masters to focus on navigation duties, thereby reducing the risk of collision. **C:** Tens of thousands of dollars over the duration of the drilling program, increasing if sourcing MFOs and/or logistics issues means that MFOs cannot be sourced in time for the scheduled start date. **Ev:** The cost of dedicated MFOs on the support vessels is grossly disproportionate to the negligible residual risk associated with this hazard and in light of the low likelihood of high numbers of megafauna in the operational area.
Australian National Guidelines for Whale and Dolphin Watching (2017) (giving effect to the 'interacting with cetaceans and whale watching' in EPBC Regulations Part 8) **(RSK-02: EPS-01).**	Administrative	Yes	**EB:** Observation for megafauna reduces likelihood for potential collision or entanglement through directing the Vessel Master to slow down or move away to avoid megafauna. **C:** No additional cost for vessel crew to implement this control measure. **Ev:** Environmental benefits outweigh the costs.
Environmental induction **(RSK-02: EPS-02).**	Administrative	Yes	**EB:** Ensures vessel personnel are aware of obligations, which in turn reduces the risk of interactions with megafauna. **C:** Negligible; it is a standard on-water requirement. Minor administrative cost to prepare induction and present to crew. **E:** Environmental benefit outweighs cost.
Notification and reporting of collisions with megafauna **(RSK-02: EPS-03, -04).**	Administrative	Yes	**EB:** Reduces risk of physical impacts to cetaceans from the activity vessels. **C:** No additional costs. **Ev:** Environmental benefit can be achieved without costs.
Environmental Controls and Performance Measurement			
EPO	EPS		Measurement criteria

No collision with megafauna.	**(RSK-02: EPS-01)** Through constant bridge watch, vessels comply with the *Australian National Guidelines for Whale and Dolphin Watching for Vessels* (DoEE, 2017b) when working within the activity area. This means: • Caution zone (300 m either side of whales and 150 m either side of dolphins) – vessels must operate at no wake speed in this zone. • No approach zone (100 m either side of whales and 50 m either side of dolphins) – vessels should not enter this zone and should not wait in front of the direction of travel or an animal or pod/group. • Do not encourage bow riding. • If animals are bow riding, do not change course or speed suddenly. • If there is a need to stop, reduce speed gradually. • Recording all interactions.	Daily operations reports note marine megafauna interactions.
	(RSK-03: EPS-02) Vessel crew has completed an environmental induction covering the above-listed requirements for vessel and megafauna interactions.	Induction and attendance records verify that all crews have completed an environmental induction.
Vessel strike is reported to regulatory authorities.	**(RSK-02: EPS-03)** Vessel strike causing injury to or death of a cetacean is reported to the DCCEEW via the online National Ship Strike Database (https://data.marinemammals.gov.au/report/shipstrike) within 72 hours of the incident.	Electronic record of report submittal is available. Incident report is available within the OMS.
	(RSK-02: EPS-04) Injured megafauna is reported to the Wildcare Helpline on (08) 9474 9055 (for cetaceans travelling west or south towards WA) or the Marine Wild Watch Hotline on 1800 453 941 (for cetaceans travelling east towards the NT) as soon as possible. No attempts to disentangle megafauna should be made by vessel crew.	Incident report verifies contact was made with the Wildcare Helpline or Marine Wild Watch Hotline.

Risk Assessment (residual)		
Likelihood	Consequence	Risk rating
Rare	Minor	Negligible

The risk of vessel strike with megafauna is assessed as negligible because:

- The activity is temporary in nature;
- The movement of the drilling support vessels throughout the operational area on a 24-hr basis and
- Implementation of the EPS will reduce the likelihood of vessel collision or entanglement with megafauna to ALARP.

Demonstration of ALARP

A ‘negligible’ residual risk rating is considered to be ALARP and a ‘lower order’ risk. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures

either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.		
Demonstration of Acceptability		
Policy compliance	EOG's Safety & Environmental Policy objectives are met.	
EMS compliance	Chapter 10 outlines the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual risk is negligible, which is considered acceptable.	
External context	No objections or claims have been raised by relevant persons regarding vessel strike with megafauna for this activity.	

Legislative context	The EPS align with the requirements of:
	• *EPBC Act* 1999 (Cth):
	  ○ Section 199 (failing to notify taking of listed species or listed ecological community).
	• EPBC Regulations 2000 (Cth):
	  ○ Part 8 (Interacting with cetaceans and whale watching).
	  ○ AMSA Marine Notice 2016/15 – Minimising the risk of collisions with cetaceans.	

Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented for this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this activity are in line with the management measures listed for collision with marine fauna in Section 4.7.5 of the guidelines: • Monitoring for the presence and movement of large cetaceans and pinnipeds so that avoidance can be taken when marine fauna is observed to be on a collision course with vessels **(RSK-02: EPS-01)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There are no guidelines for offshore activities with regard to minimising the risk of collisions with megafauna.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	There is no specific guidance regarding minimising the risk of megafauna collisions. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	There are no guidelines regarding minimising the risk of vessel strike or entanglement with megafauna.

	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the risks to the abundance, diversity, geographical spread and productivity of marine species to ALARP and to an acceptable level (all **RSK-02 EPS**).
	Megafauna collision-specific	
	The Australian Guidelines for Whale and Dolphin Watching (DoEE, 2017b)	The EPS listed in this table are aligned with the requirements of these guidelines **(RSK-02: EPS-01).**
	National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (DoEE, 2017a).	The EPS listed in this table are aligned with objective 3 of this strategy, which is to reduce the likelihood and severity of megafauna vessel collisions **(RSK-02: EPS-01)**.
Environmental context	MNES	
	AMPs	The risk of collisions with megafauna will not have any effect on nearby AMPs.
	Ramsar wetlands	The risk of collisions with megafauna will not have any effect on Ramsar wetlands.
	TECs	The risk of collisions with megafauna will not have any effect on TECs.
	Nationally threatened and migratory species	The low speed or stationary nature of the support vessels, along with the temporary nature of the activity, makes it unlikely that vessel strike with megafauna will occur. This section provides an assessment of the relevant management actions of the: • Conservation Management Plan for the Blue Whale (DoE, 2015b); • Approved Conservation Advice for the Sei Whale (TSSC, 2015b); • Approved Conservation Advice for the Fin Whale (TSSC, 2015c); • Conservation advice for the humpback whale (TSSC, 2015a); • Recovery Plan for Marine Turtles in Australia, DoEE, 2017c); and • National Strategy for Reducing Vessel Strike on Cetaceans and Other Marine Megafauna (DoEE, 2017a). The EPS adopted for the activity will reduce the likelihood of vessel collision or entanglement to ALARP, thereby enabling the activity to be conducted in a manner that is not inconsistent with these plans.
	Other matters	

	KEFs	The risk of collisions with megafauna will not have any effect on KEFs.
	NIWs	The risk of collisions with megafauna will not have any effect on NIWs.
	State marine parks	The risk of collisions with megafauna will not have any effect on state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	Vessel collisions are listed as a threat to cetaceans in the: • Conservation Management Plan for the Blue Whale (DoE, 2015b); • Conservation advice for the sei whale (TSSC, 2015b); • Conservation advice for the fin whale (TSSC, 2015c); and • Conservation advice for the humpback whale (TSSC, 2015a). The EPS listed in this table aim to minimise the risk of vessel strike with megafauna. This section provides an assessment of the activity against the management actions relevant to vessel strike and demonstrate that the activity will be managed in a manner such that it is not inconsistent with the relevant management actions of these plans.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Defined acceptable level	EOG considers the risks of collision and entanglement with megafauna to be acceptable because: • It will adhere to the company's Safety & Environmental Policy; • The residual risk rating is negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Input from engagement with relevant persons has been considered and incorporated into the design of the activity; • Relevant legislation and industry best practice will be complied with; • Collisions with megafauna will not have long-term or significant impacts on MNES; • Control measures in place to prevent collisions with megafauna are not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • Control measures in place to prevent collisions with megafauna are not inconsistent with the aims of relevant marine reserve management plans; and • The control measures are not inconsistent with ESD principles.	
Environmental Monitoring		
• Constant bridge watch on support vessels.		
Record Keeping		

- Vessel crew induction presentation and attendance records.
- Megafauna sighting records.
- Incident reports.

8.3 RISK 3 – Introduction and Establishment of Invasive Marine Species

8.3.1 Hazard

The DAWR (2018) defines marine pests (referred to in this EP as invasive marine species, IMS) as:

- Non-native marine plants or animals that harm Australia's marine environment, social amenity or industries that use the marine environment, or have the potential to do so if they were to be introduced, established (that is, forming self-sustaining populations) or spread in Australia's marine environment.

The following activities have the potential to result in the introduction of IMS in the activity area:

- Discharge of ballast water from the support vessels and MODU hull containing foreign species; and
- Translocation of foreign species through biofouling on support vessel hulls and niches (e.g., thruster tunnels, sea chests) and the MODU hull and legs.

Biofouling is the accumulation of aquatic microorganisms, algae, plants and animals on vessel hulls and submerged surfaces. More than 250 non-indigenous marine species have established in Australian waters, with research indicating that biofouling has been responsible for more foreign marine introductions than ballast water (DAWR, 2018).

Ballast water is estimated to be responsible for 30% of all marine pest incursions into Australian waters (DAWR, 2018). The DAWR declares that all saltwater from ports or coastal waters outside Australia's territorial seas presents a high risk of introducing foreign marine pests into Australia (AQIS, 2011), while DAWR (2018) notes that the movement of vessels and marine infrastructure is the primary pathway for the introduction of IMS.

The MODU

As a jack-up, the key IMS risks from the MODU come from the legs, as they are immersed in the water column for long periods, along with the spud cans that are immersed in seabed sediments. Ballast water is taken up from the jack-up MODU in the hull when it leaves a location (to assist with ballasting during the tow) and then discharged when it reaches a location.

The IMS risk for jack-up MODUs is lower when compared to semi-submersible MODUs because the legs are raised out of the water when towed between drilling locations, meaning that any biofouling generally dehydrates and dies (and may dislodge) between locations and is therefore less likely to survive in a new location once the MODU is jacked down.

Support Vessels

Support vessels ballast and de-ballast to improve stability, even out vessel stresses and adjust vessel draft, list and trim, with regard to the weight of equipment on board at any one time.

8.3.2 Potential Environmental Risks

The risks of IMS introduction (assuming their survival, colonisation and spread) include:

- Reduction in native marine species diversity and abundance;
- Displacement of native marine species;

- Depletion of commercial fish stocks (and associated socio-economic effects); and
- Changes to conservation values of protected areas.

8.3.3 EMBA

The EMBA for IMS introduction is anywhere within the operational area (wherever vessel movements occur), though if IMS survive the introduction and go on to colonise and spread, this EMBA could extend to the activity area or other parts of the JBG.

Receptors most at risk within this EMBA, either as residents or migrants, are:

- Benthic fauna (because of their limited ability to move to other suitable areas);
- Benthic habitat; and
- Pelagic fish.

8.3.4 Evaluation of Environmental Risks

Successful IMS invasion requires the following three steps:

1. Colonisation and establishment of the marine pest on a vector (e.g., vessel hull) in a donor region (e.g., home port).
2. Survival of the settled marine species on the vector during the voyage from the donor to the recipient region (e.g., operational area).
3. Colonisation (e.g., dislodgement or reproduction) of the marine species in the recipient region, followed by successful establishment of a viable new local population.

If successful invasion takes place, the IMS is likely to have little or no natural competition or predation, thus potentially outcompeting native species for food or space, preying on native species or changing the nature of the environment. It is estimated that approximately one in six introduced marine species becomes pests (AMSA, n.d). Because the eradication of IMS populations is innately extremely difficult, it is necessary that preventing their introduction (or failing this, early detection) is the key to managing this risk.

Marine pest species can also deplete fishing grounds and aquaculture stock, with between 10% and 40% of Australia's fishing industry being potentially vulnerable to marine pest incursion (AMSA, n.d). For example, the introduction of the Northern Pacific seastar (*Asterias amurensis*) in Victorian and Tasmanian waters was linked to a decline in scallop fisheries. Similarly, the ability of the New Zealand screw shell (*Maoricolpus roseus*) to reach densities of thousands of shells per square metre has presented problems for commercial scallop fishers (MESA, 2022). The ABC (2000) reported that the New Zealand screw shell is likely to displace similar related species of screw shells, several of which occupy the same depth range and sediment profile.

Marine pests can also damage marine and industrial infrastructure, such as encrusting jetties and marinas or blocking industrial water intake pipes. By building up on vessel hulls, they can slow the vessels down and increase fuel consumption.

Activity-specific risk assessment

The Interactive Map for Marine Pests in Australia (DAFF, 2021) does not identify any known pests within the Port of Darwin. Given that this is the largest port in the region and the most likely port of call for the support vessels, the likelihood of IMS introduction from this port is therefore low.

The jack-up MODU(s) to be used for drilling is likely to be operating in northern Australian waters ahead of each of the multi-well drilling campaigns, with steps already taken by previous operator(s)

to reduce the risk of introducing IMS. This would lower the risk of introducing IMS to the JBG compared to the MODU coming directly from non-Australian waters (because any fouling species or IMS present in ballast waters are likely to have come from the region and therefore present a lower risk of being invasive species). In the unlikely event that activity uses a MODU which is coming from outside the Northwest Marine Region or outside Australia, EOG would take the appropriate steps outlined in the risk assessment to keep the risk of IMS introduction ALARP.

The unconsolidated sandy sediments of the activity area and surrounds (see Section 5.2.3), combined with its water depth (40 m) and distance from shore (76 km), reduce the risk of IMS establishment because IMS generally require hard substrate to attach to in the photic zone. Colonisation and spread is more likely in shallow, highly disturbed nearshore waters (such as ports and marinas) than open waters further offshore (Geiling, 2014) where the rate of dilution and the degree of dispersal are high (Paulay *et al*,. 2002).

The National Strategic Plan for Marine Pest Biosecurity (2018-2023) (DAWR, 2018) has five objectives and associated management activities. An assessment of the objectives and management activities of the National Strategic Plan for Marine Pest Biosecurity (2018-2023) against the activity is provided in Table 8.14.

Table 8.14. Assessment of the objectives and management activities of the National Strategic Plan for Marine Pest Biosecurity (2018-2023) against the activity

Objectives and Activities	Assessment
Objective 1: Minimise the risk of marine pest introductions, establishment and spread	The adopted EPS listed in Table 8.15 are aligned with best-practice mitigation measures, which will reduce the likelihood of introduction of IMS to ALARP. Therefore, the activity will be consistent with this objective.
1.1. Implement nationally consistent domestic ballast water regulations under the Biosecurity Act 2015 (Cwlth).	The adopted EPS listed in Table 8.15 are aligned with best-practice mitigation measures, which will reduce the likelihood of introduction of IMS to ALARP. Therefore, the activity will be consistent with these management activities.
1.2. Ensure the use of ballast water management systems in Australian waters meets accepted environmental standards.	
1.3. Investigate regulatory options to manage biosecurity risks associated with biofouling on vessels.	The activity will not have any impact on this management activity.
1.4. Review the National Biofouling Management Guidelines for marine sectors and update as required.	The activity will not have any impact on this management activity.
1.5. Investigate the benefits of an intelligence-gathering framework to monitor marine pest risk pathways and expand the International Biosecurity Intelligence System as appropriate.	The activity will not have any impact on this management activity.
Objective 2: Strengthen the national marine pest surveillance system	The activity will not have any impact on this objective.
2.1. Develop a national marine pest surveillance strategy.	The activity will not have any impact on this management activity.

Objectives and Activities	Assessment
2.2. Investigate Australia's current passive surveillance capability for marine pests and recommend possible improvements.	The activity will not have any impact on this management activity.
2.3. Promote tailored education and awareness materials to engage marine pest observer groups in passive surveillance activities.	The activity will not have any impact on this management activity.
2.4. Develop validation guidelines for marine pest molecular detection methods.	The activity will not have any impact on this management activity.
2.5. Validate molecular detection methods (including sampling methodology) for selected high-priority marine pest species.	The activity will not have any impact on this management activity.
2.6. Audit, maintain and share a database of marine pest identification capability.	The activity will not have any impact on this management activity.
2.7. Review surveillance information management needs and ensure an appropriate information system is in place.	The activity will not have any impact on this management activity.
2.8. Perform an audit of marine pest surveillance activities and data sets relevant to Australia.	The activity will not have any impact on this management activity.
Objective 3: Enhance Australia's preparedness and response capability for marine pest introductions	The activity will not have any impact on this objective.
3.1. Plan and implement a national program of marine pest emergency response exercises.	The activity will not have any impact on this management activity.
3.2. Develop a benefit–cost analysis framework to guide response efforts in the event of a nationally significant marine pest incursion.	The activity will not have any impact on this management activity.
3.3. Identify marine pest emergency response training needs.	The activity will not have any impact on this management activity.
3.4. Review the national Emergency Marine Pest Plan (EMP Plan) framework.	The activity will not have any impact on this management activity.
3.5. Plan and implement procedures to develop and update the EMP Plan rapid response manuals and related guidance materials.	The activity will not have any impact on this management activity.
Objective 4: Support marine pest biosecurity research and development	The activity will not have any impact on this objective.
4.1. Periodically review the national marine pest biosecurity research and development priorities.	The activity will not have any impact on this management activity.

Objectives and Activities	Assessment
4.2. Promote research coordination through the national marine pest research network.	The activity will not have any impact on this management activity.
4.3. Review the economic, environmental and social impacts of marine pests in Australia.	The activity will not have any impact on this management activity.
4.4. Conduct risk analyses of marine pest vectors and pathways, and make recommendations for improved management.	The activity will not have any impact on this management activity.
4.5. Assess the effectiveness of current management options for biofouling in niche areas.	The activity will not have any impact on this management activity.
Objective 5: Engage stakeholders to better manage marine pest biosecurity	The activity will not have any impact on this objective.
5.1. Identify and build a profile of marine pest biosecurity stakeholders.	The activity will not have any impact on this management activity.
5.2 Develop a national stakeholder engagement strategy for Marine Pest Plan 2018–2023 and the Marine Pest Sectoral Committee.	The activity will not have any impact on this management activity.
5.3. Design a targeted national campaign to improve awareness of marine pest biosecurity risks, management actions and shared responsibilities.	The activity will not have any impact on this management activity.
5.4. Review, update and maintain the www.marinepests.gov.au website.	The activity will not have any impact on this management activity.
5.5. Establish an independent national marine pest network.	The activity will not have any impact on this management activity.

The risk evaluation for the introduction of IMS does not change regardless of whether one, two or three wells are drilled. This is because the wells will be either drilled consecutively without departing the activity area in between each well, or in the event that the wells are drilled with a break of time between each, the same control measures adopted for the first well will be implemented for the second and third wells.

8.3.5 Risk Assessment

Table 8.15 presents the risk assessment for the introduction of IMS.

Table 8.15. Risk assessment for the introduction of IMS

Summary	
Summary of risks	Reduction in native marine species diversity and abundance, displacement of native marine species, socio-economic impacts on commercial fisheries and changes to conservation values of protected areas.
Extent of risk	Localised (isolated locations if there is no spread) to widespread (if colonisation and spread occurs).

Duration of risk	Short-term (IMS is detected and eradicated, or IMS does not survive long enough to colonise and spread) to long-term (IMS colonises and spreads).	
Level of certainty of risk	HIGH – the impacts associated with IMS introduction are well known and the vectors of introduction are known. Regulatory guidelines controlling these vectors have been established.	
Risk decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	No introduction of IMS.	

Risk Assessment (inherent)		
Likelihood	Consequence	Risk rating
Occasional	Moderate	Medium

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Use only locally/ regionally sourced support vessels.	Elimination	Likely	**EB:** Eliminates the potential for introduction of IMS from non-Australian waters. **C:** This is not standard industry practice. This is a significant limitation on the activity, as there are very few if any drilling support vessels permanently based in Australia, so vessels must be sourced opportunistically if they are in-country when required, or else internationally (e.g., southeast Asia). There is no cost to the project in adopting this approach. However, this cannot be guaranteed. **Ev:** There are significant schedule and capability implications for the activity by restricting the choice of vessels. On balance, the cost to implement this control is disproportionate to the risk if other controls are adopted.
Do not exchange or discharge ballast water in the operational area.	Elimination	No	**EB:** Eliminates the potential for introduction of IMS. **C:** It is not feasible to implement this from a structural integrity or safety perspective, as ballast water exchange is required to ensure the stability of vessels as they load and unload goods. **Ev:** The high risk to human safety outweighs any environmental benefits.
International Anti-fouling System (IAFS) Certificate **(RSK-03: EPS-02).**	Engineering	Yes	**EB:** Ensures that the MODU and support vessels have an anti-fouling coating and associated certificate to reduce the likelihood of transfer of IMS from their hulls to the activity area.

			C: Significant cost to the contractors to have the MODU and vessels inspected and anti-fouling paint applied (generally every 5 years). This is a legislated requirement. **Ev:** Environmental benefit outweighs the cost.
Biofouling Management Plan and Biofouling Record Book **(RSK-03: EPS-01, -03).**	Administrative	Yes	**EB:** Provides for operational guidance to vessels for planning and actions required to manage vessel biofouling, in addition to outlining measures for the control and management of vessel biofouling in accordance with IMO Guidelines. Thereby reducing the likelihood of IMS transfer and establishment in the activity area. **C:** Small cost involved with personnel undertaking inspections and audits. **Ev:** Environmental benefit outweighs the cost.
Cleaning of immersible equipment **(RSK-03: EPS-04).**	Administrative	Yes	**EB:** Reduces the likelihood of introducing IMS. **C:** Small cost involved in cleaning and verification during inspection. **Ev:** Environmental benefit outweighs cost.
Ballast water management plan. **(RSK-03: EPS-05, -06).**	Administrative	Yes	**EB:** Reduces likelihood of introducing IMS. **C:** Small costs associated with preparing and implementing the ballast water management plan and with maintaining record books and logs. This is a legislated requirement. **Ev:** Environmental benefit outweighs cost.
Incident reporting **(RSK-04: EPS-07).**	Administrative	Yes	**EB:** Alerts authorities to the known or potential introduction of IMS, thereby allowing authorities to deal with (or remove) the threat early so as to minimise environmental impacts. **C:** No cost. **Ev:** Environmental benefit outweighs the cost.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Biofouling		
No introduction of IMS through hull fouling.	**(RSK-03: EPS-01)** The MODU and support vessels are managed in accordance with the *National Biofouling Management Guidelines for the Petroleum Production and Exploration Industry* (CoA, 2009) to ensure they present a low biofouling risk. This means: • Biofouling risk assessment is conducted to ensure there is a low risk of IMS introduction. • Conducting in-water inspection by divers or inspection in drydock if deemed necessary (based on risk assessment). • Cleaning of hull and internal seawater systems, if deemed necessary. • Anti-fouling coating status taken into account, with antifouling renewal undertaken if deemed necessary.	Biofouling assessment reports prior to mobilising to site confirms acceptability to enter the operational area.

	(RSK-03: EPS-02) The MODU and support vessels >400 gross tonnes carry a current IAFS Certificate that is complaint with Marine Order Part 98 (Anti-fouling Systems).	IAFS Certificates are available and current.
	(RSK-03: EPS-03) The MODU and support vessels are managed in accordance with *The Australian Biofouling Management Requirements* (Version 1, 2022), which involves submitting information to the DCCEEW in its Pre-Arrival Report (PAR) specifying whether the MODU and vessel: • Maintain an effective Biofouling Management Plan (includes the plan, biofouling record book and supporting evidence); • Have been cleaned of biofouling within 30 days of arriving in Australia; • Have an alternative biofouling management method that has been pre-approved by the DCCEEW (includes approval document); • Will be subject to in-water cleaning in Australia (if required, includes permissioning document from the relevant state or NT government). EOG will only contract a MODU and support vessels that can demonstrate they have met these requirements.	The following documentation is current: • Accepted PAR; • Biofouling Management Plan; • Biofouling Record Book; • Cleaning report and supporting photos or video; and • Pre-approved alternative biofouling management method (if required).
Immersible equipment does not introduce IMS to the activity area.	**(RSK-03: EPS-04)** Immersible equipment (e.g., VSP equipment, ROV) is cleaned (e.g., biofouling is removed) prior to initial use on the MODU.	Records are available to verify that immersible equipment was cleaned prior to use.
Ballast water		

No introduction of IMS through ballast water.	**(RSK-03: EPS-05)** Vessels fulfil the requirements of the *Australian Ballast Water Management Requirements* (DAWR, 2020, v8). This includes requirements to:
	• Carry a valid Ballast Water Management Plan (BWMP).
	• Submit a Ballast Water Report (BWR) through the Maritime Arrivals Reporting System (MARS).
	  ○ If intending to discharge internationally-sourced ballast water, submit BWR through MARS at least 12 hours prior to arrival.
	  ○ If intending to discharge Australian-sourced ballast water, seek a low-risk exemption through MARS.
	• Hold a Ballast Water Management Certificate (BWMC).
		BWMP is available and current.
		BWR (or exemption) is submitted prior to entry to the activity area.
		A valid BWMC is in place.
		An up-to-date BWRS is in place.
		An electronic Pre-Arrival Report (ePAR) is available and signed off by DAWR.

	• Ensure all ballast water exchange operations are recorded in a Ballast Water Record System (BWRS).	
	(RSK-03: EPS-06) As above, except a BWR is not required for domestic journeys (i.e., when moving between Australian ports and 200 nm of the coastline). *Note: ballast water management is not required between Australian ports if:* • *Ballast water is taken up and discharged in the same place.* • *Potable water is used as ballast.* • *Ballast water was taken up on the high seas only.* • *The vessel receives a risk-based exemption from ballast water management.*	As above, except for the BWR.
Reporting		
Known or suspected non-compliance with biosecurity measures are reported to regulatory agencies.	**(RSK-03: EPS-07)** Non-compliant discharges of domestic ballast water are to be reported to the DAWR immediately (contact details in Section 9.7.2).	Incident report notes that contact was made with the DAWR regarding non-compliant ballast water discharges.

Risk Assessment (residual)		
Likelihood	Consequence	Risk rating
Remote	Moderate	Low

The risk of the introduction and establishment of IMS is assessed as low because:

- The control measures adopted are effective in reducing the risk to ALARP.

Demonstration of ALARP

A 'low' residual risk rating is considered to be ALARP and a 'lower order' risk. The adopted EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.

Demonstration of Acceptability	
Policy compliance	EOG's Safety and Environmental Policy objectives are met.
OEMS compliance	Chapter 10 outlines the EP implementation strategy to be employed for this activity.
Risk matrix standard compliance	The residual risk is low, which is considered acceptable.
External context	No objections or claims have been raised by relevant persons regarding the introduction and establishment of IMS for this activity.

Legislative context	The EPS align with the requirements of:
	• *Biosecurity Act* 2015 (Cth):
	  ○ Chapter 4 (Managing biosecurity risk).
	  ○ Chapter 5, Part 3 (Management of discharge of ballast water).
	  ○ Biosecurity Regulations 2016.
	  ○ Biosecurity Amendment (Biofouling Management) Regulations 2021.

	• *Protection of the Sea (Harmful Anti-fouling Systems) Act* 2006 (Cth):
	  ○ Part 2 (Application or use of harmful anti-fouling systems).
	  ○ Part 3 (Anti-fouling certificates and anti-fouling declarations).
	  ○ Marine Order 98 (Marine pollution – anti-fouling systems).
	• Ballast Water Management Convention and Resolution 127 (53) (Marine Environmental Protection Committee of the IMO) 2005.
	• Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 (IMO).	

Industry practice	The consideration and alignment of EPS to the mitigation measures outlined in the below-listed codes of practice and guidelines demonstrates that BPEM is being implemented.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this activity are in line with the management measures listed for the introduction of IMS in Section 4.7.6 of the guidelines: • Complying with the International Convention on the Control of Harmful Anti-fouling Systems on Ships **(RSK-03: EPS-02)**. • Ensuring vessels of appropriate class have IAFS certificates **(RSK-03: EPS-02)**. • Ensuring compliance with local regulatory guidelines.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There are no guidelines for offshore activities with regard to minimising the risk of introducing IMS.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	There are no guidelines regarding preventing the introduction of IMS.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore drilling operations: • To reduce the risk of introduction of marine pests to ALARP and to an acceptable level (**All RSK-03 EPS**). • To reduce the impacts to benthic communities to ALARP and to an acceptable level.
	IMS-specific	
	Australian Biofouling Management Requirements (Version 1, 2022)	The EPS in this table reflect the guidance regarding biofouling management **(RSK-03: EPS-03)**.
	Australian Ballast Water Management Requirements (DAWR, 2020, v8)	The EPS in this table reflect the guidance regarding ballast water management in the DAWR guide (**RSK-03: EPS-05)**.

	Offshore Installations – Biosecurity Guide (DAWE, 2020, v1.4)	The EPS in this table reflect the guidance provided in the DAWE guide, which largely references other guidelines listed here.
	Anti-Fouling and In-Water Cleaning Guidelines (DoA/DoE, 2015).	The EPS in this table reflect the general guidance regarding managing fouling in the DoA/DoE guidelines, which have since been updated in the aforementioned DAWR (2020) quarantine guide.
	Guidelines for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species (IMO, 2011)	The EPS in this table reflect the guidance regarding minimising the transfer of IMS from biofouling.
	National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (DAFF, 2009)	The EPS in this table reflect the guidance regarding biofouling management in the DAFF guide **(RSK-03: EPS-01)**.
Environmental context	MNES	
	AMPs	The North Marine Parks Network Management Plan 2018 (DNP, 2018) identifies invasive species introduction via ballast water in shipping, fishing vessels and other vessels as a potential biosecurity pressure to the AMP network. The implementation of the EPS make it unlikely that IMS will be introduced to the activity area and spread to nearby AMPs.
	Ramsar wetlands	The risk of introducing IMS is highly unlikely to affect Ramsar wetlands.
	TECs	The risk of introducing IMS is highly unlikely to affect TECs.
	Nationally threatened and migratory species	The threatened and migratory species within the spill EMBA are all highly mobile species. There are no EPBC Act-listed benthic species listed as occurring in the operational area; these are generally more susceptible to the effects of IMS than mobile fauna.
	Other matters	
	KEFs	The risk of introducing IMS is highly unlikely to affect KEFs.
	NIWs	The risk of introducing IMS is highly unlikely to affect NIWs.
	State marine parks	This hazard does not intersect any state marine parks.
	Species Conservation Advice/	The National Strategic Plan for Marine Pest Biosecurity (2018-2023) (DAWR, 2018) has five

<table>
<tr><td></td><td>Recovery Plans/
Threat Abatement Plans</td><td colspan="2">objectives. The EPS listed in this table are aligned with the plan's objective to minimise the risk of marine pest introductions, establishment and spread (noting that the other four objectives do not apply to the activity).</td></tr>
<tr><td rowspan="3">ESD principles</td><td colspan="3">The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).</td></tr>
<tr><td colspan="2">Is there a threat of serious or irreversible environmental damage?</td><td>Possibly, but the EPS aim to avoid this.</td></tr>
<tr><td colspan="2">Is there scientific uncertainty as to the environmental damage?</td><td>Yes. Individual species fill different ecological niches and understanding how one or more species are likely to behave outside their native habitat is generally unknown until it occurs.</td></tr>
<tr><td>Statement of acceptability</td><td colspan="3">EOG considers the risks of introducing IMS to be acceptable because:
It will adhere to the company's Safety & Environmental Policy;
The residual risk rating is low;
An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved;
Input from engagement with relevant persons has been considered and incorporated into the design of the activity;
Relevant legislation and industry best practice will be complied with;
The management of IMS is not inconsistent with the aims of the National Strategic Plan for Marine Pest Biosecurity; and
The management of IMS is not inconsistent with ESD principles.</td></tr>
<tr><td colspan="4">Environmental Monitoring</td></tr>
<tr><td colspan="4">None required.</td></tr>
<tr><td colspan="4">Record Keeping</td></tr>
<tr><td colspan="4">Vessel contractor pre-qualification reports.
Biofouling risk assessment.
Ballast water risk assessments.
BWMP.
BWR.
BWMC.
BWRS.
IAFS Certificates.
DAWR-signed ePARs.</td></tr>
</table>

8.4 RISK 4 – Interference with Other Marine Users

8.4.1 Hazard

The presence of the MODU and support vessels may result in unplanned interference with other marine users and equipment, such as commercial fishing gear and merchant shipping.

8.4.2 Known and potential environmental impacts

The known and potential impacts of interference with other marine users are:

- Collision potential with third-party vessels (and damage in the case of collision); and
- Damage to or loss of fishing equipment and/or loss of commercial fish catches.

8.4.3 EMBA

The EMBA for interference with other marine users is anywhere within the operational area (wherever vessel movements occur), and more specifically the immediate area around the two intersecting vessels or equipment.

Receptors in the EMBA include:

- Commercial fishing vessels; and
- Merchant vessels.

8.4.4 Evaluation of Environmental Risks

Collision with other marine users

Interference from the MODU and support vessels undertaking the activity with other marine users is highly unlikely because:

- There is low shipping traffic in and around the activity area (see Section 5.7.7);
- The MODU will be highly visible from long distances;
- The support vessels are highly visible and move slowly around the MODU;
- Large vessels use sophisticated navigation aids;
- Navigational warnings and a PSZ will be in place; and
- Consultation has been undertaken with relevant persons prior to the activity.

This likelihood does not increase if three wells are drilled rather than a single well, as the inherent features of the MODU (i.e., its size and visibility) and control measures do not change in this scenario.

In the event of interference with other marine users that results in a vessel-to-vessel collision, health and safety impacts are more likely than environmental impacts. Should the force of a collision be enough to breach a vessel hull (which is unlikely due to the generally low speed), an MDO spill may eventuate (the environmental consequences of which are addressed in Section 8.6).

Damage to or loss of fishing equipment

There is the remote possibility that fishing gear (e.g., NPF otter trawl nets) may get caught by the MODU legs if third-party commercial fishing vessels breach the 500-m radius PSZ with their gear deployed. This would likely result in the gear becoming detached from the fishing vessel and the loss of any associated catch. In addition to the cost of repairing or replacing this equipment, it could also result in the loss of income from caught fish during that fishing expedition. This is highly unlikely to occur because the size of the MODU ensures it is visible from long distances, meaning that fishers will not deploy trawl nets nearby.

The only fishery likely to be active in the activity area is the NPF. The NPF primarily operates from April to June and August to November. If the activity occurs commences in the first half of 2023, it will overlap with the NPF fishing season. Although there is a temporal overlap with the NPF fishing season, for the reasons outlined above, it will be unlikely to result in damage to or loss of fishing equipment.

Interference from the support vessels with commercial fishing vessels is unlikely, for the same reasons stated above.

8.4.5 Risk Assessment

Table 8.16 presents the impact assessment for interference with other marine users.

Table 8.16. Risk assessment for interference with other marine users

Summary		
Summary of risks	Presence of MODU and support vessels, resulting in the risk of vessel-to-vessel collision, damage to or loss of fishing equipment and loss of commercial fish catches.	
Extent of risks	Highly localised (within the activity area).	
Duration of risks	Short-term (minutes for a third-party vessel detour) to long-term (vessel collision).	
Level of certainty of risks	HIGH – the impacts associated with interference with other marine users is well understood.	
Risk decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	No interference with other marine users.	

Impact Consequence (inherent)		
Likelihood	Consequence	Risk rating
Occasional	Minor	Low

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
PSZ **(RSK-04: EPS-01)**.	Engineering	Yes	**EB:** Minimises collision risk with the MODU, support vessels and third-party equipment through increased awareness. **C:** Minimal cost to prepare and issue notices to marine users. **Ev:** Benefits to safety for all parties outweighs the minimal costs.
Navigation equipment and procedures **(RSK-04: EPS-03, -04, -06, -09)**.	Engineering	Yes	**EB:** Reduces the risk of collisions with other marine users. **C:** While the costs of navigation equipment are significant, it is standard on vessels and the costs of maintaining it are minimal. It is a legislative requirement. **Ev:** The safety benefits of having navigation equipment and procedures outweighs the cost.
Relevant person notifications **(RSK-04: EPS-01, -02, -10)**.	Administrative	Yes	**EB:** Ensures other marine users are aware of the activity and thus reduces likelihood of collision and interference.

			C: Minimal costs associated with EOG personnel preparing and issuing notifications and responding to stakeholders. **Ev:** Benefits outweigh the minimal cost.
Continuous bridge watch **(RSK-04: EPS-04)**.	Administrative	Yes	**EB:** Reduces the risk of collisions with other marine users or their equipment (e.g., marker buoys). **C:** No additional cost. It is routine maritime practice that the vessel master and mates maintain bridge watch at all times. **Ev:** Environmental benefits are achieved with no additional cost.
Crew qualifications. **(RSK-04: EPS-05)**.	Administrative	Yes	**EB:** Reduces the risk of vessel collision by ensuring crew possess appropriate qualifications to operate the vessels. **C:** Negligible; it is a standard maritime requirement that crew possess such qualifications. **Ev:** Environmental benefits can be achieved with negligible additional cost.
No fishing from MODU or support vessels. **(RSK-04: EPS-07)**.	Administrative	Yes	**EB:** Keeps all fishing stock available to commercial fishers. **C:** No cost involved. MODU and vessel crews are well supplied with fresh food and there is no need for fishing. **Ev:** Environmental benefits can be achieved with no cost.
Avoid drilling between 1st August to 1st December (4-month period) in any year in line with the request from the NPF during consultation undertaken for Beehive-1.	Administrative	No	**EB:** Reduces the risk of interfering with NPF trawl fishing operations during a key fishing period. **C:** Extremely high (tens of millions of dollars), if MODU availability aligns with the requested exclusion period. The costs are associated with 'warm-stacking' the MODU, paying a termination fee to the MODU operator for breach of contract and/or lost opportunity costs. **Ev:** The cost of this control measures is grossly disproportionate to low inherent risk to third-party marine users. Trawling will not be impacted outside of the 500-m radius PSZ around the MODU.
Environmental Controls and Performance Measurement			
EPO	EPS		Measurement criteria
The EPS listed in 'displacement of other marine users' (Impact 2, Section 7.2) also apply to this risk. Additional controls are provided here.			

No incidents or complaints of spatial conflict with third-party vessels or fishing equipment.	**(RSK-04: EPS-01)** The AHO will be notified of the activity no less than three weeks prior to the activity commencing to enable the promulgation of a Notice to Mariners (NTM) that communicates the 500-m PSZ and 4.6 km (2.5 nm) cautionary area around the MODU for the duration of the activity.	NTM is issued via the AHO prior to the activity and includes details of the PSZ and cautionary area.
	(RSK-04: EPS-02) EOG notifies relevant persons ahead of the activity so that third-party marine users are aware of the MODU location and activity timing.	Stakeholder correspondence verifies that EOG contacted relevant persons about the timing and location of the activity.
	(RSK-04: EPS-03) The MODU and support vessels are readily identifiable to third-party vessels with lights, signals, AIS transponders and communication equipment.	Visual inspection and/or Offshore Vessel Inspection Database (OVID)/Common Marine Inspection Document (CMID) verify that the anti-collision monitoring equipment (e.g., 24-hour radar watch, Global Maritime Distress and Safety System (GMDSS) and Automatic Identification System [AIS]) is functional and in use.
	(RSK-04: EPS-04) The support vessels monitor the PSZ and cautionary area at all times using safe continuous watch.	Daily drilling reports/vessel bridge logbooks verify constant monitoring of the PSZ and cautionary area.
	(RSK-04: EPS-05) The support vessel masters and deck officers have valid SCTW certificates in accordance with AMSA Marine Order 70 (seafarer certification) (or equivalent) to operate radio equipment to warn of potential third party spatial conflicts (e.g., International Convention on Standards of Training, Certification and Watch-keeping for Sea-farers [STCW95], GDMSS proficiency).	Appropriate qualifications are available.
	(RSK-04: EPS-06) The support vessel masters issue warnings (e.g., radio warning, flares, lights/horns) to third-party vessels approaching the PSZ in order to prevent a collision with the MODU.	Radio operations communications log verifies that warnings to third-party vessels approaching the PSZ have been issued when necessary.
	(RSK-04: EPS-07) Fishing is prohibited from the MODU and support vessels.	Induction and attendance records verify that all crew members are aware of the commitment.
	(RSK-04: EPS-08) All incidents of spatial conflict with other marine users will be reported in the EOG incident register.	The incident register is current.

Vessel-to-vessel collisions are managed in accordance with vessel-specific emergency procedures.	**(RSK-04: EPS-09)** The support vessel masters will sound the general alarm, manoeuvre the vessel to minimise the effects of the collision with the MODU and implement all other measures as outlined in the vessel or structure collision procedure (or equivalent).	Incident report verifies that the relevant safety procedure was implemented.
	(RSK-04: EPS-10) Vessel collisions will be reported to AMSA if that collision has or is likely to affect the safety, operation or seaworthiness of the vessel or involves serious injury to personnel.	Incident report verifies that AMSA were notified of a vessel collision.

Impact Consequence (residual)		
Likelihood	Consequence	Risk rating
Rare	Minor	Negligible

The risk of interference with other marine users is assessed as negligible because:

- The activity will be temporary in nature;
- There is low commercial shipping and fishing activity in and around the activity area;
- Thorough consultation has been undertaken with relevant persons to understand the risks and avoid potential interference; and
- The control measures adopted significantly reduce the likelihood of an incident of interference.

Demonstration of ALARP

A 'negligible' residual risk rating is considered to be ALARP and a 'lower order' risk. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.

Demonstration of Acceptability

Policy compliance	EOG's Safety and Environmental Policy objectives are met through implementation of this EP.
EMS compliance	Chapter 9 outlines the EP implementation strategy to be employed for this activity.
Risk matrix standard compliance	The residual risk is negligible, which is considered acceptable.
External context	No objections or claims have been raised by relevant persons regarding interference with other marine users for this activity.

Legislative context	The EPS outlined in this table align with the requirements of:
	• *OPGGS Act* 2006 (Cth).
	  ○ Section 280 – requires that a person carrying on activities in an offshore area under the permit, lease, licence, authority or consent must carry on those activities in a manner that does not interfere with navigation or fishing (among others).
	• *Navigation Act* 2012 (Cth).
	  ○ Chapter 6 (Safety of navigation), particularly Part 3 (Prevention of collisions).

	○ AMSA Marine Orders Part 21 (Safety of Navigation and Emergency Procedures). ○ AMSA Marine Orders Part 27 (Safety of Navigation and Radio Equipment). ○ AMSA Marine Order Part 30 (Prevention of Collisions).	
Industry practice	The consideration and alignment of EPS with the mitigation measures outlined in the below-listed guidelines and codes of practice demonstrates that BPEM will be implemented for this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this hazard are in line with the management measures listed for offshore physical presence in Section 4.3.1 of the guidelines, which include: • Develop exclusion zones in consultation with key stakeholders, including local fishing communities; raise awareness of exclusion zones with all stakeholders **(RSK-04: EPS-01, -07)**. • Issue a NTM through the relevant government agencies, detailing the area of operations **(RSK-04: EPS-01)**. • Ensure all vessels adhere to International Regulations for Preventing Collisions at Sea (COLREGS), which set out the navigation rules to be followed to prevent collisions between two or more vessels **(RSK-04: EPS-02, 04, -05)**. • Optimise vessel use to ensure the number of vessels required and length of time that vessels are on site is as low as practicable.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	There is no specific guidance regarding collision avoidance and navigational lighting.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	There is no specific guidance regarding collision avoidance and navigational lighting. Section 2.3.6.1 (environmental protection) states that location- and well-specific environmental protection plans should be prepared. The EP satisfies this requirement.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	There is no specific guidance regarding collision avoidance and navigational lighting.
	AEP CoEP (APPEA 2008)	The EPS for this activity meets the code's following objectives for offshore drilling operations: • To reduce the impact on other marine resource users to ALARP and to an acceptable level **(RSK-04: All EPS)**. • To reduce risks to public safety to ALARP and an acceptable level **(RSK-04: All EPS)**.

<table>
<tr><td rowspan="11">Environmental context</td><td>MNES</td><td></td></tr>
<tr><td>AMPs</td><td>This hazard will not affect nearby AMPs.</td></tr>
<tr><td>Ramsar wetlands</td><td>This hazard will not affect any Ramsar wetlands.</td></tr>
<tr><td>TECs</td><td>This hazard will not affect any TECs.</td></tr>
<tr><td>Nationally threatened and migratory species</td><td>This hazard will not affect threatened or migratory species.</td></tr>
<tr><td>Other matters</td><td></td></tr>
<tr><td>KEFs</td><td>This hazard will not affect any KEFs.</td></tr>
<tr><td>NIWs</td><td>This hazard will not affect any NIWs.</td></tr>
<tr><td>State marine parks</td><td>This hazard will not affect any state marine parks.</td></tr>
<tr><td>Species Conservation Advice/
Recovery Plans/
Threat Abatement Plans</td><td>None triggered by this hazard.</td></tr>
<tr><td></td><td></td></tr>
<tr><td>ESD principles</td><td colspan="2">The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).</td></tr>
<tr><td>Statement of acceptability</td><td colspan="2">EOG considers the risk of interference with other marine users to be acceptable because:
It will adhere to the company’s Safety & Environmental Policy;
The residual consequence rating is negligible;
An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved.
Input from engagement with relevant persons has been considered and incorporated into the design of the activity; and
Relevant legislation and industry best practice will be complied with.</td></tr>
<tr><td colspan="3">Environmental Monitoring</td></tr>
<tr><td colspan="3">Continuous bridge and radar monitoring.</td></tr>
<tr><td colspan="3">Record Keeping</td></tr>
<tr><td colspan="3">Stakeholder communication records.
NTM.
PSZ gazettal.
Crew qualifications.
Radio communication logs.
Crew qualifications.
Incident reports.
Daily drilling reports.</td></tr>
</table>

8.5 RISK 5 – Unplanned Discharge of Drilling Fluids, Chemicals or Hydrocarbons

8.5.1 Hazard

The following activities have the potential to result in unplanned discharges of small volumes (typically no greater than 5-10 m^3) of drilling fluids, chemicals and hydrocarbons per well:

- MODU operations – crane transfers and bunkering operations;
- Well testing – liquid drop-out from incomplete combustion or discharge of oily water;

- Support vessel operations – cane transfers and bunkering operations; and
- Aviation operations – refuelling of the helicopter on the MODU.

Crane transfers or bunkering operations between support vessels and the MODU may result in accidental discharges of various products overboard or to deck, such as:

- Drilling muds;
- Bulk drilling chemicals (e.g., barite, bentonite);
- Bulk chemicals (e.g., pipe dope, BOP hydraulic fluids);
- Hydraulic oil from the cranes' electric prime movers;
- Helicopter aviation fuel (avgas [aviation gasoline] or diesel [Jet-A1]); and
- Assorted pumps, winches, power packs and generators.

Spills overboard may be caused by:

- Hose or connection failure (due to equipment condition or failure of a support vessel to keep station);
- Failure to align valves correctly during transfer to tanks;
- Overfilling of tanks on MODU or support vessel;
- Overfilling of aviation fuel tank on fuel unit or bulk storage tank of the MODU;
- Overfilling of helicopter on the MODU helideck;
- Dropped objects from crane transfers; and
- Accidental or emergency disconnection of the riser.

Fluids stored in tanks (or pits) are pumped between tanks or to mixing equipment using transport pumps. The pipes through which they are pumped are under pressure. Possible causes of spills during these transfers include:

- Leaks due to the condition of pipes, connections, flanges and valves;
- Leaks from pump packers;
- Leaks from blocked mixing hoppers;
- Loss of storage tank integrity; and
- Failure to align valves correctly during transfer to tanks.

Jet A1 fuel used for helicopter refuelling has been excluded from spill modelling and this assessment as only small volumes will be stored on the MODU (~6 m^3), and spills of this fuel evaporate quickly due to the very high levels of light ends.

8.5.2 Potential Environmental Risks

The known and potential environmental risks of the unplanned discharge of small volumes of drilling muds, chemicals and hydrocarbons are:

- Temporary and localised reduction of water quality; and
- Acute toxicity to marine fauna through ingestion or absorption.

8.5.3 EMBA

The EMBA for the risk of discharge of drilling muds, chemicals and fuel is likely to range from tens to hundreds of metres depending on the product and volume spilled, so a precise EMBA cannot be calculated.

Receptors most at risk within this EMBA are:

- Water quality;
- Plankton;
- Pelagic fish;
- Seabirds;
- Marine mammals; and
- Marine reptiles.

8.5.4 Evaluation of Environmental Risks

The impact of the discharge of drilling muds is addressed in Section 7.6.2. The impacts of a small unplanned discharge of drilling muds will not vary significantly from the EIA presented in Section 7.6.5.

The risks associated with the discharge of chemicals in drilling muds is addressed in Section 7.6.4. The risks of an unplanned discharge of chemicals will not vary significantly, though the increased release volume means it will take longer to dilute and disperse through the water column.

The risks associated with the discharge of MDO is addressed in Section 8.6.2. The risks of a discharge of aviation fuel will be less than that resulting from a vessel collision due to the much smaller volumes involved, so the extent of spread will be less, and the high volatility of aviation fuel means a greater proportion of fuel will evaporate much faster than MDO.

Flaring associated with well testing may be interrupted by pressure drops, incomplete combustion, or higher than anticipated drilling fluid content in the flaring system. Efficient combustion in the flame depends on achieving good mixing between the fuel gas and air and on the absence of liquids. Where liquids are present (i.e., formation fluids) and not completely 'knocked out' upstream of the flare boom, minor quantities (in the order of litres) of formation fluids may accidentally reach the ocean. Hydrocarbon volumes released due to drop out from flaring are difficult to estimate. Given the automatic and manual systems in place during flaring, the accidental release of hydrocarbon is expected to be low for each well (less than 2 m^3) in the event of flare dropout. The risks from flaring of oil, gas or condensate are considered so minor that the OSPAR Commission concluded that there is no need to develop a background document (i.e., guideline) on the flaring of oil, gas or condensate (OSPAR, 2005).

Near the sea surface, fish are able to detect and avoid contact with surface slicks and as a result, fish mortalities rarely occur in open waters from surface spills (Volkman *et al*., 2004). This, combined with their high mobility (that allows them to avoid exposure to toxic components for long periods), means that pelagic fish are generally not susceptible to impacts from hydrocarbon spills (Volkman *et al*., 2004).

The WCP for seabirds (2020) identifies chronic pollution as an existing threat to seabirds. Chemical contamination has been described within the WCP as contributing to the decline of many seabirds by impairing their ability to reproduce successfully. Eggshell thinning, embryo viability and offspring deformities are noted as reproductive issues caused by chemical contamination (Commonwealth of Australia, 20202). The WCP also notes that organochlorines and heavy metals degrade very slowly in the environment and therefore, is retained by organisms, and passed throughout the food chain.

In general, the small potential release volumes mean that such releases would be confined to a small area around the drill site and result in rapid dilution in the open ocean environment, meaning that the risk of toxic effects to marine fauna are low. The low commercial fishing activity and absence of fish BIAs and sensitive habitats in the operational area means the risks to the biological and socio-economic environments are low.

The risk evaluation for the unplanned discharge of drilling muds, chemicals and hydrocarbons does not change regardless of whether one, two or three wells are drilled.

8.5.5 Risk Assessment

Table 8.17 presents the impact assessment for the unplanned discharge of small volumes of drilling muds, chemicals and hydrocarbons.

Table 8.17. Risk assessment for the unplanned discharge of drilling muds, chemicals and hydrocarbons

Summary			
Summary of risks	Temporary and localised reduction of water quality and acute toxicity to marine fauna through ingestion or absorption of small volumes of drilling muds, chemicals and hydrocarbons.		
Extent of risks	Highly localised – small mixing zone around the MODU		
Duration of risks	Temporary and short-term (several minutes for small deck spills or longer for larger spill)		
Level of certainty of risks	HIGH – the impacts associated with drilling fluid, chemical and hydrocarbon spills at sea are well known and documented.		
Risk decision framework context	Decision type	A - good industry practice required.	
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.	
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.	
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.	
Defined acceptable level	No unplanned release of drilling muds, chemicals and hydrocarbons.		
Impact Consequence (inherent)			
Likelihood	Consequence	Risk rating	
Occasional	Minor	Low	
Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
Pre-acceptance inspection of MODU **(RSK-05: EPS-01).**	Administrative	Yes	**EB:** Ensures the storage tanks, equipment and bunding are in good working condition prior to the activity commencing, thereby reducing the likelihood of drilling fluid, chemical and hydrocarbon spills.

			C: Negligible; it is a standard maritime requirement. Minor administrative cost to produce documents and educate personnel. **Ev:** Benefits outweighs the low costs.
Hydrocarbon and chemical storage and loading **(RSK-05: EPS-02, 03 & 04).**	Engineering	Yes	**EB:** Reduces the likelihood that hydrocarbon and chemical storage will be accidentally lost overboard. **C:** Negligible; it is a standard maritime requirement. Minor administrative cost to produce documents and educate personnel. **Ev:** Environmental benefit outweighs the negligible costs.
PTW system **(RSK-05: EPS-05)**.	Administrative	Yes	**EB:** Reduces the likelihood that hydrocarbon and chemical storage will be accidentally lost overboard by ensuring operations is undertaken via a PTW. **C:** Negligible; it is a standard maritime requirement. Minor administrative costs associated with maintaining the PTW. **Ev:** Environmental benefit outweighs the negligible costs.
PMS **(RSK-05: EPS-06)**.	Administrative	Yes	**EB:** The maintenance of MODU storage systems and associated fittings minimises the likelihood of chemical and hydrocarbon lost overboard. **C:** Negligible; it is a standard maritime requirement. Minor administrative costs associated with maintaining the PMS. **Ev:** Environmental benefit outweighs the negligible costs.
SMPEP **(RSK-05: EPS-07, 08, 10 & 11)**.	Administrative	Yes	**EB:** Ensures crew are well prepared to quickly respond to a spill, thereby minimising the volume spilled and the extent of sea affected. **C:** SMPEP should already be in place. Low costs to stock vessel with equipment and maintain it. This is standard maritime practice. **Ev:** Environmental benefit outweighs the low costs.
Well Test Plan **(RSK-05: EPS-09)**	Administrative Engineering	Yes	**EB:** Ensures well test crew follow set procedures, thereby minimising the likelihood of liquid dropouts. **C:** The preparation of a Well Test Plan is standard practice for well testing contractors, whereby the cost is factored into the contract and not an extra cost per se. **Ev:** Environmental benefits outweigh the low costs.
Environmental Controls and Performance Measurement			

EPO	EPS	Measurement criteria
A pre-acceptance inspection of the MODU takes place.	**(RSK-05: EPS-01)** EOG's pre-acceptance inspection of the MODU confirms that storage tanks, equipment, bunding and machinery spaces are free of defects.	MODU pre-acceptance inspection records verify good condition of all equipment.
Hydrocarbons and chemicals stored on the MODU are stored in a manner that prevents bulk release.	**(RSK-05: EPS-02)** All hydrocarbons and chemicals are stored within secure receptacles within bunded areas or dedicated chemical lockers that drain to bilge tanks.	Visual inspection verifies that hydrocarbons and chemicals are stored within secure receptacles within bunded areas or dedicated chemical lockers that drain to bilge tanks.
	(RSK-05: EPS-03) Where hydrocarbons and chemicals are stored within open draining decks, receptacles are stored on/in temporary bunds.	Visual inspection verifies that where hydrocarbons and chemicals are stored within open draining decks, receptacles are stored on/in temporary bunds.
Hydrocarbons and chemicals are transferred to and from the MODU in a manner that prevents bulk release.	**(RSK-05: EPS-04)** Bulk dry and liquid transfers are undertaken in accordance with the MODU procedures for bulk transfers and lifting to reduce the risk of an unintentional release to the sea. The procedure typically includes the following (which also links to checklists that need to be completed as part of the procedure): • Approval for the supply vessel involved in the bulk transfer operations to enter the PSZ. • Ensuring that no other vessels are within the PSZ during the transfer operations. • Reviewing work instructions prior to undertaking the transfer, including the issue of a Permit to Work (PTW) (if required). • Visual contact and proper communication will be maintained with the vessel performing the transfer to the MODU at all times. • Checks on wind direction, transfer volume, tank and line contents, tank sounding, hose type and condition, status of vent valves and valve	MODU bulk transfer/lifting procedure is available. Completed Job Safety Analysis, PTW and transfer checklists will be in place prior to the commencement of bulk transfers.

	alignments will be undertaken ahead of the transfer. • Personnel will remain at both ends of the transfer to monitor pressure, transfer volumes and so forth, and they will remain in radio contact with each other. • At completion of transfer, the volume of bulk material transferred will be recorded and all equipment and tools will be returned to a dedicated storage area.	
The operation of the dump valve/s for the mud tanks will be managed under a Permit to Work (PTW) system.	**(RSK-05: EPS-05)** The mud dump valve/s are locked, with the keys remaining secure in a key locker. A PTW will be required to unlock the dump valve/s, which involves an assessment by the OIM regarding the need for a specific operation. See also **IMP-06: EPS-13**.	Visual inspection of key locker and dump valve/s verify its integrity.
		Daily Fluids Report allow for material balance assessment to determine discharge volume of weighted brine.
		PTW records verify that a PTW was prepared prior to unlocking the dump valve/s.
Planned maintenance will be undertaken on all MODU storage systems (bunds, hoppers), hose fittings and so forth.	**(RSK-05: EPS-06)** Planned maintenance is undertaken to the PMS schedule.	PMS records verify that maintenance work (and repairs where necessary) is undertaken.
The MODU management and crew are well prepared to respond to deck spills.	**(RSK-05: EPS-07)** The MODU OIM ensures that crew undertake spill response drills every three months in accordance with the SMPEP and drills and exercises matrix.	Records show that relevant crew have conducted quarterly spill response drills.
	(RSK-05: EPS-08) In accordance with the SMPEP, oil spill response kits are available in relevant locations around the MODU, are fully stocked and are used in the event of hydrocarbon or chemical spills to deck.	Inspection/audit confirms that SMPEP kits are readily available on deck.
		Incident reports for MDO spills to deck record that the spill is cleaned up using SMPEP resources.
Release of oil and oily water during well testing is avoided.	**(RSK-05: EPS-09)** A Well Testing Plan will be in place and implemented so the following is achieved:	
	• Separator tanks are installed upstream of the flare boom in order to remove liquids (formation	Well test daily report verifies the presence of separator tanks.

	water, completion fluids and/or oil) prior to flaring and thus reduce the chance of liquid dropouts.	
	• A high-efficiency burner (e.g., 'Evergreen' burner) is installed on the flare boom to reduce the likelihood of liquid dropout.	Well test daily report verifies that a high-efficiency burner was in use during well testing.
	• Burner pilots remain ignited during the well test to minimise the likelihood of liquid dropouts.	Well test daily report verifies that burner pilot remained ignited during the well test.
	• Dedicated MODU deck crew are in place to watch for liquid dropouts, who then notify the Well Test Supervisor as soon as liquid dropout is observed so that the well test process can be quickly shut down and corrected before re-commencing.	Well test daily report includes details of flare watch for liquid dropouts.
	• Liquids stored in the separator tanks are treated through an oily water filtration system (to <30 ppm) prior to overboard discharge or shipped to shore for disposal.	Well test daily report verifies that discharged fluids were treated to <30 ppm or shipped to shore for disposal.
	• Oily water filtration equipment will be calibrated prior to use.	Calibration results verify that the system is calibrated to <30 ppm.
	• In the event of a flare drop-out or hydrocarbons being observed on the sea surface, then flaring (and if applicable, the well test), will cease and the event will be investigated and corrected before re-commencing.	Incident report of flare drop-out or unplanned hydrocarbon release.
Reporting		
A bulk spill of chemicals or hydrocarbons at surface will be promptly reported internally and externally, and appropriately managed.	**(RSK-05: EPS-10)** The MODU OIM will report a bulk spill to the DSV and lead the onboard response in line with the SMPEP.	Incident reports and logs confirm that internal notifications were made in a timely fashion.
A bulk spill of chemicals or hydrocarbons at surface will be promptly reported to external regulatory agencies.	**(RSK-05: EPS-11)** The Drilling Incident Management Team (DIMT) Incident Controller will report to AMSA and NOPSEMA within 2 hours of EOG becoming aware of the spill (see Section 9.7.2).	Incident reports and logs confirm that regulatory authorities were notified within 2 hours of EOG becoming aware of the spill.

Impact Consequence (residual)		
Likelihood	Consequence	Risk rating
Rare	Minor	Negligible

The risk of the unplanned discharge of bulk drilling muds, chemicals and hydrocarbons is assessed as negligible because:

- The volumes of chemicals and hydrocarbons on the MODU will be small;
- Helicopter refuelling is unlikely to take place on the MODU; and
- The control measures adopted significantly reduce the likelihood of an unplanned discharge of bulk drilling fluids, chemicals and hydrocarbons.

Demonstration of ALARP
A 'negligible' residual risk rating is considered to be ALARP and a 'lower order' risk. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.

Demonstration of Acceptability		
Policy compliance	EOG's Safety and Environmental Policy objectives are met through implementation of this EP.	
EMS compliance	Chapter 10 outlines the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual risk is negligible, which is considered acceptable.	
External context	No objections or claims have been raised by relevant persons regarding accidental discharge of drilling fluids, chemicals and hydrocarbons for this activity.	
Legislative context	The performance standards outlined in this EP align with the requirements of: • Protection of the Sea (Prevention of Pollution from Ships) Act 1983 (Cth): ○ Section 9 (Prohibition of discharge of oil or oily mixture to sea).	
Industry practice	The consideration and adoption of the controls outlined in the below-listed codes of practice and guidelines demonstrates that BPEM is being implemented for this activity.	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	As per the impact assessment table in Section 7.6 and Section 7.11.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	As per the impact assessment table in Section 7.6 and Section 7.11.
	Health, Safety and Environmental Case	As per the impact assessment table in Section 7.6 and Section 7.11.

	Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	As per the impact assessment table in Section 7.6 and Section 7.11.
	AEP CoEP (APPEA 2008)	As per the impact assessment table in Section 7.6 and Section 7.11.
Environmental context	MNES	
	AMPs	This hazard will not affect nearby AMPs.
	Ramsar wetlands	This hazard will not affect any Ramsar wetlands.
	TECs	This hazard will not affect any TECs.
	Nationally threatened and migratory species	This hazard is unlikely to have acute or chronic toxicity effects on threatened or migratory species.
	Other matters	
	KEFs	This hazard will not affect any KEFs.
	NIWs	This hazard will not affect any NIWs.
	State marine parks	This hazard will not affect any state marine parks.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	The EPS outlined within this table assist in mitigating the threat of chemical pollution on seabirds identified by the WCP for seabirds (2020).
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the risk of unplanned small discharges of drilling fluids, chemicals and hydrocarbons to be acceptable because: • It will adhere to the company's Safety & Environmental Policy; • The residual consequence rating is negligible; • An Implementation Strategy (described in Chapter 9) is in place to ensure the EPS are achieved. • Input from engagement with relevant persons has been considered and incorporated into the design of the activity; and • Relevant legislation and industry best practice will be complied with.	
Environmental Monitoring		
• Not applicable.		
Record Keeping		

- Pre-acceptance MODU inspection records.
- Inspection records.
- Drill records.
- Daily fluids reports.
- PMS records.
- PTWs and Job safety analysis (JSAs).
- Incident reports.

8.6 RISK 6 - Marine Diesel Oil Release

8.6.1 Hazard

A release of MDO may occur from the support vessels as a result of refuelling, a vessel-to-vessel collision or a support vessel colliding with the MODU legs. The waters of the activity area and its surrounds are deep and bathymetry mapping indicates there are no sub-surface features (such as reefs or shoals) that present a risk of vessel grounding (see Figure 5.9), so this risk has been discounted for this risk assessment.

Only the vessel-to-vessel collision scenario has been taken forward for Oil Spill Trajectory Modelling (OSTM). The other scenarios are dismissed as having negligible risks or as non-credible, as discussed herein.

MODU refuelling

MODU refuelling is a closely supervised activity on board a MODU with strict controls on the transfer of fuel from support vessels to the MODU. The fuel transfer hoses are supplied by the MODU and generally have a capacity of 47 m^3 (based on a re-fuelling hose 10 cm in diameter and 60 m long). The fuel transfer pump for jack-up MODUs is typically capable of supplying up to 33 m^3/hr.

AMSA's guidance (AMSA, 2015) of using the fuel transfer rate multiplied by 15 minutes of flow (for supervised operations) to estimate the volume of MDO for spill modelling significantly over-estimates how long it would take to shut down re-fuelling operations and it is more likely to be around 5 minutes maximum based on industry experience. Fifteen minutes of flow from the pumps represents a potential loss of 8.25 m^3 based on the maximum transfer pump rate. A spill of this volume in the operational area would rapidly evaporate and dilute with seawater, and would not reach shorelines, causing negligible environmental impacts (NOAA, 2006). Therefore, spill modelling for this scenario has not been undertaken.

Vessel collision with MODU

An errant vessel collision with the MODU is not a credible scenario for the loss of MDO from the MODU for the following reasons, and is therefore not modelled and assessed:

- A temporary PSZ will be gazetted around the MODU at each drill site;
- One support vessel is present on location at all times to maintain guard and intercept any errant vessel;
- Jack-up MODU hulls are raised high above the water line (generally with an air gap of about 20 m), meaning that the tanks would not be pierced in the event of a collision with a large vessel; and
- The MDO tanks are located inboard and double-skinned (with mud, pre-load and potable tanks typically located on the outer edge of the hull), further ensuring that piercing of the MDO tanks (and fuel loss) is even more unlikely.

8.6.2 Potential Environmental Risks, EMBA and Evaluation of Environmental Risks

In line with OPGGS(E) Regulation 56 and Section 2.6 of NOPSEMA's *Environment Plan content requirement guidance note*, EOG refers the reader to Sections 7.16.2, 7.16.3 and 7.16.4 of its PDSA EP (996161-2022-Beehive#1_PDSA-EP-Rev2, available here) that describes the environmental risks, EMBA and evaluation of environmental risks for an MDO spill. The volume chosen for that spill scenario took into account the typical fuel tank sizes on drilling support vessels (as well as vessels used to undertake geophysical and geotechnical investigations).

The risk evaluation for the MDO spill does not change regardless of whether one, two or three wells are drilled because there is no cumulative change to the likelihood of occurrence or impact consequence when multiple wells are drilled.

8.6.3 Risk Assessment

The risk assessment for an MDO release during the activity is provided in Table 8.19. The key difference with the PDSA activity is that refuelling of the MODU is likely to be required, so refuelling controls are included in this risk assessment.

Table 8.19. Risk assessment for an MDO spill

Summary		
Summary of risks	Temporary reduction in water quality. Potential toxicity impacts to marine life. Temporary fisheries closures.	
Extent of risks	EMBA is defined in Figure 7.10 to Figure 7.26 of the PDSA EP.	
Duration of risks	Short-term (several days, depending on level of contact, location and receptor).	
Level of certainty of risks	HIGH – the environmental impacts of spilled hydrocarbons are well understood.	
Risk decision framework context	Decision type	A - good industry practice required.
	Activity	Nothing new or unusual, represents business as usual, well understood activity, good practice is well defined.
	Risk & uncertainty	Risks are well understood, uncertainty is minimal.
	Stakeholder influence	No conflict with company values, no partner interest, no significant media interest.
Defined acceptable level	No release of MDO to sea.	

Risk Assessment (inherent)			
Receptor	Consequence	Likelihood	Risk rating
Benthic fauna	Negligible	Rare	Negligible
Macroalgal communities	Negligible	Rare	Negligible
Plankton	Negligible	Rare	Negligible
Pelagic fish	Negligible	Rare	Negligible
Cetaceans	Negligible	Rare	Negligible

Marine reptiles	Minor	Rare	Negligible
Seabirds	Negligible	Rare	Negligible
Shorebirds	Negligible	Rare	Negligible
Sandy beaches	Negligible	Rare	Negligible
Rocky shores	Negligible	Rare	Negligible
Commercial fisheries	Negligible	Rare	Negligible

Assessment of Proposed Control Measures

Control measures listed in 'displacement of other marine users' (Impact 2, Section 7.2), 'Interference with other marine users' (Risk 4, Section 8.4) and 'Routine emissions – light' (Impact 3, Section 7.3) are not repeated here.

Only additional control measures are provided here.

Control measure	Control type	Adopt	Justification
No fuel bunkering	Elimination	No	**EB**: Avoids the potential for a spill. **C:** The MODU has a finite storage volume that must be topped up in order to continue functioning. Without refuelling, the activity cannot continue and the objectives of the campaign cannot be met. At-sea bunkering of MODUs is a routine industry activity. **Ev**: The negligible environmental risk posed by this hazard does not justify banning bunkering at sea. This measure cannot be adopted.
Support vessels refuel in port only **(RSK-06:EPS-01)**	Substitution	Yes	**EB**: Reduces the risk of an at-sea spill. **C:** No additional cost. Vessels return to port regularly throughout the activity and therefore have the ability to refuel outside the operational area. **Ev**: Environmental benefits can be achieved without additional cost.
MODU refuels in port only	Substitution	No	**EB**: Reduces the risk of an at-sea spill. **C:** Significant additional cost (and air emissions) associated with towing the MODU back to port for each bunkering event. Increases the duration of the campaign. **Ev**: The negligible environmental risk posed by at-sea bunkering does not justify this very expensive control measure.
Refuelling procedure **(RSK-06:EPS-02)**	Engineering	Yes	**EB:** Reduces the risk of hydrocarbon release to the sea. **C:** The costs of installing and maintaining the equipment, systems and processes for refuelling on the MODU and support vessels is factored into day hire rates. Developing and implementing

			an refuelling procedure is routine industry practice. **Ev:** The benefits of having the procedure outweigh the costs.
SMPEP **(RSK-06:EPS-08)**	Administrative	Yes	**EB:** Ensures crew are well prepared to quickly respond to a spill, thereby minimising the volume spilled and the extent of sea affected. **C:** SMPEP should already be in place. Low costs to stock vessel with equipment and maintain it. This is standard maritime practice. **Ev:** Benefits outweighs the low costs.
OPEP **(RSK-06:EPS-03, -05, -06)**	Administrative	Yes	**EB:** Ensures EOG is well prepared to quickly respond to a spill, thereby minimising the extent of sea affected. **C:** Minimal cost to prepare OPEP and roll out training. This is standard industry practice. Significant costs for implementing response strategies and arranging call-off (standby) contracts for response resources. **Ev:** Environmental benefits outweigh the significant costs.
OSMP **(RSK-06:EPS-07)**	Administrative	Yes	**EB:** Ensures EOG is well prepared to quickly undertake operational and scientific studies, thereby supporting the future assessment of impacts resulting from the spill. **C:** High cost to prepare OSMP, detailed implementation plans and roll out training. This is standard industry practice. Low cost for putting call-off contracts in place and significant costs to implement the OSMP. **Ev:** Environmental benefits outweigh the significant costs.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
The EPS listed in 'displacement of other marine users' (Impact 2, Section 7.2), Iinterference with other marine users'(Risk 4, Section 8.4) and 'Routine emissions – light.' (Impact 3,Section 7.3) also apply here. *Only Additional controls are provided here.*		
Preparedness (additional preparedness EPS are provided in Appendix B of the OPEP)		
No MDO is spilled at sea.	**(RSK-06:EPS-01)** No support vessel refuelling is undertaken at sea (this will be done in port).	Bunker log verifies that support vessel refuelling was undertaken in port.
	(RSK-06:EPS-02) The MODU bunkering Procedure will be implemented in order to prevent an MDO spill during MODU refuelling on location. This will include (but is not limited to):	

	• A JSA and/or PTW is signed off for each bunkering event, taking into account spill response considerations.	JSA and/or PTW records verify that spill response was taken into consideration.
	• Ensuring that the dry-break refuelling hose couplings assembly is in order to minimise the risk of a spill and hose floats are installed on the refuelling hose so that a hose leak is easily visible.	Completed refuelling checklist verifies that dry-break hose couplings and floats are installed on the refuelling hose assembly.
	• Ensuring that communications (visual and/or radio) between the MODU and the vessel will be tested by the MODU Chief Mate and Vessel Master prior to the commencement of bunkering.	PTW indicates that communications were tested between the MODU and vessel.
	• Ensuring that fuel transfer hoses are replaced in accordance with the PMS or when they are visibly degraded.	Hose register and PMS indicates regular replacement of fuel hoses.
	• The bunkering operation is supervised at all times.	Completed bunkering checklist verifies that bunkering was supervised.
	• Ensuring that bunkering only commences during daylight hours and in calm sea conditions.	Completed bunkering checklist verifies that bunkering commenced in daylight hours and in calm sea conditions.
	• Ensuring that tank level indicators and level alarms are provided in the control room for the bunkering tanks.	Completed bunkering checklist verifies that the tank level alarms are functional.
Emergency response		
MODU and/or support vessel crews promptly respond to a spill.	**(RSK-06:EPS-03)** A Beehive drilling OPEP and ERP are in place and tested in a desktop exercise by nominated Drilling Incident Management Team (DIMT) members.	The OPEP and ERP are current.
		OPEP and ERP training schedule is available and remains live.
		The training matrix is maintained as a live document and verifies that DIMT members are up to date with their training.
		OPEP and ERP exercise reports verify that exercises have been undertaken.
	(RSK-06:EPS-04) The MODU OIM and/or Vessel Master will authorise actions in accordance with the SMPEP (or equivalent according to class).	Incident reports verify that the SMPEP was implemented.
	(RSK-06:EPS-05) The Beehive drilling OPEP is implemented to limit the release of a Level 2 or 3 MDO spill.	Daily operations reports verify that the OPEP was implemented.
Recording & reporting		

Compensation		
Compensate for economic loss due to an MDO spill.	As per **IMP-02:EPS-04** and **IMP-02:EPS-05.**	As per **IMP-02:EPS-04** and **IMP-02:EPS-05.**
EOG and regulatory authorities are promptly made of aware of near-misses and spills.	**(RSK-06:EPS-06)** EOG will report the MDO spill to regulatory authorities within 2 hours of the spill or becoming aware of the spill.	Incident report verifies that contact with regulatory agencies was made within 2 hours.
Monitoring		
Characterise environmental impacts of a Level 2 or 3 spill.	**(RSK-06:EPS-07)** EOG will undertake operational and scientific monitoring in accordance with the OSMP.	Daily operations reports and overall study reports verify that the OSMP was implemented.

Risk Assessment (residual)			
Receptor	Consequence	Likelihood	Risk rating
Benthic fauna	Negligible	Remote	Negligible
Macroalgal communities	Moderate	Remote	Negligible
Plankton	Moderate	Remote	Negligible
Pelagic fish	Moderate	Remote	Negligible
Cetaceans	Moderate	Remote	Negligible
Marine reptiles	Moderate	Remote	Negligible
Seabirds	Moderate	Remote	Negligible
Shorebirds	Moderate	Remote	Negligible
Sandy beaches	Moderate	Remote	Negligible
Commercial fisheries	Moderate	Remote	Negligible

The risk of an unplanned MDO release is assessed as negligible for all receptors because:

- The control measures adopted are effective at reducing the likelihood of an unplanned MDO release to remote.

Demonstration of ALARP
A 'negligible' residual risk rating is considered to be ALARP and a 'lower order' impact. The adopted controls and associated EPS have lowered the risk to the point that any additional or alternative control measures either fail to lower the residual risk rating any further or are grossly disproportionate to the residual risk rating.

Demonstration of Acceptability	
Policy compliance	EOG's Safety and Environmental Policy objectives are met.
EMS compliance	Chapter 8 outlines the EP implementation strategy to be employed for this activity.

Risk matrix standard compliance	The residual risk for each receptor is negligible, which is considered acceptable.	
Engagement	No objections or claims have been raised by relevant persons regarding MDO spills for this activity.	

Legislative context	The EPS align with the requirements of:
	• *Navigation Act* 2012 (Cth):
	  ○ Chapter 4 (Prevention of Pollution).
	• OPGGS Act 2006 (Cth):
	  ○ Section 572A-F (Polluter pays for escape of petroleum).
	• OPGGS(E):
	  ○ Part 5 (Incidents, reports and records).
	• *Protection of the Sea (Prevention of Pollution by Ships) Act* 1983 (Cth):
	  ○ Section 11A (SOPEP).	

Industry practice	The consideration and alignment of EPS with the mitigation measures in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented in this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this activity are in line with the management measures listed for spills from vessels in Section 4.7.2 of the guidelines: • Vessels having a SMPEP. • Vessels having radar fitted and maintaining appropriate lighting and navigation systems • Having safety exclusion zones around facilities.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	No guidance is provided regarding preventing or managing an offshore MDO spill, other than having a spill contingency plan in place. An OPEP is in place for the activity .
	Effective planning strategies for managing environmental risk associated with geophysical and other imaging surveys (Nowacek & Southall, 2016)	The four practices outlined in this document have been considered (and adopted where practicable) in the development of performance standards for this EP and the survey design in general.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	Guidelines met with regard to: • Section 75 (Spills): Conducting a spill risk assessment, implementing personnel training and field exercises, ensuring spill response equipment is available **(OPEP)**. • Sections 76-79 (Spill response planning): A spill response plan should be prepared **(OPEP)**.

	Environmental Manual for Worldwide Geophysical Operations (IAGC, 2013)	Guidelines met with regard to: • Section 8.6 (Hazardous materials): Ensuring that vessels carry a SMPEP, that spills are reported to local authorities and that oil spill response drills are conducted at regular intervals **(OPEP)**. • Section 8.8 (Vessel operations): Vessels must have oil absorbent materials available to respond to spills, and oil spills must be reported to local authorities **(OPEP)**.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore geophysical surveys: • To reduce the risk of any unplanned release of material into the marine environment to ALARP and an acceptable level.
Environmental context	MNES	
	AMPs	The MDO EMBA intersects the JBG AMP. The AMP has the following relevant conservation value: - Carbonate banks and shoals. As addressed in Table 7.54 to Table 7.63 of the PDSA EP (here), the consequence of an MDO spill on these conservation values is negligible and unlikely to result in long-term ecological impacts.
	Ramsar wetlands	There are no Ramsar wetlands intersected by the spill EMBA.
	TECs	There are no TECs identified in the spill EMBA.
	Nationally threatened and migratory species	Some nationally threatened species and migratory species have the potential to be present in the MDO spill EMBA, however as evaluated in the previous tables in this section, the consequence to individuals or populations of threatened and migratory species are considered negligible.
	Other matters	
	KEFs	The MDO EMBA intersects the Carbonate bank and terrace system of the Sahul Shelf KEF. The conservation values of this KEF are related to its benthic environment (diverse corals, sponges and demersal fish), and as such are unlikely to be affected by MDO because MDO is unlikely to occur at anything other than low thresholds near the seabed.
	NIWs	There are no NIWs that are intersected by the activity area or the spill EMBA.
	State marine parks	The MDO EMBA intersects the North Kimberley MP, which has the following environmental values: • River estuaries;

		• Turtle nesting beaches; • Fringing reefs; • Seabird and shorebird breeding sites; • Marine mammal foraging habitat; • Presence of pelagic finfish; and • Mangrove and intertidal mudflats. Given that these values and sensitivities will not be exposed to hydrocarbon concentration that are likely to cause ecological impact, it is anticipated that the impact to these values will be negligible.
	Species Conservation Advice / Recovery Plans / Threat Abatement Plans	Marine pollution is a threat identified for the Australian lesser noddy, Abbott's booby, red knot, curlew sandpiper, great knot, greater sand plover, lessor sand plover, Nunivak bar-tailed godwit, Northern Siberian bar-tailed godwit and eastern curlew. In general, population monitoring is the suggested action to deal with marine pollution. Table 7.60 of the PDSA EP (here) outlines the potential risks of an MDO spill to these species. The conservation advice and management plans for blue, humpback, sei and fin whales identify hydrocarbon spill as threats, though there are no specific aims to address this. Table 7.58 outlines the potential risks of an MDO spill to these species. The WCP for seabirds (2020) identifies acute pollution (oil spills) as a moderate threat to seabirds. The EPS outlined within this table mitigate the chance of an oil spill, and therefore, reduce the probability of acute pollution impacts on seabirds.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the risk of an MDO release to be acceptable because: • It will adhere to the company's Safety & Environmental Policy; • The residual risk ratings are negligible; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Input from engagement with relevant persons has been considered and incorporated into the design of the survey; • Relevant legislation and industry best practice will be complied with; • An MDO release will not have long-term or significant impacts on MNES; • The management of an MDO release is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of an MDO release is not inconsistent with the aims of relevant marine reserve management plans; and • The management of an MDO release is not inconsistent with ESD principles.	
Environmental Monitoring		

• As per the OPEP and OSMP.	
Record Keeping	
• Vessel assurance reports. • Notices to Mariners. • Stakeholder consultation records. • SMPEPs. • OPEP. • ERP.	• Crew training records. • Bunkering procedure. • Bunkering PTWs, JSAs, inspection checklists. • Oil spill response exercise records. • Inspection/audit reports. • Incident reports.

8.7 RISK 7 – Loss of Well Control and Major Oil Spill

8.7.1 Hazard

A LoWC may occur in the highly unlikely event of all barriers on the well failing, which could result in a large-scale oil spill. As outlined in Section 2.10, the most credible worst-case release of light crude oil (using Jabiru crude as an analogue) is for an average daily release of 10,219 m^3 over 77 days (the maximum time required to source a MODU, drill a relief well and kill the well). This would result in a maximum worst-case spill volume of approximately 786,794 m^3.

Based on data from the Gulf of Mexico, UK and Norway from 1980-2004, it was estimated that for wells with a BOP installed, including shear rams and following the two-barrier principle, the frequency of a blowout was 3.1 x 10^{-4} (0.00031, or 0.031%) per exploration well drilled (OGP, 2010 in DNV, 2011).

In this section, the risk assessment is based on a worst-case scenario assuming that the flow of oil has not stopped until day 77 and in the absence of spill response measures. Oil spill response actions that would reduce the impact in the event of a spill are discussed in Section 8.8.

8.7.2 Potential Environmental Risks, EMBA and Evaluation of Environmental Risks

In line with OPGGS(E) Regulation 56 and Section 2.6 of NOPSEMA's *Environment Plan content requirement guidance note*, EOG refers the reader to Sections 8.7.2, 8.7.3, 8.7.4 and 8.7.5 of its Beehive-1 drilling EP (996161-2022-Beehive#1-Drilling-EP-Rev6, available here) that describes the potential environmental risks, EMBA and evaluation of environmental risks for a LoWC.

This LoWC EMBA created for the Beehive-1 drilling EP, also applies to any individual well in the multi-well activity area – there is no change in the assumptions used in the OSTM, as outlined in Section 2.10 of this EP. The Beehive-1 drilling location is located within the multi-well activity area. As such, the ERA in this section remains the same as that for the Beehive-1 drilling EP.

8.7.3 Risk Assessment

Table 8.20 presents the risk assessment for a LoWC. This is the same as that presented in the Beehive-1 drilling EP, but is included here for completeness.

Table 8.20. Risk assessment for a LoWC

Summary	
Summary of risks	Widespread and temporary reduction in water quality. Sub-lethal to lethal toxicity impacts to marine life. Temporary fisheries closures.
Extent of risks	The spill EMBA is presented in Figure 11.1 in Appendix 11.

Duration of risks	Days, weeks or months, depending on the location, level of contact and receptor.	
Level of certainty of risks	HIGH – the environmental impacts of spilled hydrocarbons are well understood.	
Risk decision framework context	Decision type	B – new to the organisation or geographical area.
	Activity	Infrequent activity.
	Risk & uncertainty	Risks amenable to assessment using well-established data and methods. Some uncertainty.
	Stakeholder influence	Pressure groups likely to object, significant media interest.
Defined acceptable level	No LoWC that results in a crude oil spill.	

Risk Assessment (inherent)			
Receptor	Consequence	Likelihood	Risk rating
Benthic fauna	Severe	Rare	High
Macroalgae & seagrass	Severe	Rare	High
Coral	Severe	Rare	High
Mangroves & saltmarshes	Severe	Rare	High
Sandy beaches	Severe	Rare	High
Rocky shores	Moderate	Rare	Low
Tidal flats	Moderate	Rare	Low
Plankton	Moderate	Rare	Low
Fish	Moderate	Rare	Low
Marine mammals	Severe	Rare	High
Marine reptiles	Severe	Rare	High
Seabirds & shorebirds	Severe	Rare	High
Commercial fisheries	Minor to Severe	Rare	Negligible to High
Protected areas	Negligible to Severe	Rare	Negligible to High
Aboriginal cultural heritage values and sensitivities	Moderate	Rare	Low

Assessment of Proposed Control Measures			
Control measure	Control type	Adopt	Justification
PDSA investigation results are used to inform MODU positioning to avoid	Engineering	Yes	**EB:** Avoiding gas pockets and ensuring the stability of the MODU while drilling minimises the risk of an unplanned hydrocarbon release. **C:** Significant cost (millions of dollars).

shallow gas hazards **(RSK-07: EPS-01)**.			**Ev:** The significant costs are outweighed by the benefits of not drilling through a gas pocket and avoiding a significant release of gas.
BOP is fitted and tested **(RSK-07: EPS-02, -03, -04)**.	Engineering	Yes	**EB:** Fitting a BOP and ensures its correct functioning reduces the likelihood of a spill resulting from a LoWC. **C:** BOPs are available with every MODU, and the cost of their supply and maintenance is built into MODU day rates, which are significant (up to $1 million per day). **Ev:** Having a BOP fitted is best practice and required as part of the Safety Case regime. The environmental benefits outweigh the significant costs.
Pre-campaign MODU assurance inspection **(RSK-07: EPS-05)**.	Engineering & Administrative	Yes	**EB:** Ensures that the physical status of the MODU, along with the systems and processes that govern its day-to-day operations, are suitable for this drilling program, and therefore minimises the likelihood of a LoWC. **C:** Moderate costs. **Ev:** It is best practice to conduct an independent review of the physical status of the MODU and its operating systems. The cost of doing so is outweighed by the environmental benefits.
WCMP **(RSK-07: EPS-06, -07, -08)**.	Engineering & Administrative	Yes	**EB:** Considering all engineering and safety risks when drilling a well through the development of, continuous updates and training in detailed plans available for each stage of well design ensures best practice engineering design is achieved and minimises the risk of a LoWC. **C:** High cost of developing and continuously refining this system. **Ev:** It is best practice to have in place a management system to consider and plan for risks. The high costs are outweighed by environmental benefits.
Maintain a second MODU on standby for the purpose of drilling a relief well.	Engineering & Administrative	No	**EB:** Would reduce the mobilisation time for drilling a relief well, thereby minimising the volume of crude spilled to the sea. **C:** Significant, likely up to $1 million per day. Would also require an in-force Safety Case/SCR, which could cost several hundred thousand dollars more to prepare.

			Ev: With all other control measures in place, the significant cost of this measure is grossly disproportionate to the low risk of a LoWC.
Maintain support vessels on standby for the purpose of responding to a LoWC.	Engineering & Administrative	No	**EB:** Would reduce the mobilisation time for deploying spill response equipment, thereby potentially minimising the impacts of spilled crude oil. **C:** Significant, likely several hundred thousand dollars per day. **Ev:** With all other control measures in place, the significant cost of this measure is grossly disproportionate to the low risk of a LoWC.
Time drilling to avoid the cyclone season (start November to end April).	Administrative	No	**EB:** Avoiding the cyclone season minimises the risk of having to quickly de-man the MODU in the event of a cyclone and minimises the risk of unintentionally leaving the well in an unsafe safe (and potentially prone to a LoWC). **C:** Removes 6 months of the year from the drilling schedule, meaning that securing access to a MODU would be extremely difficult. **Ev:** Drilling throughout the cyclone season in northwest Australia has taken place for decades, with well-established and tested de-manning practices in place. The high costs associated with not being able to drill the well to schedule are not commensurate with the low risks of securing the MODU and de-manning in the event of a cyclone.
Accepted Safety Case, SCR and WOMP are in place **(RSK-07:EPS-07)**.	Administrative	Yes	**EB:** Ensures titleholder has plans in place to safely operate the MODU and drill the well, thereby minimising the risk of a LoWC. **C:** Moderate costs involved in preparing documents through to acceptance. **Ev:** It is a regulatory requirement to have these documents in place. The moderate costs are outweighed by environmental benefits in terms of minimising the risk of a LoWC.
International Alliance for Well Control (IAWC)/IADC WellCap training **(RSK-07:EPS-09)**.	Administrative	Yes	**EB:** Ensures that the Drilling Superintendent and DSV are equipped to properly respond to a well kick and LoWC, which may reduce the volume of oil lost to the sea through an efficient technical response. **C:** Moderate cost to undertake initial and refresher training.

			Ev: Moderate costs are outweighed by environmental benefits in the event of a spill.
Accepted OPEP is in place **(RSK-07:EPS-10)**.	Administrative	Yes	**EB:** Ensures titleholder has considered risks and planned for a response, which may reduce impacts to marine fauna and sensitive shoreline habitats. **C:** Significant cost to prepare plan and put in place agreements and contracts with suppliers. **Ev:** It is a regulatory requirement to have this document in place. High costs are outweighed by environmental benefits in the event of a spill.
The SCERP (including the RWP) is in place and reviewed regularly **(RSK-07:EPS-11)**	Administrative	Yes	**EB:** The pre-drilling identification of MODUs in the region suitable as drilling a relief well, and mobilisation planning, will aid in a prompt response to drilling a relief well in the event of a LoWC. This is considered industry best practice. **C:** Low cost involved in preparing RWP. **Ev:** The low cost of preparing the RWP is outweighed by the environmental benefits.
All DIMT positions have undertaken relevant spill response training (e.g., IMO II or III) **(RSK-07:EPS-12).**	Administrative	Yes	**EB:** Spill response trained ensures a response is smoother than it otherwise would be, with potential benefits in reducing the volume of oil lost and/or the volume of oil recovered. **C:** Moderate, depending on the number of personal requiring training. **Ev:** There is significant benefit in personnel being trained and practiced in their responsibilities in the event of a LoWC. The cost is outweighed by the environmental benefits.
Mutual aid agreement (MAA) is in place for access to other MODUs **(RSK-07:EPS-13)**.	Administrative	Yes	**EB:** Access to other MODUs operating in the region reduces the response time with regards to drilling a relief well, in turn potentially reducing the volume of oil released to the ocean. **C:** High costs of AEP membership and cost of time in negotiating access to the MAA. **Ev:** The high costs are outweighed by the environmental benefits.
Agreement(s) in place with well blowout engineering expertise **(RSK-07:EPS-18)**.	Administrative	Yes	**EB:** Access to well blowout expertise (e.g., WWC) reduces the response time with regards to killing the well, in turn potentially reducing the volume of oil released to the ocean. This is considered industry best practice.

			C: Moderate costs of putting agreement in place and maintaining access. **Ev:** The high costs are outweighed by the environmental benefits.
Agreement(s) are in place with spill response organisations **(RSK-07:EPS-17, -18)**.	Administrative	Yes	**EB:** Access to organisations such as AMOSC and OSRL ensure that there is access to expert spill response preparedness advice during the planning phase and advise and response in the event of a LoWC. This may reduce the volume of oil released to the ocean and maximise the volume of oil recovered. This is considered industry best practice **C:** Significant costs of initial membership and maintaining access (hundreds of thousands to millions of dollars). **Ev:** The significant costs are outweighed by the environmental benefits.
Agreement(s) are in place with OSMP service provider(s) **(RSK-07:EPS-20)**.	Administrative	Yes	**EB:** Access to organisations that can implement OSMP studies quickly and to a high standard allows impacts to be quantified, in turn informing spill response activities. **C:** Significant costs of initial membership and maintaining access (hundreds of thousands to millions of dollars). **Ev:** The moderate costs are outweighed by the environmental benefits and is considered industry best practice in Australia.
Accepted OSMP **(RSK-07:EPS-20)**.	Administrative	Yes	**EB:** Ensures titleholder has considered plans to monitor impacted areas, which will inform future response efforts. **C:** Significant cost to prepare plan and put in place agreements and contracts with suppliers. **Ev:** It is a regulatory requirement to have this document in place. High costs are outweighed by environmental benefits in the event of a spill.
Compensate for economic loss due to a spill associated with a LoWC **(RSK-7:EPS-21)** [same as **IMP-02:EPS-04**].	Administrative	Yes	**EB:** Affected third-party marine users are compensated for any economic loss due to a LoWC, thereby mitigating the potential socio-economic consequences. **C:** Minor costs to prepare the procedure and administer the claims process. Potentially significant costs for a claim or claims. **Ev:** The principal of the control measure is to ensure that other marine users are no worse off as a result of drilling so that all parties

			maintain their rights to access the ocean. The benefits outweigh the high costs of potential claims.

Environmental Controls and Performance Measurement		
EPO	EPS	Measurement criteria
Preparedness		
No LoWC will occur for the duration of the activity.	**(RSK-07:EPS-01)** The results of the PDSA investigations are used to avoid shallow gas hazards and to determine the location for a relief well.	MODU station records verify that it is pinned on location that avoid hazards identified in the PDSA reports.
	(RSK-07:EPS-02) A functional and reliable BOP is installed on top of the surface casing that meets the requirements of API Standard 53 (Blowout Prevention Equipment Systems for Drilling Wells).	DDRs confirm BOP is fitted. Survey report confirms that the BOP meets the standard.
	(RSK-07:EPS-03) The BOP is routinely function and pressure tested in accordance with the manufacturer's specification and in alignment with the MODU contractor's PMS.	BOP function and pressure tests are available.
	(RSK-07:EPS-04) The BOP is pressure tested (high and low) prior to deployment, upon initial latch-up with the wellhead and every 21 days in accordance with API Standard 53. The BOP is function tested every 7 days.	BOP testing records confirm testing is performed to schedule.
	(RSK-07:EPS-05) EOG will arrange for an independent pre-campaign assurance check of the MODU, including the BOP system.	Independent assurance report is available and confirms the BOP system is functional.
	(RSK-07:EPS-06) The Beehive-1 well is designed in accordance with the WCMP (as endorsed by EOG) to ensure that the well is designed in accordance with all required codes of practice and industry standards.	EOG's review of the well design verifies that the WCMP has been adhered to.
	(RSK-07:EPS-08) The DSV ensures that well kick drills are undertaken during the campaign in accordance with the MODU contractor's schedule.	DDRs confirm that well kick drills are undertaken.
	(RSK-07:EPS-09) The DSV and Drilling Superintendent are trained and qualified to International Well Control Forum (IWCF)/IADC WellCap well control standards so that well control	Training records and certificates confirm these personnel are qualified and trained in well control.

	emergencies are efficiently and properly managed.	
EOG maintains preparedness to respond to a LoWC.	**(RSK-07:EPS-10)** A BeehiveOPEP and ERP are in place and prior to the activity commencing, a desktop LoWC and spill response exercise is conducted to test the DIMT functions.	Oil spill response exercise report verifies that an LoWC desktop exercise was undertaken.
	(RSK-07:EPS-11) The RWP is developed consistent with the *Source Control Emergency Response Planning Guide for Subsea Wells*, Report 594 (IOGP/IPIECA, 2019) at least 3 months prior to the start of drilling.	RWP is place prior to the start of drilling.
	(RSK-07:EPS-12) All DIMT roles have undertaken the necessary external training to fulfil their roles.	Training records verify that all DIMT roles have undertaken the necessary training (e.g., IMO II or III).
	(RSK-07:EPS-13) MAA is in place to provide access to other MODUs operating in Australia to reduce mobilisation time.	AEP MAA MoU signed by EOG prior to the start of drilling.
	(RSK-07:EPS-14) Agreement(s) are in place with well blowout engineering expertise (e.g., WWC) prior to the start of drilling.	Agreement(s) with WWC are in place prior to the start of drilling.
	(RSK-07:EPS-15) Agreement(s) will be in place with oil spill response organisations (AMOSC & OSRL) prior to the start of drilling.	Agreements with AMOSC and OSRL are in place prior to the start of drilling.
	(RSK-07:EPS-16) Agreement(s) will be in place with OSMP service provider(s) prior to the start of drilling.	Agreement with OSM provider is in place prior to the start of drilling.
Emergency response		
The DIMT responds in accordance with the OPEP, ERP and their training.	**(RSK-07:EPS-17)** The DIMT will be activated and support resources (such as AMOSC and OSRL) will be mobilised to implement the OPEP and ERP.	DDRs and incident investigation reports verify that the OPEP and ERP were implemented.
	(RSK-07:EPS-18) The RWP will be implemented to stop the LoWC within 77 days.	DDRs and incident investigation reports verify that the RWP was implemented.
Recording & reporting		
Regulatory authorities are promptly made of aware of a spill.	**(RSK-07:EPS-19)** EOG will report a spill associated with a LoWC to regulatory authorities within 2 hours of becoming aware of the incident.	Incident report verifies that contact with regulatory agencies was made within 2 hours.

Monitoring		
Characterise environmental impacts of a LoWC spill.	**(RSK-07:EPS-20)** EOG will undertake operational and scientific monitoring in accordance with the OSMP.	Daily operations reports and overall study reports verify that the OSMP was implemented.
Compensation		
Compensate for economic loss due to a spill associated with a LoWC.	As per **IMP-02:EPS-04** and **IMP-02:EPS-05.**	As per **IMP-02:EPS-04** and **IMP-02:EPS-05.**

Risk Assessment (residual)			
Receptor	Consequence	Likelihood	Risk rating
Benthic fauna	Severe	Remote	Medium
Macroalgae & seagrass	Severe	Remote	Medium
Coral	Severe	Remote	Medium
Mangroves & saltmarshes	Severe	Remote	Medium
Sandy beaches	Severe	Remote	Medium
Rocky shores	Moderate	Remote	Low
Tidal flats	Moderate	Remote	Low
Plankton	Moderate	Remote	Low
Fish	Moderate	Remote	Low
Marine mammals	Severe	Remote	Medium
Marine reptiles	Severe	Remote	Medium
Seabirds & shorebirds	Severe	Remote	Medium
Commercial fisheries	Minor to Severe	Remote	Negligible to Medium
Protected areas	Negligible to Severe	Remote	Negligible to Medium
Aboriginal cultural heritage values and sensitivities	Moderate	Remote	Low
The reasons for the LoWC risk ratings are outlined in the previous tables corresponding to each faunal group or habitat type or socio-economic sensitivity.			
Demonstration of ALARP			
The ‘medium’ residual risk ratings are considered to be intolerable and higher order risks. However, the adopted control measures and associated EPS cannot lower the risk ratings any lower. Engineering risk assessments including BOP risk assessments, well integrity risk assessments and the precautionary principle have been factored into the control measures.			
Demonstration of Acceptability			
Policy compliance	EOG’s Safety and Environmental Policy objectives are met.		

EMS compliance	Chapter 10 describes the EP implementation strategy to be employed for this activity.	
Risk matrix standard compliance	The residual risk for each receptor ranges from negligible to medium.	
External context	No objections or claims have been raised by relevant persons regarding a large-scale hydrocarbon spill resulting from drilling. This being said, the control measures within this table incorporate the concerns expressed by relevant persons during the Beehive-1 consultation process (from the WA DoT, WAFIC, Seadragon Project, BAC and CCWA).	

Legislative context	The EPS align with the requirements of:
	• OPGGS Act 2006 (Cth):
	  ○ Section 572A-F (Polluter pays for escape of petroleum).
	• OPGGS(E):
	  ○ Part 3 (Incidents, reports and records).
	• *Protection of the Sea (Prevention of Pollution by Ships) Act* 1983 (Cth):
	  ○ Section 9 (Prohibition of discharge of oil or oily mixture to sea).
	  ○ Section 11A (SOPEP).
	  ○ AMSA Marine Orders Part 91 (Marine pollution prevention – oil).	

Industry practice	The consideration and alignment of EPS with the mitigation measures in the below-listed codes of practice and guidelines demonstrates that BPEM will be implemented in this activity	
	Environmental management in the upstream oil and gas industry (IOGP-IPIECA, 2020)	The EPS developed for this activity are in line with the management measures listed for major spills from exploration facilities in Section 4.7.4 of the guidelines: • Well design undertaken in accordance with industry best practice **(RSK-07: EPS-06 to -013)**. • OSTM undertaken to determine potential impacts to the surrounding environment (**part of ERA)**. • Blowout prevention measures to focus on maintaining wellbore hydrostatic pressure **(RSK-07: EPS-02 to -05)**. • Well integrity testing to be performed **(RSK-07: EPS-07 to -011)**. • RWP in place to regain control of the well if there is a loss of integrity **(RSK-07: EPS-07, -015)**.
	Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production (European Commission, 2019)	The EPS developed for this activity are in line with the management measures listed for well blowouts in Section 18.2 of the guidelines: • Have in place a spill contingency plan **(RSK-07: EPS-014 to -020)**. • Primary and secondary well control **(RSK-07: EPS-02, -03, -04, -05, -11)**. • Well monitoring **(RSK-07: EPS-08, -09, -10, -11)**.

		• Relief well planning **(RSK-07: EPS-015)**.
	Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units (IADC, 2015)	The EPS developed for this activity are in line with Section 2.3.12 of the guidelines (drilling and well control operations), which specify that: • Personnel involved in the operations are competent **(RSK-07: EPS-013, -016)**. • Drilling and well control procedures are in place to shut-in and abandon the well **(RSK-07: EPS-07)**.
	Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development (World Bank Group, 2015)	The EPS developed for this activity are in line with the following parts of the guidelines: • Section 75 (Spills): Conducting a spill risk assessment, implementing personnel training and field exercises, ensuring spill response equipment is available **(RSK-07: EPS-015 to -019)**. • Sections 76-79 (Spill response planning): A spill response plan should be prepared **(RSK-07: EPS-014, -015)**. • Section 115 (Well blowout). Blowout prevention measures should focus on maintaining wellbore hydrostatic pressure by effectively estimating formation fluid pressures and the strength of subsurface formation **(RSK-07: EPS-09)**. • Section 116 (Well blowout). A BOP system should be installed that can be closed rapidly. It should be tested at regular intervals (at least every 14 days) **(RSK-07: EPS-02, -03, -04)**. • Section 118 (Well blowout). Contingency plans should be prepared for well operations **(RSK-07: EPS-014, -015, -024)**. • Section 119 (Well blowout). A dedicated blowout risk analysis and emergency plan should be prepared, detailing the measures in place to prevent a blowout, the provisions for well control in a blowout scenario and the time necessary for intervention **(RSK-07: EPS-015)**.
	AEP CoEP (APPEA 2008)	The EPS for this activity meet the code's following objectives for offshore geophysical surveys: • To reduce the risk of damage and cross-flow between fluid strata to ALARP and an acceptable level.
Environmental context	MNES	
	AMPs	As per Table 8.36.
	Ramsar wetlands	As per Table 8.36.
	TECs	As per Table 8.36.

	Nationally threatened and migratory species	As per Tables 8.31 to Table 8.34.
	Other matters	
	KEFs	As per Table 8.36.
	NIWs	As per Table 8.36.
	State marine parks	As per Table 8.36.
	Species Conservation Advice/ Recovery Plans/ Threat Abatement Plans	Marine pollution is a threat identified for many fish, marine mammal, turtle and bird species. In general, population monitoring is the suggested action to deal with marine pollution. The Beehive OSMP addresses this. The WCP for seabirds (2020) identifies acute pollution (oil spills) as a moderate threat to seabirds. The EPS outlined within this table mitigate the chance of an oil spill, and therefore, reduce the probability of acute pollution impacts on seabirds.
ESD principles	The EIA presented throughout this EP demonstrates that ESD principles (a), (b), (c) and (d) are met (noting that principle (e) is not relevant).	
Statement of acceptability	EOG considers the risk of a spill resulting from a LoWC to be acceptable as: • It will adhere to the company's Safety and Environmental Policy; • The residual risk ratings are as low as can be achieved; • An Implementation Strategy (described in Chapter 10) is in place to ensure the EPS are achieved. • Input from engagement with relevant persons has been considered and incorporated into the risk assessment; • Relevant legislation and industry best practice will be complied with; • A spill is not predicted to have long-term or significant impacts on MNES; • The management of a spill is not inconsistent with the aims of recovery plans/conservation plans/advice that are in force for EPBC Act-listed threatened and migratory species; • The management of a spill is not inconsistent with the aims of relevant marine reserve management plans; and • The management of a spill is not inconsistent with ESD principles.	
Environmental Monitoring		
• As per the OPEP and OSMP.		
Record Keeping		
• PDSA data reports. • AEP MoU. • Agreements with service providers. • Emergency response exercise reports. • DDRs. • BOP installation and testing reports.	• BOP IAT Part 2 report. • Crew training records and certificates. • WCMP review. • DIMT training records. • Incident reports.	

9. Environmental Risk Assessment – Hydrocarbon Spill Response

The section presents a risk assessment for the oil spill response activities in accordance with the requirements of Regulation 21(6)(b) of the OPGGS(E), which states that the evaluation of all impacts and risks, including those relating to potential emergency conditions, must be included in the EP.

A strategic Net Environmental Benefits Analysis (NEBA) of oil spill response options was conducted to determine which options are suitable for the activity and considered to result in a net benefit for the ecological and socio-economic receptors within the spill EMBA (see Appendix B of the OPEP). The approach used to develop the NEBAs is based on IPIECA's guideline *Response strategy development using NEBA: Good practice guidelines for incident management and emergency response personnel* (IPIECA, 2015c).

Table 9.1 summarises the response strategies selected for the OPEP from the strategic NEBA, noting that the combination of response options adopted in an actual response will depend on the trajectory of the spill.

Table 9.1. Hydrocarbon spill response strategies

Response option	Description
Source control	Vessel – SMPEP
	Relief well installation to kill well
Monitor & evaluate	Direct observation – aerial or marine, OSTM, satellite tracking buoys, satellite tracking
Dispersant application	Aerial dispersant application
	Vessel dispersant application
Containment & recovery	Use of booms and skimmers to contain surface oil in open waters. Relies on calm conditions and thicknesses > 10 µm to collect.
Protection and deflection	Booms and skimmers deployed to protect environmental sensitivities such as estuaries. Strong currents, waves, tidal ranges and poor access can limit the application of this response option.
Shoreline clean-up	Where impact is predicted, shoreline clean-up assessment technique (SCAT) is initiated. If SCAT and NEBA assess that clean-up will have a net benefit, clean-up can be initiated. Shoreline clean-up may take different forms, including manual removal if access is available.
Oiled wildlife response (OWR)	Consists of capturing, cleaning and rehabilitating oiled wildlife. It may also include hazing or pre-spill captive management.
Waste Management	Collection and disposal of large volumes of oily water and solid wastes.

Each of the response options identified as suitable for this activity from the strategic NEBA (see Appendix B of the OPEP) is assessed in accordance with the NOPSEMA Oil Pollution Risk Management Guidance Note (GN14488, Rev 2, Feb 2018) to ensure that the risks associated with the responses have been reduced to ALARP and acceptable levels.

The OPEP describes the arrangements for responding to and monitoring pollution in the event of a hydrocarbon spill during drilling for the Beehive-1 well. The OPEP is supported by a series of field response guidance documents and site-specific Tactical Response Plans (TRPs) for the implementation of applicable response strategies as identified via the strategic NEBA process.

The OPEP is supported by the following appendices:

- Appendix A - Drilling Incident Management Team (DIMT) Requirements;
- Appendix B - Basis of Design and Response Strategy Requirements;
- Appendix C - Operational and Scientific Monitoring (OSM) Bridging Implementation Plan (BIP);
- Appendix D - Cumulative Requirements and Demonstration of Capability; and
- Appendix E - Environmental Sensitivities.

9.1. Background Information, Scope of Activity, Hazards, Known and Potential Environmental Impacts and Risks, Evaluation of Environmental Impacts and Risks and Impact and Risk Assessment

The background information, scope of activity, known and potential environmental impacts and risks, evaluation of environmental impacts and risks and impact and risk assessment for each of the hydrocarbon spill response options for the multi-well drilling campaign does not differ to that for the Beehive-1 drilling campaign. As such, in line with OPGGS(E) Regulation 56 and Section 2.6 of NOPSEMA's *Environment Plan content requirement guidance note*, EOG refers the reader to the following sections of the NOPSEMA-accepted Beehive-1 drilling EP (996161-2022-Beehive#1-Drilling-EP-Rev6, available here) that provides the background information, scope of activity, known and potential environmental impacts and risks, evaluation of environmental impacts and risks and impact and risk assessment for each of the hydrocarbon spill response options:

- Source Control – Section 9.1;
- Monitor and Evaluate – Section 9.2;
- Dispersant Application – Section 9.3;
- Containment and Recovery – Section 9.4;
- Shoreline Protection and Deflection – Section 9.5;
- Shoreline Clean-up – Section 9.6;
- Oiled Wildlife Response – Section 9.7; and
- Waste Management (Support Activity) – Section 9.8.

10. Implementation Strategy

The OPGGS(E) Regulation 22 requires that an Implementation Strategy be included in an EP. EOG retains full and ultimate responsibility as the Titleholder of the activity and is responsible for ensuring that the EPO and EPS outlined throughout Chapters 7, 8 and 9 are adequately implemented.

10.1. Activity Organisational Structure

Figure 10.1 illustrates the organisational chart for the activity and the relationship between EOG, the DMC, the MODU contractor and consultants for the activity.

EOG has overall responsibility for the management of the activity to ensure that:

- Design and execution of the activity is undertaken in accordance with industry accepted practice and legislated standards;
- All regulatory approvals are obtained prior to activity commencement;
- Contractors have been pre-qualified as having appropriate resources and equipment to undertake the activity and have appropriate systems in place to ensure that these activities are undertaken in accordance with all legislative requirements;
- The environmental impacts and risks of the activity are minimised and reduced to ALARP and environmental performance is monitored; and
- The day-to-day direction and oversight of work by contractors is undertaken in accordance with the accepted EP.

The MODU contractor will have the day-to-day control and management of the MODU through the Offshore Installation Manager (OIM) and the support vessels through the respective Vessel Masters. The OIM and Vessel Masters have overriding authority and responsibility to make decisions with respect to environment protection and pollution prevention and to request assistance as may be necessary.

Specific environmental roles and responsibilities are outlined in Table 10.1. These will be communicated to all personnel involved in the activity. As the Titleholder, EOG will enter into an agreement with the DMC to provide consulting services to support the planning and execution for drilling and appraising the Beehive wells.

EOG and the DMC will manage systems and procedures (outlined in Figure 10.2) to ensure that the well operation plans, operations preparations and operations activities carried out by the DMC on behalf of EOG are managed effectively with due regard for HSE and technical issues, quality assurance and cost effectiveness and the relevant statutory obligations.

10.2. Roles and Responsibilities

The environmental roles and responsibilities of key project team members are summarised in Table 10.1.

Day-to-day implementation of the activity (and the EP) will occur on the MODU under the leadership of the OIM, and for the support vessels under the leadership of the Vessel Masters. The DMC Project Manager will have oversight of the performance of the activity against the project plans, including this EP, and will initiate reviews and audits as required.

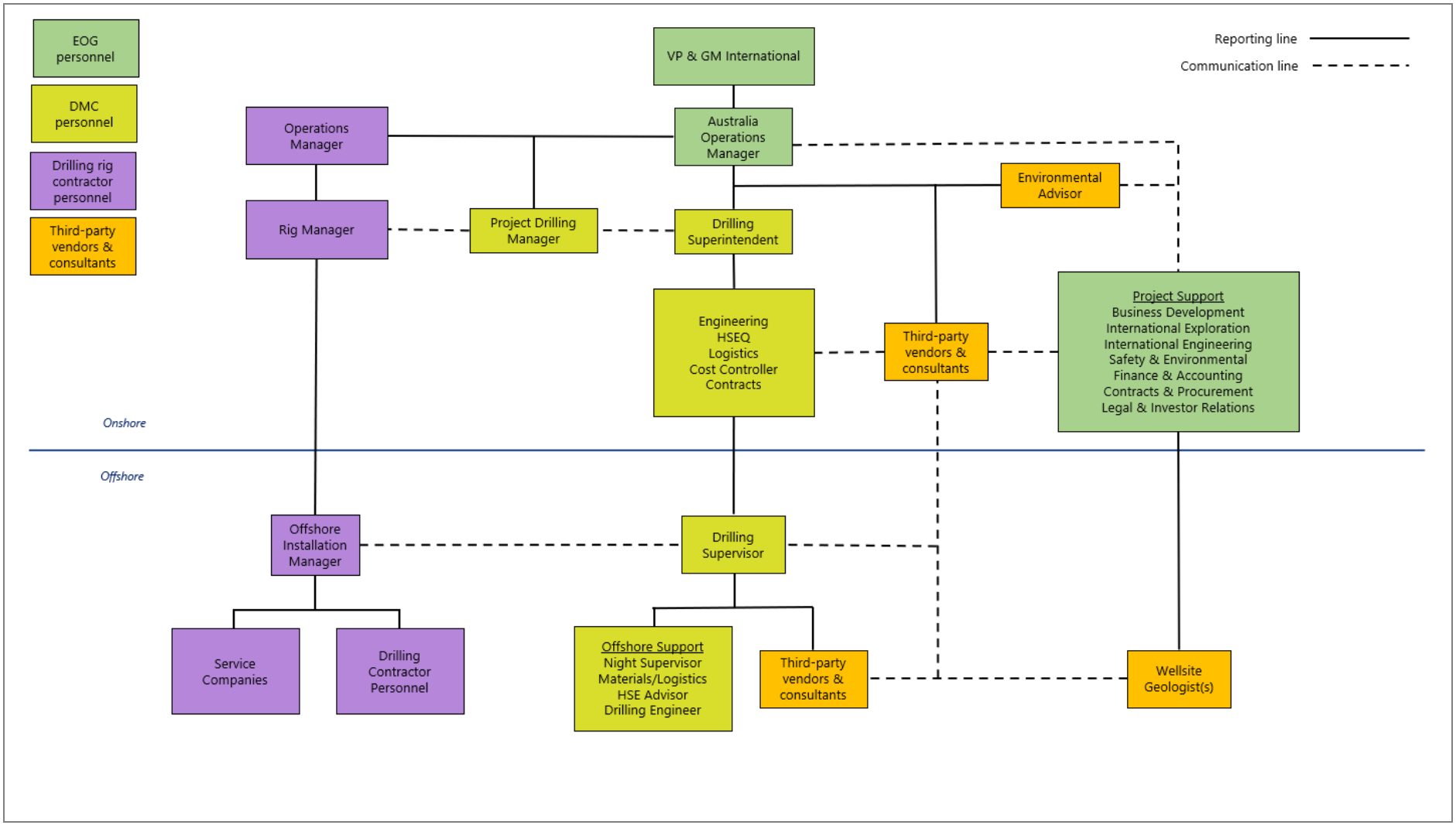


Figure 10.1. Activity organisation chart

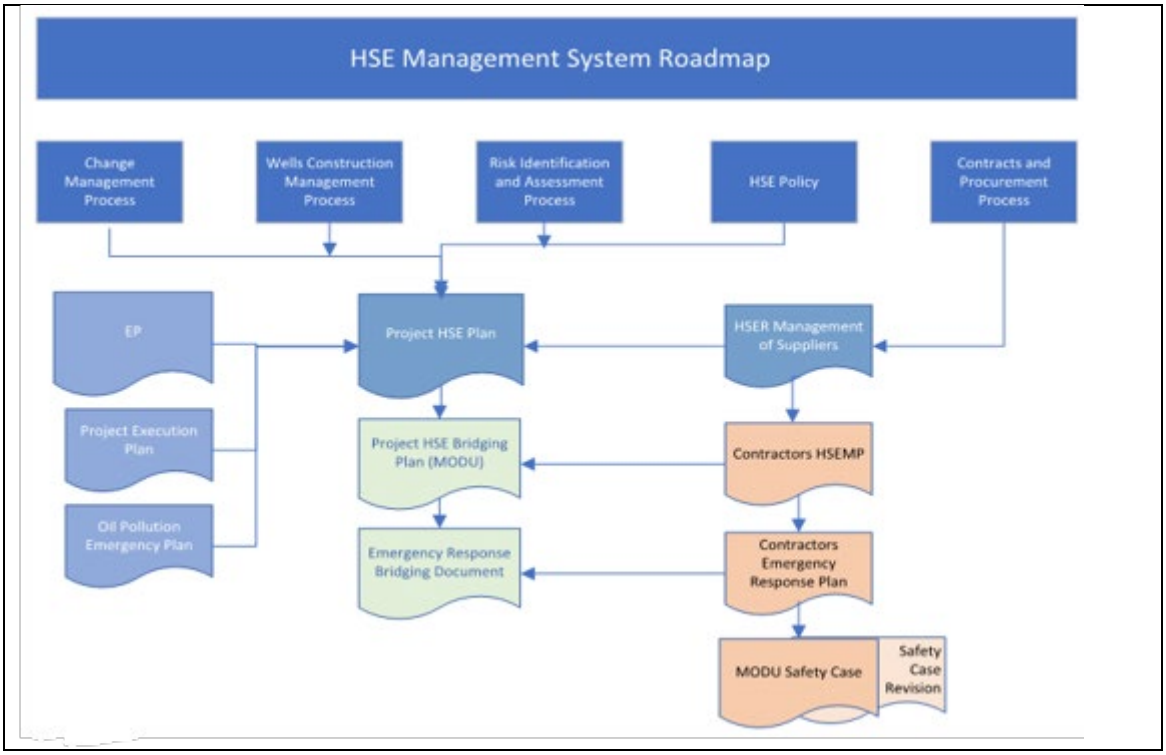


Figure 10.2. Beehive HSE management system roadmap

Table 10.1. Environmental roles and responsibilities for the activity

Role	Environmental responsibilities
Onshore	
EOG	
Vice President and General Manager – International	• Ensures EOG's standards are met. • Approves this EP for submission to NOPSEMA. • Ensures its contractors and consultants are adequately resourced to undertake the activity.
Vice President (Safety & Environment)	• Ensures EOG's Safety and Environmental Policy is applied to the activity.
Australia Operations Manager	• Overall project manager for the activities. • Works with the EOG team, as well as all contractors, to execute a safe and successful project. • Ensures EOG is adequately resourced to undertake the activities. • Ensures its contractors and consultants are adequately resourced to support the activities. • Liaises with the DMC and Aventus for guidance. • Attends operations meetings during the activity. • Reviews technical proposals to ensure compliance with industry best practice and EOG's Safety and Environmental Policy. • Reviews the Drilling EP, OPEP and OSMIP. • Confirms all required plans, audits and reviews are undertaken in accordance with the requirements of the EP and other regulatory documents. • Reviews and approves incident reports and submits them to regulators.

Role	Environmental responsibilities
	• Ensures all notifications are prepared and submitted in a timely fashion. • Reviews major changes to operations. • Reviews and submits the end-of-activity notification for submission to NOPSEMA. • Reviews and submits the Environmental Performance Report to NOPSEMA. • Approves submissions to NOPSEMA.
Project support	• Provides direction on stakeholder consultation. • Attends stakeholder meetings as required.
Specialists	
DMC Drilling Superintendent	• Reviews the Drilling EP, OPEP and OSMIP. • Ensures the correct selection, competence and training of individuals. • Ensures the WCMP is being followed, and verifies and signs off on well construction phases as complete. • Executes operations and is the key interface point between the DMC and MODU management onshore during operations. • Ensures MODU compliance with the EP. • Ensures effective emergency response arrangements are in place with the MODU. • Ensures all DMC, MODU and third-party contractor personnel are inducted and are aware of their activity-specific environmental responsibilities. • Ensures all required plans, audits and reviews are undertaken in accordance with the regulatory requirements and as required by the EP. • Promotes a proactive HSEQ culture within the DMC's operations and attendance at project HSE meetings. • Participants in onboard HSE incident investigations. • Provides daily feedback on operations progress to the EOG Australia Operations Manager. • Reports all incidents to the EOG Australia Operations Manager. • Ensures the DMC's drilling operations perform to the highest required standards of HSEQ. • Ensures full and complete HSE compliance with EOG requirements and government regulations. • Ensures the support vessels are appropriately inspected, certified and fit for purpose. • In the event of an emergency, assumes the role of DIMT Leader and activates the EOG Drilling Program Bridging Emergency Response Plan (ERP) to ensure the necessary onshore support is managed appropriately.
DMC HSEQ Manager	• Provides frontline HSEQ support and direction to management and all personnel for the project. • Ensures the activity complies with all applicable legislative, industry and corporate governance requirements. • Encourages the implementation of industry best practice and implements the DMC's management systems to achieve exemplary HSE performance. • Manages the preparation of the health and safety regulatory approvals documents (e.g., SCR and WOMP). • Provides technical input to risk analysis and evaluation techniques. • Arranges for review of the MODU and vessel contractors' HSE management systems upon contract award. • Reports recordable and reportable incidents to EOG. • Assists with review, investigation and reporting of HSE incidents.

Role	Environmental responsibilities
Aventus Environmental Advisory	• Prepares the EP, OPEP and OSMIP. • Provides technical input to stakeholder consultation. • Plans for the implementation of the EP. • Prepares the environmental induction. • Conducts EP compliance inspections/audits. • Monitors environmental performance against the EPS in this EP. • Assists with review, investigation and reporting of environmental incidents. • Provides incident support. • Reviews major changes to operations. • Alerts EOG ahead of any required notifications. • Prepares monthly recordable incident reports for submission to NOPSEMA. • Prepares the end-of-activity notification for submission to NOPSEMA. • Prepares the end-of-activity environmental performance report for submission to NOPSEMA.
Offshore	
MODU	
MODU OIM	• Responsible for the daily control and management of the MODU, has over-riding authority and responsibility to make decisions regarding environment protection and pollution prevention. • Responsible for all vessel activities within the PSZ around the MODU. • Oversees all work activities and work programs ensuring work is undertaken in accordance with procedures, work instructions and in compliance with the MODU Safety Case and Safety Case Addendum. • Assumes role of MODU ERT Leader. • Leads offshore HSE investigations. • Ensures all offshore personnel understand their obligations with respect to the management of HSE risks. • Ensures the MODU training matrix is fully implemented by all MODU crew. • Ensures MODU HSE inductions are conducted. • Ensures waste disposal complies with MARPOL requirements. • Monitors closeout of non-conformances, corrective actions and audit recommendations. • Reports all incidents, near-misses and dangerous occurrences to the drilling supervisor (DSV) in accordance with the incident reporting system.
DMC DSV	• Acts as EOG's Onboard Representative during the activity and ensures that commitments made in the EP are met. • Represents EOG onboard the MODU in all matters that affect EOG's commitment to HSE performance and ensures that the HSEQ and technical expectations are met. • Ensures inductions, auditing and reporting requirements are met. • Shares any design changes with the MODU OIM and rest of the onboard project team. • Encourages the principle of stop-work authority for safety. All personnel are encouraged to call a Time Out For Safety (TOFS) and to stop operations if there is a risk or any reasonable doubt about safety. • Ensures that the operation is halted in a safe manner to protect personnel, equipment and the environment prior to providing clarification and, if necessary, performing a risk assessment to identify mitigating plans in order to resume safe operations.

Role	Environmental responsibilities
	• Participates in HSE meetings and will be a member of the investigation team activated as the result of an accident or incident. Advises the Drilling Superintendent of any incidents. • Complies with all MODU rules, regulations, policies and procedures as defined within the Vessel Safety Case (and Addendum) and MODU ERP. • Undertakes a technical review of the activity. • Liaises with the DMC Drilling Superintendent to ensure compliance with drilling program requirements.
DMC HSE Coordinator	• Supports the DSV to ensure the execution of all HSE commitments under the HSE Plan, Safety Case (and Addendum), WOMP and EP. • Assists and advises on MODU risk assessments. • Participates in the MODU behavioural-based safety programs. • Conducts or participates in incident investigations as required. • Conducts HSE inspections. • Provides HSE technical support to the program and works with the MODU HSE Officer.
All MODU personnel	• Undertake work activities with reasonable care and in accordance with EP commitments to ensure no adverse impacts to the environment. • Report all new hazards, incidents, near-misses and dangerous occurrences to immediate supervisor as soon as possible. • Participate in the development of work procedures through the JSA process. • Attend all necessary toolbox talks, HSE inductions and HSE meetings. • Participate in workplace inspections. • Maintain high house-keeping standards.
Support vessels	
Vessel Master	• Complies with all applicable navigational safety standards and regulations. • Conducts emergency drills. • Supervises vessel crew to ensure they are fit for duty and undertaking work only within their area of qualification and training. • Monitors, reports and takes appropriate action to remedy any vessel or equipment defects that may impact on safety and environmental performance of the vessel. • Maintains logs of emissions and discharges in accordance with MARPOL regulations. • Ensures that all crew are appropriately qualified, trained and equipped for their roles on the vessel. • Reports all incidents and near-misses to the DSV, recording the details and taking initial actions with the Vessel Master to render the situation safe. • Keeps watch for megafauna and avoids direct interactions.
Vessel crew	• Undertake work activities with reasonable care and in accordance with EP commitments to ensure no adverse impacts to the environment. • Report all new hazards, incidents, near-misses and dangerous occurrences to immediate supervisor as soon as possible. • Participate in the development of work procedures through the JSA process. • Attend all necessary toolbox talks, HSE inductions and HSE meetings. • Participate in workplace inspections. • Maintain high house-keeping standards.

10.3. HSE Management

EOG will have overall responsibility for the management, review and audit of HSE issues during implementation of the activity, ensuring the activity is conducted safely and in accordance with corporate policies and procedures, as well as relevant Australian legislation and international standards.

10.3.1. EOG

EOG has in place an Australian Projects HSE Management Plan (996161-2022-Beehive#1-HSEPlan) that is aligned with ISO 14001:2016 (*Environmental Management Systems – requirements with guidance for use*), ISO 31000:2009 (*Risk management*), ISO 45001:2018 (*Occupational health and safety management systems*) and ISO 9001:2016 (*Quality management systems–requirements*) to guide the management of the activity. The HSE Plan includes descriptions of the following:

- Leadership and commitment – HSE objectives and performance monitoring, stop work authority;
- Organisation – roles and responsibilities, reporting;
- HSE legislation and standards – occupational, health and safety legislation;
- Risk management – risk management procedures and matrix;
- HSE competence and training – training and induction requirements;
- Subcontractors – pre-qualification process, management;
- Communications – meetings, record keeping and reporting, HSE awareness programs;
- Work instructions – permit to work system;
- Management of change;
- Incident management – recording and reporting procedures, investigation procedure, communicating lessons learned;
- Safety critical equipment and activities – safety critical equipment, working at heights, confined space, PPE requirements, hot work;
- Emergency response;
- Occupation health – medical facilities, infectious disease management (e.g., COVID-19), hygiene, smoking, fatigue management, drugs and alcohol, heat stress, mental health;
- Security – International Ship and Port Facility Security (ISPS) compliance, security alert levels, port security, third-party interference;
- Environmental management – EP compliance, waste management, spill prevention, preparedness and response, biosecurity, monitoring; and
- Audit and review – inspection and audit program.

The MODU and vessel contractors will be required to have an HSE management system or plan that meets the requirements of the EOG Safety and Environmental Policy and the EOG Australian Projects HSE Management Plan.

10.3.2. Drilling Management Consultancy

The management control framework used by the DMC for design and operations will meet best industry practice, involving a phased approach to defining the scope of work, pre-planning, contracts and logistics, detailed well design, readiness for start-up and operations and close out. This will be supported by continuous improvement activities such as risk management, change management and knowledge management.

Additional detail regarding the management control framework will be provided in the WOMP.

During the activity, should the DMC identify any new or increased environmental impacts and risks (that are not addressed in this EP), they will be communicated to EOG as soon as they are identified and addressed as part of the MoC (see Section 10.8) and risk management processes.

There will be daily meetings, DDRs, weekly meetings and weekly reports between the DMC and EOG management teams that keep all management personnel appraised of project issues (technical or HSE) as they arise.

10.4. Training and Awareness

10.4.1. Recruitment and Training

EOG contractor competency

Contractor management is detailed in the EOG Australian Projects HSE Management Plan. During its contractor selection process, EOG will conduct an HSE qualification to ensure that the MODU and support vessel contractors have procedures in place to ensure the correct selection, placement, training and ongoing assessment of employees.

Procedures will also be in place to identify the training needs of an individual to competently perform their role, and evidence of corporate and/or vessel inductions will also be required.

DMC personnel competency

The DMC selected by EOG will have an HSE Management System that describes how it manages the selection, competence and training of individuals and teams to carry on their work and associated risks. This includes staff, consultants, associates and third-party suppliers.

The management system will include guidance for all drilling and completions positions where the incumbent is required to undertake, supervise, review or verify critical tasks or where the incumbent has the technical authority to approve HSE and/or integrity-critical documents. Position-specific competence and training matrices are available for these roles and are used to guide and record assessments of skills.

The management system will also specify the planning, preparation, and chain of command regarding well control.

10.4.2. Environmental Induction

An activity-specific HSE induction for all personnel working on the activity will be undertaken. The environmental component of the induction will include information on the following environmental issues:

- Description of the environmental sensitivities, conservation and heritage values of the operational area and spill EMBA;

- Overview of the key control measures to be implemented;
- The importance of following procedures and using JSAs to identify environmental risks and mitigation measures;
- Procedures for responding to and reporting environmental hazards or incidents;
- Overview of emergency response and spill management procedures;
- Overview of the waste management requirements; and
- Roles and environmental responsibilities of key personnel aboard the vessel.

EOG will prepare the induction and the DSV is responsible for ensuring personnel receive this induction prior to the commencement of the activity. All personnel will be required to sign an attendance sheet to confirm their participation in and understanding of the induction.

The MODU and support vessel contractors will conduct their own company and vessel-specific inductions independently of the activity-specific HSE induction.

10.4.3. Oil Spill Response Training

Quarterly training of MODU and support vessel crews in SMPEP procedures is a MARPOL requirement for vessels over 400 GRT (Annex 1, Regulation 37).

During its contractor audit process, EOG will assess the vessel contractor's implementation of their SMPEPs (or equivalent, relevant to class).

An office-based desktop spill response exercise of the Beehive OPEP and bridging ERP will be conducted, involving key personnel from EOG, LPM, MODU and specialist third-party contractor personnel prior to or at the start of the activity.

10.4.4. Toolbox Talks and HSE Meetings

Environmental matters will be included in daily toolbox talks as required by the specific task being risk assessed (e.g., crane lifts).

Environmental issues will also be addressed in daily operations meetings and weekly HSE meetings, where department leads will participate with the DSV in discussing HSE matters that have arisen during the week, and issues to consider for the following week.

Records associated with environmental training, inductions and attendance at toolbox meetings will be recorded and maintained in respective company data servers.

10.4.5. Communications

The OIM, DSV and HSE Coordinator are jointly responsible for keeping personnel informed about HSE issues, acting as a focal point for personnel to raise issues and concerns, and consulting and involving all personnel in the following:

- Issues associated with the implementation of the EP;
- Any proposed changes to equipment, systems, or methods of operation of equipment, where these may have HSE implications; and
- Any proposals for the continuous improvement of environmental protection, including the setting of environmental objectives and training schemes.

Table 10.2 outlines the key meetings proposed to take place onshore and offshore during the activity.

Table 10.2. Activity communication meetings

Meeting	Frequency	Attendees
Onshore		
EOG Project Management	Daily	EOG Australia Operations Manager, DMC Drilling Advisor, Drilling Superintendent, DSV, HSEQ Manager, HSE Coordinator, vessel masters (if necessary)
Offshore		
Operations	Daily	OIM, Department heads, DSV, HSE Coordinator, vessel masters (if necessary)
Pre-start safety meeting	Daily, prior to each shift	All personnel on shift
Toolbox	Before each task	All personnel involved in the task
HSE	Weekly	All personnel
TOFS	As required, based on safety issues	All personnel

10.5. Environmental Emergencies and Preparedness

In the event of an emergency of any type, the MODU OIM (for the MODU) and Masters (for the support vessels) will assume overall onsite command and act as the ERT Leader. All personnel aboard the MODU and vessels will be required to act under the ERT Leader's directions.

The DSV will maintain communications with the Drilling Superintendent, who will become the overall DIMT Leader and activate the DIMT. The DIMT Leader will communicate with the EOG Australia Operations Manager who will implement the EOG Crisis Management Plan (CMP) if required, with support from the DIMT as required.

10.5.1. Adverse Weather Protocols

It is the duty of the MODU OIM and the support vessel masters to act as the focal point for all actions and communications with regards to adverse weather or sea state, to safeguard the vessel, all personnel onboard and the environment. During adverse weather, the MODU OIM and support vessel masters are responsible for the following:

- Ensuring the safety of all personnel onboard;
- Monitoring all available weather forecasts and predictions;
- Initiating the safety management systems, HSE procedures and/or ERPs;
- Keeping the DSV fully informed of the prevailing situation and intended actions to be taken;
- Assessing and maintaining security, watertight integrity and stability of the vessel; and
- Proceeding to identified shelter location(s) as appropriate.

Other appropriate responsibilities shall be taken into consideration as dictated by the situation.

In addition to using Very High Frequency (VHF) Marine Radio Weather Services, the MODU and support vessel contractor will obtain daily weather forecasting from the Bureau of Meteorology (BoM) and/or other suitable weather monitoring services to monitor weather within the operational area in the lead up to and for the duration of the activity.

10.5.2. Vessel Emergencies and Oil Spills

Activity-specific oil spill related emergency response procedures are included in the Beehive OPEP, Bridging ERP, RWP and MODU and support vessel SMPEPs. The Beehive Bridging ERP contains instructions for the MODU and support vessel emergency, medical emergency, search and rescue, reportable incidents, incident notification and emergency contact information that is specific to Beehive.

Vessel-specific SMPEPs and ERPs typically include vessel-specific procedures for the following:

- Vessel incidents – collision, grounding, hull damage, man overboard, equipment failure;
- Waste management;
- Hazardous materials and handling; and
- Hydrocarbon and chemical spills.

The SMPEP includes information about initial response, reporting requirements and arrangements for the involvement of third-parties having the appropriate skills and facilities necessary to respond effectively to oil spill issues. The SMPEP will be the principal working document for the MODU and support vessel crews in the event of a marine oil spill. This document will include specific emergency procedures including steps to control discharges for bunkering spills, hull damage, grounding and stranding, fire and explosion, collisions, vessel list, tank failure, sinking, and vapour releases. The SMPEP also includes requirements for regular drills of the plan and revision following drills or incidents.

The Beehive OPEP will be implemented in the event of a Level 2 or 3 hydrocarbon spill that requires response resources beyond those immediately available to the MODU and support vessels. Oil spill emergency response for this activity is detailed in the Beehive OPEP.

10.5.3. Emergency Response Training

The readiness and competency of EOG, LPM, the MODU and support vessel contractors to respond to incidents and emergencies will be tested by conducting a desktop emergency response exercise as close immediately prior to or soon after the activity commences.

A scenario will be chosen that combines an emergency with risk to human life (such as fire) and risk to the environment (large hydrocarbon spill). This way several plans (i.e., the ERP and OPEP) can be tested simultaneously. This exercise has the objectives of:

- Developing and testing the response arrangements as outlined in the emergency response procedures;
- Ensuring the skills and teamwork of the DIMT and ERT to respond to major emergency events are up-to-date. In particular, ensuring individual roles, responsibilities and reporting requirements are understood;
- Testing interfaces between all key parties involved in emergency response (EOG, DMC, MODU and support vessel contractors); and

- Ensuring the correct communications are known and used and that contact details (e.g., phone numbers) are correct.

This exercise will be facilitated by an experienced facilitator. At the completion of the exercise, the facilitator will hold a debrief session during which the exercise is reviewed, and lessons learned and areas for improvement are identified.

Any learnings, findings or recommendations identified as part of the testing exercise will be addressed and incorporated into the relevant emergency response plans and procedures to ensure they remain effective.

MODU-specific training

The MODU OIM is responsible for ensuring that personnel fulfilling emergency response roles are competent in crisis and emergency procedures related to the protection of HSE and integrity. The level of training and associated competency demonstration is dependent on individual roles in a crisis or emergency situation in accordance with the MODU's personnel training and qualifications matrix. This includes identification and development of approved competency and non-competency-based courses, and ensuring training is undertaken to schedule and records are maintained.

10.5.4. Underwater Cultural Heritage Unexpected Finds Procedure

In the event of the discovery of what appears to be UCH, the following Unexpected Finds Procedure (as per **IMP01: EPS-09 & EPS-10** in Section 7.1.5) will apply:

- All activities with the potential to impact the suspected UCH must cease immediately. Retain all records of the potential UCH including any images, description and location.
- Person who discovers the heritage object must inform the EOG Onboard Representative.
- EOG Onboard Representative must notify EOG's Historical & Cultural SME.
- EOG will specify an appropriate buffer around the potential UCH, taking into consideration the nature and scale of the potential UCH and the activities to be managed.
- No seabed disturbance may occur within the buffer area around the potential UCH until approved by EOG's Historical & Cultural SME.
- EOG's Historical & Cultural SME must notify a qualified maritime archaeologist and provide all available documentation of the potential UCH.
- If the potential UCH appears to be Aboriginal, EOG's Historical & Cultural SME must notify the appropriate Traditional Custodians to determine whether it is a heritage site and if so, how the site should be managed.
- If the potential UCH appears to be a shipwreck or aircraft that has been wrecked for more than 75 years, or is otherwise reportable under Section 40 of the UCH Act, EOG's Historical & Cultural SME must notify the Minister responsible for the UCH Act, the DCCEEW underwater archaeological section through the Australasian Underwater Cultural Heritage Database, and the WA Museum.
- If the suspected heritage object includes human remains, EOG's Historical & Cultural SME must also notify:

- The Australian Federal Police (phone: 131 444) of the location of the remains, that the remains are likely to be historic or Aboriginal in origin, and that it may be appropriate that Traditional Custodians and a maritime archaeologist are present during any handling of the remains.
- The Office of the Commonwealth Environment Minister in accordance with Section 20 of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (ATSIHP Act).

- Work must not recommence in the vicinity of the heritage object until EOG's Historical & Cultural SME provides written approval. EOG's Historical & Cultural SME must only provide written approval once agreed management measures are implemented consistent with approvals and legislation or where the potential UCH is confirmed to not be UCH (e.g., a permit to disturb UCH under Section 30 of the UCH Act may be required).

10.5.5. Fisheries Compensation Protocol

As noted in Section 7.2 of the EP (IMP-02; EPS-04), EOG has developed an FCP that sets out EOG's commitments to minimising impacts to commercial fishers from its temporary offshore exploration activities and EOG's approach to financial compensation where impacts cannot be minimised or eliminated.

A summary of the FCP is provided in **Appendix 9.** This section, and specifically Table 10.3, summarises how EOG intends to effectively administer and implement the protocol.

Table 10.3. Summary of the Fisheries Compensation Protocol

Protocol aspects	Details
Persons eligible for submitting claims	Commercial fishers are eligible to submit claims. Section 6 of the FCP notes that commercial fisheries with licences to operate in the activity area are the: • Northern Prawn Fishery (Commonwealth); • Northern Demersal Scalefish Managed Fishery (WA); and • Mackeral Managed Fishery (Area 1 – Kimberley) (WA). It is therefore expected that any claims lodged would be most likely to originate from fishers licenced to operate in these fisheries, though other fisheries would not be excluded from making a claim.
Process and timeframes for communicating with commercial fishers about the FCP	During the consultation process for the Beehive-1 drilling campaign, EOG has provided relevant persons with information on control measures that will be implemented, including the availability of the FCP. The FCP has been listed as a control measure in the EP since Revision 4 (October 2023), which has been available on the NOPSEMA and EOG websites for relevant persons to read for about 6 months. Relevant persons, including commercial fisheries representative bodies and individual fishers, have also been made aware of the FCP via project information distributions and the summary FCP that has been available on the EOG website since May 2023 (with EOG directing relevant persons to this summary in correspondence in May 2023).

Protocol aspects	Details
	Section 4 of the FCP, in addition to Section 10.10.2 of this EP, commits to notifying commercial fishers ahead of EOG offshore activities. This will take the form of a project update to relevant persons. As part of pre-activity notifications, EOG will make commercial fisheries representative groups and individual fishers aware of the availability of the FCP and advise them that it is available upon request. Requests for the FCP will also be honoured during the activity and after.
Spatial and temporal extent of the compensation area	Spatially, Section 4 of the FCP notes that EOG's operational areas will be small in comparison with very large fishing zones. Section 8 of the FCP states that claims must relate to a period of time in which the claimant and EOG were undertaking concurrent activities.
Process for assessing claims and for resolution of disagreements on claim assessments	Section 9 of the FCP describes the claims lodgement procedure. Claims will need to be supported by catch and effort evidence and will use best endeavours to approve claims within 60 days of the commercial fisher signing EOG's Settlement Agreement. Trained, competent and independent personnel will be available through an external claims management consultant, will be engaged by EOG at least one month prior to spud. Section 10 of the FCP describes the process for managing disagreements. Where disagreements occur, EOG will seek agreement with the commercial fisher to refer the matter to an independent mediator that EOG will pay for.
Evidence required to support claims	Schedule A of the FCP provides a series of claim forms for various claims scenarios (reduction in catch, displacement and fishing gear loss or damage). One of these must be completed by the commercial fisher and submitted to EOG In order to progress a claim. The claim forms request the following information: • Reduction in catch – months of catch reduction, market prices, catch and effort information for the period in question. • Displacement – evidence of fuel and crew costs for relocation of fishing effort, catch and effort information for the period in question. • Fishing gear damage or loss – details on when, where and how gear damage or loss occurred, name and details of relevant vessel/s, and at least one quote for the repair or replacement of the damaged or lost equipment.
Nature of the content to be included in a claim assessment report	The external claims management consultant will prepare a report in line with relevant industry practice to determine the validity of the claim, which will comment on the credibility of the lodged claim using independent data (where possible), and ultimately provide a recommendation on whether the claim should be paid.
Timeframes for making, submitting and resolving claims and disagreements	The following timeframes are specified throughout the FCP: • Submission of claims – no later than 6 months after the event (FCP Section 9). • Resolution of claims – within 60 days of receiving a claim with the necessary evidence (FCP Section 9). • Payment of accepted claims – within 60 days of receiving a signed Settlement Agreement (FCP Section 9). • Submission of disagreements on claim assessments – within 6 months of receipt of assessment outcome (FCP Section 10).

Protocol aspects	Details
	• Resolution of disagreements on claim assessments – within 6 months of lodging disagreement on claim assessment (FCP Section 10).

10.6. Simultaneous Operations

Simultaneous operations (SIMOPs) refer to two or more operations occurring simultaneously in the same area that have the potential to interfere with each other. The activity area is located 13 km from the Blacktip unmanned wellhead platform and 7 km from the Blacktip gas export pipeline at its closest point, operated by Eni Australia. At this distance, it is not expected that SIMOPs will be an issue. EOG will remain in contact with Eni Australia so that SIMOPs issues can be addressed if and as required.

10.7. Incident Management

10.7.1. Recordable Incident Management

Regulation 5 of the OPGGS(E) regulations defines a 'recordable' incident as:

> *A breach of an EPO or EPS in the EP that applies to the activity that is not a reportable incident.*

Routine monthly recordable incident reports, including 'nil' incident reports, will be submitted by EOG to NOPSEMA by the 15th of each month. These are reported using the NOPSEMA template *Monthly environmental incident reports* (N-03000-FM0928). Table 10.4 summarises the recordable incident reporting requirements.

Table 10.4. Recordable incident reporting details

Timing	Reporting requirements	Contact
By the 15th of each month	• All recordable incidents that occurred during the previous calendar month. • The date of the incident. • All material facts and circumstances concerning the incidents that the operator knows or is able to reasonably find out. • The EPO and/or EPS breached. • Actions taken to avoid or mitigate any adverse environmental impacts of the incident. • Corrective actions taken, or proposed to be taken, to stop, control or remedy the incident. • Actions taken, or proposed to be taken, to prevent a similar incident occurring in the future. • Actions taken, or proposed, to prevent a similar incident occurring in the future.	NOPSEMA – submissions@nopsema.gov.au

10.7.2. Reportable Incident Management

Regulation 5 of the OPGGS(E) defines a 'reportable' incident as:

> *An incident that has caused, or has the potential to cause, moderate to significant environmental damage.*

In the context of the EOG Environmental Risk Matrix, EOG interprets 'moderate to significant' environmental damage to be those hazards identified through the EIA and ERA process (see

Chapters 7, 8 and 9) as having an inherent or residual impact consequence of 'moderate' or greater. Impacts and risks with these ratings are:

- Introduction of IMS;
- Death or injury of threatened or migratory megafauna resulting from vessel collision;
- MDO spill; and
- LoWC.

Table 10.5 presents the reportable incident reporting requirements.

Table 10.5. Reportable incident reporting requirements

Timing	Requirements	Contact
Verbal notification		
Within 2 hours of becoming aware of incident	• The verbal incident report must include: • All material facts and circumstances concerning the incident that the titleholder knows, or is able, by reasonable search or enquiry, to find out; • Any actions taken to avoid or mitigate any adverse environmental impacts of the reportable incident; and • The corrective action that have been taken, or is proposed to be taken, to stop, control or remedy the reportable incident.	• NOPSEMA – 1300 674 472
	Level 2 or 3 vessel spills that threaten WA or NT waters	• WA DoT – (08) 9480 9924 • NT – 1800 064 567 • WA DMIRS - 0419 960 621 • ISWAG (via the Kimberley Land Council) – 08 9194 0100 (Broome office) or 08 9194 0190 (Kununurra office)
	For Level 2 or 3 hydrocarbon spills in Commonwealth waters.	As above, plus: • AMSA – 1800 641 792
	Oiled wildlife	• WA – (08) 9219 9108 • WA DBCA marine emergencies – (08) 9474 9055 • NT – 1800 064 567
	Suspected or confirmed IMS introduction	• WA Fisheries – 1800 815 507 • DCCEEW - 1800 803 772 (general enquiries)
	Injury or death of EPBC Act-listed fauna (e.g., vessel collision)	• DCCEEW – 1800 803 772
	Level 2 or 3 hydrocarbon spills that are likely to impact on an AMP	• DNP - 0419 293 465
	Near-miss or incident with DoD vessel or aircraft or UXO	• DoD – 02 5109 8232 (Directorate of Property Interests & Acquisition) or 1300 333 362 (general switchboard)

Timing	Requirements	Contact
Within 24 hours of discovery	Notify DCCEEW if previously unrecorded underwater cultural heritage (e.g., shipwreck) is found	Submit report at the following address: http://www.environment.gov.au/shipwreck/public/forms/notification.do;jsessionid=7DF6B6DBCFD9E9E1071EB71DC201B84C?mode=add.
Written notification		
Not later than 3 days after the first occurrence of the incident	A written incident report must include: • All material facts and circumstances concerning the incident that the titleholder knows, or is able, by reasonable search or enquiry, to find out; • Any actions taken to avoid or mitigate any adverse environmental impacts of the reportable incident; • The corrective action that have been taken, or is proposed to be taken, to stop, control or remedy the reportable incident; and • The action that has been taken, or is proposed to be taken, to prevent similar recordable incidents occurring in the future.	• NOPSEMA – submissions@nopsema.gov.au
Within 72 hours of the incident	As above, with regard to details of a vessel strike incident with a cetacean	• Upload information to DCCEEW online National Ship Strike Database (https://data.marinemammals.gov.au/report/shipstrike)
Within 7 days of the incident	As above, with regard to impacts to MNES, specifically injury to or death of EPBC Act-listed species	• EPBC.Permits@environment.gov.au
Within 7 days of providing written report to NOPSEMA	As above	• NOPTA – reporting@nopta.gov.au

10.7.3. Incident Investigation

Any non-compliance with the EPS outlined in this EP will be investigated by EOG and follow-up action will be assigned as appropriate. The findings and recommendations of inspections, audits and investigations will be documented and distributed to relevant MODU, support vessel and onshore project personnel for review. Tracking the recommendations and close-out actions arising from incident investigations will be managed via either the MODU, support vessel, DMC or EOG management systems, depending on the location and nature of the incident.

Investigation outcomes will be communicated to the project team via daily operations meetings and to the MODU and support vessel crew during daily toolbox meetings and at weekly HSE meetings.

10.7.4. Routine Recording and Reporting

Routine reporting of HSE matters will be provided via the meetings listed in Table 10.2. The DDR will report on HSE matters, including environmental issues, incidents and near-misses.

10.8. Management of Change

A Management of Change (MoC) process is important to ensure that all changes to the project planning, design or operations are evaluated for their potential consequences on other elements of the activity.

This section describes the EOG MoC processes and their interactions.

10.8.1. EOG

EOG's Australian Projects HSE Management Plan outlines the MoC procedure for the activity. The MoC procedure will be used to determine whether any changes to the design of the activity (or other factors) trigger revisions to the EP that require re-submission to NOPSEMA (see Section 10.10.3).

Permanent or temporary changes to organisation, equipment, plant, standards or procedures that have potential HSE and/or integrity impacts are subject to formal review and approval by the relevant EOG role with responsibility for the change prior to initiating the change to ensure risks remain acceptable and are reduced to ALARP. The level of management approval for each change is commensurate with the risk.

An MoC form must be completed. This is then reviewed by relevant specialists that have technical and project-specific knowledge and understanding to determine the impact (if any) and significance of the change. The relevant role with responsibility for the change shall look at any additional safety requirements needed to ensure the safety of personnel, the effect on schedule and cost, the effect on equipment and third-party assets and then decide whether to approve or reject the change. The results of the review will then be documented in the MoC form and the relevant role will communicate the change to all those who may be affected by it, including the DMC. The MoC form will then be stored by EOG in the MoC register.

For DMC-documented programmes and procedures, the DMC MoC process will be used and signed off as required by EOG. For EOG documents (e.g., well data information), the EOG process will be used. For changes that affect the policies and standards of the MODU contractor, the MODU contractor's MoC will also be required.

The DMC MoC procedure will be applied to all changes and deviations for the activity after the approval of the Detailed Drilling Program, until the completion of activity.

10.8.2. DMC

The DMC will have an MoC procedure as part of their management system. Deviations from processes, policies and procedures shall be managed through the MoC procedure.

Iterating designs, programmes and risk assessments is a key part of work during the planning stage, and this does not require MoC procedures. However, the design work is based on key input data and scope requirements. MoC procedures need to be applied to changes in input data and scope, to ensure that the impacts of such changes are adequately managed. Examples of change include, but are not limited to:

- Changes in the subsurface input data or geological prognosis for example pore pressure change, well/target location, move to HP or HT, changes to metallurgy;
- Changes to the agreed basis of well design;

- Changes in project schedule that affect ability to secure and mobilise materials and deliver the planning work in time for the well spud;
- Changes in the requirements of regulatory bodies; and
- Deviations from the well construction management process or relevant policy and procedure.

Depending on the level of change or deviation, a risk assessment process for evaluating the potential risks must be carried out, and the change or deviation must be adequately documented and authorised by the DMC and EOG management.

All parties will ensure adequate consultation and involvement of all affected parties in any MoC related processes. The Drilling Superintendent and Senior Drilling Engineer are responsible for ensuring that all hazards associated with such changes are identified, highlighted, and controlled.

10.9. Record Keeping

In accordance with Regulations 52 and 53 of the OPGGS(E), documents and records relevant to the implementation of this EP are stored and maintained by EOG for a minimum of five years. These records will be made available in electronic or printed form upon request.

10.10. Assurance, Reporting and Review

10.10.1. Field Environmental Monitoring

EOG will maintain a quantitative record of emissions and discharges, and other environmental matters generated on location during the activity, as required under Regulation 22(6) of the OPGGS(E).

The MODU and support vessel contractors are responsible for collecting this data and reporting it to the DSV. This is facilitated by completing a daily environmental monitoring register that will be provided by EOG to the contractors, which captures the commitments made in Table 10.6.

Table 10.6. Summary of environmental monitoring requirements

Aspect	Monitoring parameter	Frequency	Record
Impacts			
Underwater sound	Megafauna observations	During VSP	Megafauna observation register
Atmospheric emissions	Fuel consumption	Tallied at end of activity from DDRs	DDRs
Drill cuttings and muds	Chemicals used in the mud system	Daily	DDR Daily mud report
	Volume of muds discharged overboard		
	Observations of the separation treatment system.	Continuous during activity	DDR Daily mud report
Cement	Real-time ROV observations	During conductor cementing operations	DDR
	Chemical additive use	As required	Daily cement report
Displacement of other marine users	Ongoing patrol for, and communications with, third-party vessels	Continuous during activity	Bridge communications book

Aspect	Monitoring parameter	Frequency	Record
Bilge water	Volume of bilge water discharged during the activity	Each discharge (infrequent)	Oil record book
Risks			
Waste disposal	Weight/volume of wastes sent ashore (including oil sludge, solid/hazardous wastes)	Tallied at end of activity	Waste manifest
Dropped objects	Type, location, quantity.	Each event	Incident report DDR
Displacement or interference with other marine users	Ongoing patrol for, and communications with, third-party vessels	Continuous during activity	Bridge communications book
Introduction of IMS to activity area	Volume and location of ballast water discharges noted	Each discharge	Ballast water log
Vessel strike or entanglement with megafauna	Megafauna observations	Continuous while in operational area	Incident report DDR
Hydrocarbon or chemical spill	Volume, type	Each event	Incident report DDR
MDO spill	Operational monitoring in line with the OPEP and scientific monitoring in line with the OSMP (depending on spill volume)	As required	Incident reports
LoWC	BOP function testing	Every 7 days	BOP testing reports
	BOP pressure testing	Every 21 days	
	Well casing pressure testing	After installation	Well casing pressure test reports

10.10.2. Routine Reporting and Notifications

Regulation 25 of the OPGGS(E) specifies that consultation with relevant authorities, persons and organisations must take place. This consultation includes an implicit obligation to report on the progress of the activity. Table 10.7 outlines the routine reporting obligations that EOG will undertake with external organisations.

Table 10.7. External routine reporting obligations

Requirement	Timing	Contact details	OPGGS(E) regulation
Pre-activity			
Notify the DoD of the activity commencement date.	5 weeks prior to activity starting.	Offshore.Petroleum@defence.gov.au.	25
Notify the AHO of the activity commencement date and duration to enable Notices to Mariners to be issued.	3 weeks prior to activity starting.	datacentre@hydro.gov.au	25

Requirement	Timing	Contact details	OPGGS(E) regulation
Notify all other stakeholders in the stakeholder register with the activity commencement date.	2 weeks prior to activity starting.	Via email addresses in the stakeholder consultation register	25
Notify NOPSEMA with the activity commencement date.	At least 10 days prior to activity starting.	submissions@nopsema.gov.au	54
Notify AMSA in order to issue daily AusCoast warnings.	Within 24 hours of activity starting.	rccaus@amsa.gov.au	25
Activity completion			
Notify AMSA in order to cease daily AusCoast warnings.	Within 24 hours of activity completion.	rccaus@amsa.gov.au	25
Notify all stakeholders in the stakeholder register.	Within 2 days of activity completion.	Via email addresses managed by the Environment Advisor	25
Notify the AHO in order to cease the issuing of Notices to Mariners.	Within 2 days of activity completion.	datacentre@hydro.gov.au	25
Notify NOPSEMA of the activity end date.	Within 10 days of activity completion.	submissions@nopsema.gov.au	54
Notify NOPSEMA of the end of the operation of the EP.	After acceptance of the end-of-activity EP performance report.	submissions@nopsema.gov.au	46
Performance reporting			
Submit an end-of-activity EP Performance Report.	Within 3 months of activity completion.	submissions@nopsema.gov.au	51
Provide marine fauna observation data to the DCCEEW.	Within 3 months of activity completion.	Upload via the online Cetacean Sightings Application at: https://data.marinemammals.gov.au/nmmdb	N/A – EPBC Act

10.10.3. Environment Plan Review

EOG may determine that an internal review of the EP is necessary based on any one or all of the following factors:

- Changes to hazards and/or controls identified in the review of the EP, which in itself is supported by:
    - Reviewing changes to AMP management arrangements (through subscription to the AMP email update service at https://parksaustralia.gov.au/marine/about/).
    - Environment and industry legislative updates (through subscriptions to NOPSEMA, AEP and legal firms).

  - Running a new EPBC Act PMST for the impacts and/or spill EMBA to determine whether there are newly-listed threatened species or ecological communities in the EMBAs.
  - Remaining up to date with new scientific research that may impact on the EIA/ERA in the EP (for example, through professional networking and AEP membership).
  - Remaining in regular contact with relevant persons.
- Implementation of corrective actions to address internal or external inspection or audit findings;
- An environmental incident and subsequent investigation identifies issues in the EP that require review and/or updating;
- A modification of the activity is proposed that is not significant but needs to be documented in the EP;
- Changes identified through the MoC process, such as hazards or controls, organisational changes affecting personnel in safety critical roles; and
- Changes to any of the relevant legislation.

The EOG Australia Operations Manager will seek advice on the material impact of the items listed above and whether or not a review of the EP should be undertaken. The scope of a review is determined by the factors that trigger the review and an appropriate team will be assembled by EOG to conduct the review.

If a review of the EP relates to a topic that had previously been raised by a relevant person or stakeholder, an updated response will be prepared and provided to affected stakeholders in a process managed by Aventus for EOG.

Revisions Triggering EP Re-submission

EOG will revise and re-submit the EP for assessment as required by the OPGGS(E) regulations listed in Table 10.8.

Table 10.8. EP revision submission requirements

Regulations	OPGGS(E) regulation
Submission of a revised EP before the commencement of a new activity	38
Submission of a revised EP when any significant modification or new stage of the activity that is not provided for in the EP is proposed	39
Submission of a revised EP before, or as soon as practicable after, the occurrence of any significant new or significant increase in environmental impact or risk not provided for in the EP	39
Submission of a revised EP if a change in titleholder will result in a change in the manner in which the environmental impacts and risks of an activity are managed	39

Revisions and re-submission of the EP generally centre around ‘new’ activities, impacts or risks and ‘increased’ or ‘significant’ impacts and risks. EOG defines these terms in the following manner:

- **New** impact or risk – one that has not been assessed in Chapters 7, 8 or 9.
- **Increased** impact or risk – one with greater extent, severity, duration or uncertainty than is detailed in Chapters 7, 8 or 9.

- **Significant** change –
    - The change to the activity design deviates from the EP to the degree that it results in new activities that are not intrinsic to the existing Activity Description in Chapter 2.
    - The change affects the ability to achieve ALARP or acceptability for the existing impacts and risks described in Chapters 7, 8 or 9.
    - The change affects the ability to achieve the EPO and EPS contained in Chapters 7, 8 and 9.

A change in the activities, knowledge, or requirements applicable to the activity are considered to result in a 'significant new' or 'significant increased' impact or risk if any of the following criteria apply:

- The change results in the identification of a new impact or risk and the assessed level of residual impact consequence is higher than 'minor' or the residual risk rating is higher than 'low';
- The change results in the identification of a new impact or risk and the assessed level that is not acceptable and ALARP;
- The change results in an increase to the assessed impact consequence or risk rating for an existing impact or risk described in Chapters 7, 8 and 9; and
- There is both scientific uncertainty and the potential for significant or irreversible environmental damage associated with the change.

While an EP revision is being assessed by NOPSEMA, any activities addressed under the existing accepted EP are authorised to continue. Additional guidance is provided in NOPSEMA Guideline *When to submit a proposed revision of an EP* (N04750-GL1705, NOPSEMA 2020h).

Minor EP Revisions

Minor revisions to this EP that do not require resubmission to NOPSEMA will be made where:

- Minor administrative changes are identified that do not impact on the environment (e.g., document references, contact details, etc.); and
- A review of the activity and the environmental risks and impacts of the activity do not trigger a requirement for a revision, as outlined in Table 10.7.

Minor revisions to the EP will not be submitted to NOPSEMA for assessment.

10.10.4. Inspections and Audits

Various inspections and audits will be undertaken for the activity using competent personnel, as outlined in Table 10.9. Any non-compliances or opportunities for improvement identified at the time of an inspection or audit will be communicated to the relevant EOG and contractor personnel at the time of the inspection or audit. These are tracked by EOG, which includes assigning responsibilities to personnel to manage the issue and verify that it is closed out.

A summary of the EP commitments for the activity will be distributed to the DSV and support vessel management and implementation of the EPS will be continuously monitored by EOG through review of the completed weekly checklists and attendance at relevant meetings.

Non-compliances and/or opportunities for improvement will be communicated to the EOG Australia Operations Manager in writing and at appropriate meetings.

Table 10.9. Summary of environmental inspections and audits

Type	When	Frequency	Method	Details
HSE due diligence inspection	Post-award, pre-activity	Once	Desktop or in port/during mobilisation	Focused on ensuring HSE Plan and EPS in this EP can be met through review of relevant records and databases.
EP compliance audit	During drilling	Once	In person on board the MODU	A suitably experienced auditor will assess compliance against the EPS for key drilling matters (e.g., cuttings and muds, cementing, LoWC) through interviews, observations and review of databases and records.
Ongoing inspections	During activity	Weekly	In person on board	Checklists to be completed by the HSE Coordinator.

10.10.5. Regulatory Inspections

Under Part 5 of the OPGGS Act, NOPSEMA inspectors have the authority to enter EOG premises, including the MODU, to undertake monitoring or investigation against this EP. EOG will cooperate fully with the regulator during such investigations.

10.10.6. End of Activity Performance Report

In accordance with the OPGGS(E) Regulation 22(7), EOG will submit an end-of-activity EP performance report to NOPSEMA within three months of completion of the activity. Performance will be measured against the EPO and EPS outlined in Chapters 7 and 8 (and Chapter 9, if triggered). The information in the report will be based on the information collected during routine communications, inspections and audits, as outlined in this chapter.

10.10.7. Monitoring and Review

The MODU and support vessel contractors will have specific contractual compliance obligations associated with implementing the EP and other project plans. EOG will monitor the contractors against these obligations both in terms of deliverables and quality.

EOG will establish, maintain and review an EP commitments register to assist in monitoring against these EP. Learnings from this monitoring will inform continued operations and the development of EPs for future phases (if any) of the Beehive project.

10.11. Summary of Implementation Strategy Commitments

Table 10.10 summarises the commitments provided throughout the Implementation Strategy by assigning EPO, EPS and measurement criteria to each commitment.

Table 10.10. Summary of EP implementation strategy commitments

Section	EPO	EPS	Measurement criteria
10.4.1	Project personnel are trained and competent to fulfil their duties.	The Australian Projects HSE Management Plan records and tracks core and critical HSE and technical compliance training.	Training records are readily accessible through.
		Due diligence is undertaken on contractors to ensure they are	Contractor due diligence reports are readily available

Section	EPO	EPS	Measurement criteria
		competent to work on the activity.	and verify their suitability to work on the activity.
10.4.2	Project personnel are familiar with their HSE responsibilities.	All personnel working on the MODU and support vessels are inducted into the activity-specific HSE requirements.	Vessel crews and visitor lists, along with induction familiarisation checklists are readily available, verifying that all personnel working on and visiting the MODU and support vessels are inducted.
10.4.2, 10.4.3 & 10.4.6	Project personnel are familiar with operations HSE issues.	Regular HSE communications take place between offshore and office-based personnel.	HSE meeting records are available and verify regularity of communications.
10.5.2	Emergency response responsibilities are clearly defined.	The Australian Projects HSE Management Plan, OPEP, RWP and Bridging ERP outline emergency responsibilities for project personnel.	The emergency responsibilities are communicated to project personnel prior to the activity commencing.
10.5.2	Offshore and onshore project personnel are familiar with their emergency response responsibilities.	All relevant MODU-, vessel- and office-based personnel participate in emergency response (e.g., ERP and OPEP) training, drills and exercises.	Training records verify that emergency response exercises were undertaken.
10.5.5	EOG administers and implements the FCP in a manner such that compensation is provided in a timely manner	Compensation is provided within 60 days of receiving a commercial fisher's signed settlement agreement (per Section 9 of the FCP) in response to any evidence-based claims for compensation that have merit.	Claims correspondence and payment date verifies that compensation payments are paid within 60 days of receiving a commercial fisher's signed settlement agreement.
10.7.1 & 10.7.2	Incident reports are issued to the regulators as required.	Recordable incidents reports are issued monthly to NOPSEMA as per Table 9.4.	Recordable and reportable incident reports and associated email correspondence is available to verify their issue to NOPSEMA (and other agencies, as required).
		Reportable incidents are reported to NOPSEMA in accordance with the timing requirements provided in Table 9.5.	
10.7.3	Incidents are investigated.	Incident investigations are undertaken by suitably qualified and experienced personnel in a timely manner.	Incident investigation reports are available and align with incidents recorded in the incident management system.
10.8	Changes to approved plans (including this EP), equipment, plant, standards or procedures are assessed through the MoC process.	Changes are documented in accordance with the MoC processes.	MoC records are available in the MoC register.

Section	EPO	EPS	Measurement criteria
10.9	All records relevant to implementation of the EP are available for five years.	All records relevant to implementation of the EP are retained by EOG.	EP documents are readily accessible.
10.10.1	Emissions and discharges are recorded.	Emissions and discharges from the MODU and support vessels, in line with Table 9.5, are recorded.	Monitoring records are available and align with the requirements in Table 9.5.
10.10.2	Regulatory agencies and stakeholders are aware of activity start and end.	Pre- and post-activity notifications to regulatory agencies and stakeholders are issued as per Table 9.6.	Notification records verify issue.
10.10.3	The EP is reviewed for currency in light of any changes to the activity, controls, legislation or relevant scientific research.	EOG updates the EP as required.	The revision history of this EP is updated to record document changes.
10.10.3	This EP is reviewed and updated on an as-required basis.	This EP is reviewed and updated based on the triggers presented in Section 9.10.3 on an as-required basis.	A record of EP reviews and updates is available.
			The review and/or update details are recorded in the document control page of this EP.
		If the review identifies that significant changes to the EP are required, the EP is updated and re-issued to the regulators.	A record of EP revision is included in the document control page of this EP.
			Correspondence is available to verify the re-issue of the EP to NOPSEMA.
10.10.4	EP compliance inspections and audits are undertaken for the activity.	EP compliance is assessed during the activity by competent personnel.	Environmental inspection reports, completed checklists and audit report are available and verify compliance with this EP.
10.10.6	An end-of-activity EP performance report is submitted to NOPSEMA.	The end-of-activity EP performance report is issued to NOPSEMA within three months of completion of the activity.	The end-of-activity EP performance report and associated email correspondence is available to verify its issue to NOPSEMA.
10.10.7	An EP commitments register is established.	EP commitments register is in place and used throughout the campaign to track compliance with EPS.	EP commitments register verifies it is in use.

11. References

ABC. 2000. Kiwi shellfish smother Australian seabeds. A WWW article accessed at httcp://www.abc.net.au/science/articles/2000/11/06/207775.htm. ABC Science.

ABC News. 2014. 'Clean-up underway after tar balls wash up on Ninety Mile Beach.' ABC News Online. Article posted 18 March 2014. Australian Broadcasting Corporation.

ABS. 2021. 2021 Census Quick Stats. A WWW database accessed at Search Census data | Australian Bureau of Statistics (abs.gov.au). Australian Bureau of Statistics. Canberra.

ABS. 2016. 2016 Census Quick Stats. A WWW database accessed at https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/036. Australian Bureau of Statistics. Canberra.

AFMA. 2021. Prawns. Australian Fisheries Management Authority. Available from: https://www.afma.gov.au/fisheries-management/species/prawns.

ALA.2022. Atlas of Living Australia. Atlas of Living Australia – Open access to Australia's biodiversity data (ala.org.au)

Allen, G.R. 1982. A Field Guide to Inland Fishes of Western Australia. Perth, Western Australia: University of Western Australia Press.

American Chemistry Council. 2006. A Comparison of the Environmental Performance of Olefin and Paraffin Synthetic Base Fluids (SBF). November 2006. American Chemistry Council.

AMOSC. 2019. Northern Territory Oiled Wildlife Response Plan, version 2.0, February 2019. Australian Marine Oil Spill Centre.

AMOSC. 2017. AMOSPlan. Australian Marine Oil Spill Centre Pty Ltd. Geelong, Victoria.

AMSA. 2022. Should we use dispersants? Available at https://www.amsa.gov.au/marine-environment/pollution-response/should-we-use-dispersants. Australian Maritime Safety Authority. Canberra.

AMSA.2020. National Plan for Maritime Environmental Emergencies. Australian Maritime Safety Authority. Canberra.

AMSA. 2019. Australian Government Coordination Arrangements for Maritime Environmental Emergencies. Australian Maritime Safety Authority. Canberra.

AMSA. 2015. Technical guidelines for preparing contingency plans or marine and coastal facilities. Australian Maritime Safety Authority. Canberra.

AMSA. 2014. On Scene Newsletter for the National Plan for the Maritime Environmental Emergencies. Australian Maritime Safety Authority. Canberra.

AMSA.2013. Advisory Note for Offshore Petroleum Industry Consultation with Respect of Oil Spill Contingency Plans and Environmental Plans. Australian Maritime Safety Authority. Canberra.

AMSA .2013. Rescuing Oiled Wildlife – What can you do! Available at: https://www.amsa.gov.au/environment/maritime-environmentalemergencies/nationalplan/general-information/oiled-wildlife/rescuing-wildlife/index.asp. Australian Maritime Safety Authority. Canberra.

AMSA. 1998. The Effects of Maritime Oil Spills on Wildlife Including Non-Avian Marine Life. Australian Maritime Safety Authority. Canberra.

Anderson, T.J., Nichol, S., Radke, L., Heap, A.D., Battershill, C., Hughes, M., Siwabessy, P.J., Barrie, V., Alvarez de Gasby, B., Tran, M. and Daniell, J., 2011. Seabed Environments of the Eastern

Joseph Bonaparte Gulf, Northern Australia. *Post Survey Report. Geoscience Australia, Canberra*.

ANZECC/ARMCANZ. 2000. Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 4. Prepared by the Australian and New Zealand Environment and Conservation Council and the Agriculture and Resource Management Council of Australia and New Zealand.

API. 2001. Effects of Oil and Chemically Dispersed Oil in the Environment. API Publication Number 4693. May 2001. Prepared under contract by Boyd, J.N., Kucklick, J.H., Scholz, D.K., Walker, A.H. Pond, R.G. and Bostrom, A. American Petroleum Institute.

APPEA. 2011. Oil Spill Prevention and Response in Australia's Offshore Oil and Gas Exploration and Production Industry. Australian Petroleum Production and Exploration Association. Canberra.

APPEA. 2008. Code of Environmental Practice. Australian Petroleum Production and Exploration Association.

APPEA. 1998. Framework for the Environmental Management of Offshore Discharge of Drilling Fluid on Cuttings. Australian Petroleum Production & Exploration Association Ltd. March 1998.

AQIS. 2011. Australian Ballast Water Management Requirements. Version 5. Australian Quarantine Inspection Service, Department of Agriculture, Fisheries and Forestry. Canberra.

Armstrong, M.2004. The yellow chat Epthianura crocea tunneyi in Kakadu National Park. Unpublished report. Northern Territory Department of Infrastructure, Planning and Environment, Darwin, Australia.

Bailey, D., Maung-Douglass, E., Partyka, M., Sempier, S., Skelton, T., and Wilson, M. 2021. Sea turtles and the Deepwater Horizon oil spill, Updated 2021. GOMSG-G-21-009.

Baker, C., Potter, A., Tran, M. & Heap, A.D. 2008. Geomorphology and Sedimentology of the Northwest Marine Region of Australia. Geoscience Australia, Record 2008/07. Geoscience Australia, Canberra. 220 pp.

Balcom, B., Graham, B., Hart, A., and Bestall, G. 2012. Benthic Impacts Resulting from the Discharge of Drill Cuttings and Adhering Synthetic Based Drilling Fluid in Deepwater. In *Benthic Impacts Resulting from the Discharge of Drill Cuttings and Adhering Synthetic Based Drilling Fluid in Deepwater*. International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production.

Ball, A., & Truskewycz, A. 2013. Polyaromatic hydrocarbon exposure: an ecological impact ambiguity. *Environmental Science and Pollution Research*, 20(7), pp 4311-4326. Springer Berlin Heidelberg.

Ballou, T.G., Dodge, R. E., Hess, S. C., Knap, A. H. and Sleeter, T.D. 1987. Effects of a Dispersed and Undispersed Crude Oil on Mangroves, Seagrasses and Corals. Prepared for the American Petroleum Institute: 1 -229. https://nsuworks.nova.edu/occ_facreports/7.

Bannister, J., Kemper, C. and Warnecke R. 1996. The Action Plan for Australian Cetaceans. The Director of National Parks and Wildlife Biodiversity Group. Environment Australia. Canberra.

Bejarano, A.C. and Michel, J. 2010. Large scale risk assessment of polycyclic hydrocarbons in shoreline sediments from Saudi Arabia: environmental legacy after twelve years of the Gulf War oil spill. Environmental Pollution 158, pp. 1561-1569. doi:10 1016/j.envpol.2009.12.019.

Bell, B., Spotila, J.R. and Congdon, J.2006. High incidence of deformity in aquatic turtles in the John Heinz National Wildlife Refuge. *Environmental Pollution*, *142*(3), pp.457-465.

Berry, P.F. 1986. Faunal surveys of the Rowley Shoals, Scott Reef and Seringapatam Reef, Northwestern Australia. Records of the Western Australian Museum. No 25: 27–35. Western Australian Museum, Perth.

Bevan, E., Whiting, S., Tucker, T., Guinea, M., Raith, A. and Douglas, R. 2018. Measuring behavioral responses of sea turtles, saltwater crocodiles, and crested terns to drone disturbance to define ethical operating thresholds. *PLoS ONE* 13(3): e0194460. https://doi.org/10.1371/journal.pone.0194460

Bik, H., Halanych, K., Sharma, J. and Thomas, W. 2012. Dramatic shifts in benthic microbial eukaryote communities following the Deepwater Horizon oil spill. *PLOS One* 7(6): e38550.

BirdLife International.2022a. Important Bird Areas factsheet: Hyland Bay and Moyle Floodplain. Downloaded from http://www.birdlife.org

BirdLife International. 2022b. Important Brid and Biodiversity Areas (IBAs) search. A WWW database accessed at. BirdLife Data Zone. Birdlife International.

BirdLife International.2020. Crested Tern Profile. Birdlife Australia Crested Tern | BirdLife Australia.

Black, K., Brand, G., Grynberg, H., Gwyther, D., Hammond, L., Mourtikas, S., Richardson, B. and Wardrop, J. 1994. Production facilities. In Environmental implications of offshore oil and gas development in Australia – the findings of an independent scientific review. Edited by J.M. Swan, J.M. Neff and P.C. Young. Australian Petroleum Exploration Association. Sydney.

Black, S.J., Willing, T. and Dureau, D.M.2010. A comprehensive survey of the flora, extent and condition of vine thickets on coastal sand dunes of Dampier Peninsula, West Kimberley 2000–2002. Unpublished report. Broome Botanical Society (Inc.), Broome.

Blakers, M., Davies, S.J. and Reilly, P.N.1984. *The atlas of Australian birds*. Melbourne University.

Blumer, M. 1971. Scientific aspects of the oil spill problem. *Environmental Affairs* (1):54–73.

BMT WBM.2010. Ecological Character Description for the Kakadu Ramsar Sites. an assessment to identify critical processes, components and services of the wetland ecosystems. (bmt.org).

BMT WBM. 2011.Ecological Character Description for Cobourg Peninsula Ramsar Site. Prepared for the Australian Government, Canberra.

Bock, M., Robinson, H., Wenning, R., French-McCay, D., Rowe, J. and Walker, A.H. 2018. Comparative risk assessment of oil spill response options for a deep-water oil well blowout: Part II. Relative risk methodology. *Marine Pollution Bulletin*. 133(2018), pp 984-1000, ISSN 0025-326X. https://doi.org/10.1016/j.marpolbul.2018.05.032.

BoM. 2024a. Climate statistics for Australian locations. Summary statistics PORT KEATS AIRPORT. Accessed at Climate statistics for Australian locations (bom.gov.au). Commonwealth of Australia. Bureau of Meteorology.

BoM. 2024b. Tropical Cyclone Climatology. Available at: http://www.bom.gov.au/cyclone/tropical-cyclone-knowledge-centre/history/climatology. Accessed 19 January 2022.

BoM. 2024c.Climatology of Tropical Cyclones in Western Australia. Bureau of Meteorology. Available from: http://www.bom.gov.au/cyclone/climatology/wa.shtml.

Bourque, A.S., Kenworthy, W.J., Fourqurean, J.W. 2015. Impacts of physical disturbance on ecosystem structure in sub-tropical seagrass meadows, Vol. 540:27-41, 2015 doi:10.3354/meps11505.

BP. 2015. Gulf of Mexico Environmental Recovery and Restoration. Five year Report. March 2015. BP Exploration and Production Inc. London.

BP. 2014a. Abundance and Safety of Gulf Seafood. Seafood Background White Paper. BP Exploration and Production Inc. London.

BP. 2014b. Dispersant White Paper. BP. London. A WWW document accessed at https://www.thestateofthegulf.com/media/1366/dispersant-background-paper-9314.pdf. BP. London.

BP. 2013. BP Response to 60 Minutes Australia re: "Crude Solution". 9 September 2013. A WWW document accessed at: https://www.thestateofthegulf.com/the-whole-story/for-the-record/bp-response-to-60-minutes-australia-re-crude-solution/. BP. London.

Brakstad, O.G., Ribicic, D., Winkler, A. and Netzer, R. 2018a. 'Biodegradation of dispersed oil in sea water is not inhibited by a commercial oil spill dispersant'. *Marine Pollution Bulletin*.

Brakstad, O.G., Davies, E.J., Ribicic, D., Winkler, A., Bronner, U. and Netzer, R. 2018b. Biodegradation of dispersed oil in natural seawaters from Western Greenland and a Norwegian fjord. *Polar Biology* 41, 2435–2450 (2018). https://doi.org/10.1007/s00300-018-2380-8.

Brewer, D., Lyne, V., Skewes, T. and Rothlisberg, P. 2007. Trophic Systems of the North West Marine Region. Prepared for the Department of the Environment, Water, Heritage and the Arts by CSIRO Marine and Atmospheric Research, Cleveland, Queensland.

Breuer, E., Stevenson, A.G., Howe, J.A., Carroll, J. and Shimmield, G.B. 2004. Drill cutting accumulations in the Northern and Central North Sea: a review of environmental interactions and chemical fate. Marine pollution bulletin, *48*(1-2), pp.12-25.

BSEE.2017. Offshore Incident Statistics. Bureau of Safety and Environmental Enforcement.

Brusati, E. and Grosholz, E. 2007. Effect of native and invasive cordgrass on *Macoma petalum* density, growth and isotopic signatures. *Estuarine Coastal and Shelf Science* (71): 517–522.

Burger, A. 1993. Estimating the mortality of seabirds following oil spills: effects of spill volume. *Mar. Poll. Bull*. (26):140–143.

Burns, K.A., Garrity, S.D., Levings, S.C. 1993. How many years until mangrove ecosystems recover from catastrophic oil spills? *Mar. Poll. Bull*. (26):239-248.

Butler, I, Patterson, H, Bromhead, D, Galeano, D, Timmiss, T, Woodhams, J and Curtotti, R .2023. Fishery status reports 2023, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. CC BY 4.0. https://doi.org/10.25814/vgp4-xr81

Carls, M., Holland. L., Larsen, M., Collier, T., Scholz, N. and Incardona, J. 2008. Fish embryos are damaged by dissolved PAHs, not oil particles. *Aquatic Toxicology* (88):121–127.

Carroll, A., Przeslawski, R., Duncan, A., Gunning, M. and Bruce, B. 2017. A critical review of the potential impacts of marine seismic surveys on fish & invertebrates. *Mar. Poll. Bull*. 114 9-24.

Castro, J.I., Woodley, C.M. and Brudek, R.L., 1999. A preliminary evaluation of the status of shark species. FAO Fisheries Technical Paper 380. FAO, Rome.

CER. 2022. Greenhouse Gases and Energy. A WWW resource accessed at: https://www.cleanenergyregulator.gov.au/NGER. Clean Energy Regulator. Canberra. Australia.

CER. 2015. ALARP Guidance Part of the Petroleum Safety Framework and the Gas Safety Regulatory Framework. The Commission for Energy Regulation, Dublin.

Cerchio, S., Yamada, T.K. and Brownell, R.L. 2019. Global distribution of Omura's whales (*Balaenoptera omurai*) and assessment of range-wide threats. *Front. Mar. Sci*. 6:67.

Challenger, G. and Mauseth, G. 2011. Chapter 32 – Seafood safety and oil spills. In Oil Spill Science and Technology. Edited by M. Fingas.

Chatto, R., & Parks. 2006. The distribution and status of waterbirds around the coast and coastal wetlands of the Northern Territory. Parks and Wildlife Commission NT Technical report 76.

Cholewiak, D., Clark, C., Ponirakis, D., Frankel, A., Hatch, L., Risch, D. 2018. Communicating amidst the noise: modelling the aggregate influence of ambient and vessel noise on baleen whale communication space in a national marine sanctuary. *Endanger. Species Res*. 36, 59–75

Christian, J.R., Mathieu, A., Thomson, D.H., White, D., Buchanan, R.A. 2003. Effect of seismic energy on snow crab (*Chionoecetes opilio*). Environmental Research Funds Report No 144. Calgary.

Christiansen, N., Duke, N., Green, T., Haller, A., Hunnam, K., Mackenzie, j., Wood, A., and Zahmel, K. 2010. Shoreline Ecological Assessment Aerial and Ground Surveys 7-19 November 2009. Prepared for PTTEP Australasia.

Cintron, G., Lugo, A., Marinez, R., Cintron, B., Encarnacion, L. 1981. Impact of oil in the tropical marine environment. Prepared by Division of Marine Research, Department of Natural Resources. Puerto Rico.

Clark, R.B. 1984. Impact of oil pollution on seabirds. *Environmental Pollution* 33: 1–22.

Clarke, P.J. and Ward, T.J. 1994. The Response of Southern Hemisphere Salt Marsh Plants and Gastropods to Experimental Contamination by Petroleum Hydrocarbons. Journal of Experimental Marine Biology and Ecology, 175(1):v43–57.

Clarke, R.H., Swann, G., Carter, M.J., Mott, R.M. and Herrod, A. 2017. The avifauna of Cartier Island commonwealth marine reserve, north-western Australia. Australian Field Ornithology, 34, pp.18-25.

Clarke, R.H. 2010. The Status of Seabirds and Shorebirds at Ashmore Reef, Cartier Island and Browse Island. Monitoring Program for the Montara Well Release. Pre-impact Assessment and First Post-Impact Field Survey. Prepared on behalf of PTTEP Australasia and the Department of the Environment, Water, Heritage and the Arts by the Australian Centre for Biodiversity, Monash University. Melbourne.

CoA. 2020. Wildlife Conservation Plan for Seabirds. Commonwealth of Australia. Canberra.

CoA. 2017. Recovery Plan for Marine Turtles in Australia. Commonwealth of Australia. Canberra.

CoA. 2006. A Guide to the Integrated Marine and Coastal Regionalisation of Australia Version 4.0. Commonwealth of Australia. Department of the Environment and Heritage. Canberra.

Committee on Oil in the Sea. 2003. Oil in the Sea III: Inputs, Fates and Effects. Washington, D.C. The National Academies Press.

Compagno, L.J.V., 1984. FAO species catalogue. Vol. 4. Sharks of the world. An annotated and illustrated catalogue of shark species known to date. FAO Fisheries Synopsis No. 125, Volume 4, Part 1.

Condie, S., Andrewartha, J., Mansbridge, J. and Waring, J. 2006. Modelling circulation and connectivity on Australia's North West Shelf. North West Shelf Joint Environmental Management Study: Technical Report No. 6. CSIRO Marine and Atmospheric Research, Hobart, Tasmania.

Connell, D., Miller, G. and Farrington, J. 1981. Petroleum hydrocarbons in aquatic ecosystems—behaviour and effects of sublethal concentrations: Part 2. *Critical Reviews in Environmental Science and Technology*. 11(2): 105-162.

Cook, K., Gilmour, J., Piggott, C., Oades, D., McCarthy, P., Howard, A., Bessell-Browne, P., Arklie, S. and Foster, T. Final report of Project 1.1.2b Key Ecological Processes in Kimberley Benthic Communities: Coral Recruitment, prepared for the Kimberley Marine Research Program, Western Australian Marine Science Institution, Perth, Western Australia, pp. 22.

CSA. 2006. Effects of Oil and Gas Exploration and Development at Selected Continental Slope Sites in the Gulf of Mexico. Prepared by Continental Shelf Associates Inc. for the U.S. Department of the Interior, Minerals Management Service. New Orleans.

CSIRO. 2022. Ocean currents Diagrams. Available at: https://research.csiro.au/ncmi-idc/information/ocean-circulation/ocean-current-diagrams. Accessed 19 January 2022.

Culik, B.M. 2004. Review of small cetaceans. UNEP/CMS Secretariat.Bonn

Cunningham, K., and Mountain, D. 2014. Simulated masking of right whalesounds by shipping noise: incorporating a model of the auditory periphery. *J. Acoust. Soc. Am*. 135, 1632–1640

Currie, D.R. and Isaacs, L.R. 2005. Impact of exploratory offshore drilling on benthic communities in the Minerva gas field, Port Campbell, Australia. Mar. Env. Res. (59) 217-233.

Curtin University. 2010. Report on Necropsies from a Timor Sea Horned Sea Snake. Curtin University, Perth.

Curtin University. 2009. Report on Biopsy Collections from Specimens Collected from the Surrounds of the West Atlas Oil Leak – Sea Snake Specimen. Curtin University, Perth.

D'Anastasi, B., Simpfendorfer, C. & Van Herwerden, L. 2013. *Anoxypristis cuspidata*. The IUCN Red List of Threatened Species 2013.

Daan, R. and Mulder, M. 1996. On the short-term and long-term impact of drilling activities in the Dutch sector of the North Sea. *ICES Journal of Marine science*, *53*(6), pp.1036-1044.

DAFF. 2024. Marine Pests Interactive Map. A WWW database accessed at Map of marine pests in Australia | Marine Pests . Department of Agriculture, Fisheries and Forestry. Canberra.

DAFF. 2009. The National Biofouling Management Guidance for the Petroleum Production and Exploration Industry. Department of Agriculture, Fisheries and Forestry. Canberra.

Danion, M. 2011. Bioconcentration and Immunotoxicity of an Experimental Oil Spill in European Sea Bass (Dicentrarchus labrax L.). *Ecotoxicology and Environmental Safety*. 74(8): 2167–2174.

Davis, H.K., Moffat, C.F. and Shepherd, N.J. 2002. Experimental Tainting of Marine Fish by Three Chemically Dispersed Petroleum Products, with Comparisons to the Braer Oil Spill. Spill Science & Technology Bulletin 7(5-6):257-278.

DAWE. 2013. Ashmore Reef Nature Reserve, Timor Sea, EXT, Australia. Australian Heritage database. Department of Agriculture, Water and the Environment. Canberra.

DAWE. 2020a. The Australian Ballast Water Management Requirements (v8). Department of Agriculture, Water and the Environment. Canberra.

DAWE. 2020b. Pulu Keeling National Park – Natural Environment – Wildlife. Wildlife – DAWE. Department of Agriculture, Water and the Environment. Canberra.

DAWE.2022a. Australian biofouling management requirements (Version 1). Department of Agriculture, Water and the Environment. Canberra.

DAWR. 2020. Australian Ballast Water Management Requirements. Department of Agriculture and Water Resources. Canberra.

DAWR. 2018. National Strategic Plan for Marine Pests in Australia. Department of Agriculture and Water Resources. Canberra.

DBCA.2022a. Mayala Marine Park joint management plan 2022. Parks and Wildlife Service, Department of Biodiversity, Conservation and Attractions, Perth, Western Australia.

DBCA.2022b. Bardi Jawi Gaarra Marine Park joint management plan 99. Parks and Wildlife Service, Department of Biodiversity, Conservation and Attractions, Perth, Western Australia.

DBCA 2022c. Lalang-gaddam Marine Park joint management plan 98, Parks and Wildlife Service, Department of Biodiversity, Conservation and Attractions, Perth, Western Australia.

DCCEEW. 2023a. *Conservation Advice for* Phaethon rubricauda westralis *(Indian Ocean red-tailed tropicbird)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2023b. Guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW, 2023c. National Light Pollution Guidelines for Wildlife. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2023d. *Conservation Advice for* Tiliqua scincoides intermedia *(northern blue-tongue skink)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2023e. *Conservation Advice for* Varanus mitchelli *(Mitchell's water monitor)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2023f. *Conservation Advice for* Varanus mertensi *(Mertens' water monitor)*. Canberra: Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024a. EPBC Act Protected Matters Search Tool. A WWW database accessed at Protected Matters Search Tool: Interactive Map (awe.gov.au). Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024b. Species Profile and Threats (SPRAT) Database. A WWW database accessed at Species Profiles (SPRAT) (environment.gov.au). Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024c. National Conservation Values Atlas. A WWW database accessed at National Conservation Values Atlas: Interactive Map (environment.gov.au).

DCCEEW. 2024d. *Conservation Advice for* Calidris acuminata *(sharp-tailed sandpiper)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024e. Australia's World Heritage List. A WWW database accessed at Australia's World Heritage List - DCCEEW. Department of Climate Change, Energy, the Environment and

Water. Canberra. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024f. Australia's National Heritage List. A WWW database accessed at Australia's National Heritage List - DCCEEW. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024g. Australian Ramsar Wetlands. A WWW database accessed at Australian Ramsar sites (environment.gov.au). Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024h. Australia's Commonwealth Heritage List. A WWW database accessed at Australia's Commonwealth Heritage List - DCCEEW. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024i. Directory of Important Wetlands. A WWW database accessed at Directory of Important Wetlands in Australia - DCCEEW. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024j. *Conservation Advice for* Arenaria interpres *(ruddy turnstone)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024k. *Conservation Advice for* Limnodromus semipalmatus *(Asian dowitcher)*. Canberra: Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024l. Conservation Advice for Limosa limosa (black-tailed godwit). Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024m. *Conservation Advice for* Pluvialis squatarola *(grey plover)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024n. *Conservation Advice for* Xenus cinereus *(terek sandpiper)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

DCCEEW. 2024o. *Conservation Advice for* Tringa nebularia *(common greenshank)*. Department of Climate Change, Energy, the Environment and Water. Canberra.

Day, R., McCauley, R., Fitzgibbon, Q. and Semmens, J. 2016. Assessing the Impact of Marine Seismic Surveys on Southeast Australian Scallop and Lobster Fisheries. FRDC Report 2012/008. University of Tasmania. Hobart.

Dean, T.A., Stekoll, M.S., Jewett, S.C., Smith, R.O. and Hose, J.E. 1998. Eelgrass (Zostera marina L.) in Prince William Sound, Alaska: effects of the Exxon Valdez oil spill. Marine Pollution Bulletin, 36:201–210.

DEC. 2012. Ord River and Parry Lagoons nature reserves management plan 77 2012. Department of Environment and Conservation 2012.

DEC-DoF.2008. Rowley Shoals Marine Park Information guide. Department of Environment and Conservation. Department of Fisheries. Western Australia.

DEH. 2005. PB23 – Christmas Island Province. 2005 National Marine Bioregionalisation of Australia. Department of the Environment and Heritage. Hobart, TAS.

Den Hartog, C. and Jacobs, R.P.W.M. 1980. Effects of the Amoco Cadiz oil spill on an eelgrass community at Roscoff (France) with special reference to the mobile benthic fauna. *Helgolaender Meeresuntersuchungen* 33:182–191.

Department of Parks and Wildlife. 2016. The North Kimberley Marine Park joint management plan 2016 Uunguu, Balanggaarra, Miriuwung Gajerrong, and Wilinggin management areas, number plan 89. Department of Parks and Wildlife. Perth.

DEPWS. 2021a. Threatened Species of the Northern Territory Plains death adder *Acanthophis hawkei*. Department of Environment, Parks and Water Security. NT.

DEPWS. 2021b. Threatened Species of the Northern Territory Arafura snake-eyed skink *Cryptoblepharus gurrmul*. Department of Environment, Parks and Water Security. NT.

DEPWS. 2012. Threatened Species of the Northern Territory Yellow-snouted Gecko *Lucasium occultum*. Department of Environment, Parks and Water Security. NT.

DEPWS. nd. Charles Darwin National Park Plan of Management. Department of Environment, Parks and Water Security. Northern Territory Government. Darwin.

DEWHA. 2009. Approved Conservation Advice for *Pristis lavate* (Dwarf Sawfish). Department of the Environment, Water, Heritage and the Arts, Canberra.

DEWHA. 2008a. EPBC Act Policy Statement 2.1-Interaction between offshore seismic exploration and whales, Department of Environment, Water, Heritage & the Arts, Canberra.

DEWHA. 2008b. The Northwest Marine Bioregional Plan Bioregional Profile: A description of the ecosystem, conservation values and uses of the Northwest Marine Region. Department of Environment, Water, Heritage and the Arts. Canberra.

DEWHA. 2008c. Approved Conservation Advice for Green Sawfish. Department of the Environment, Water, Heritage and the Arts. Canberra.

DEWHA. 2007. Characterisation of the marine environment of the north marine region: outcomes of an expert workshop convened in Darwin, Northern Territory, 2-3 April 2007. Department of Environment, Water, Heritage and the Arts. Canberra http://www.environment.gov.au/resource/characterisation-marine-environment-north-marine-region-outcomes-expert-workshop-2-3-april

DEWR. 2007. Whales and dolphins identification guide. Department of Environment and Water Resources, Canberra

DNP. 2018a. North Marine Parks Network Management Plan 2018. Director of National Parks. Canberra.

DNP. 2018b. Northwest Marine Parks Network Management Plan 2018. Director of National Parks. Canberra.

Department of Natural Resources, Environment, the Arts and Sport. 2009. Sites of Conservation Significance: the Tiwi Islands. Northern Territory Government. Accessed on 10 February 2022 via: https://nt.gov.au/environment/environment-data-maps/important-biodiversity-conservation-sites/conservation-significance-list

DNP. 2014. Christmas Island National Park Management Plan 2014 - 2024, Director of National Parks. Canberra, ACT.x

DoA and DoE. 2015. Anti-fouling and in-water cleaning guidelines. Department of Agricultre and Department of the Environment. Canberra.

DoE. 2015a. Sawfish and River Sharks – Multispecies Recovery Plan. Department of the Environment. Canberra.

DoE. 2015b. Conservation Management Plan for the Blue Whale. A Recovery Plan under the Environment Protection and Biodiversity Conservation Act 1999. Department of the Environment. Canberra.

DoE. 2015c. Conservation Advice *Numenius madagascariensis* eastern curlew. Department of the Environment. Canberra.

DoE. 2015d. Wildlife Conservation Plan for Migratory Shorebirds. Department of the Environment. Canberra.

DoE.2014a. Approved Conservation Advice for *Pristis pristis* (largetooth sawfish). Department of the Environment. Canberra

DoE.2014b. Recovery Plan for the grey Nurse Shark (*Carcharias taurus*). Department of the Environment. Canberra.

DoE. 2014c. Approved Conservation Advice for *Glyphis glyphis* (speartooth shark). Department of the Environment. Canberra.

DoE.2014d. Conservation Advice *Phaethon lepturus fulvus* white-tailed tropicbird (Christmas Island). Department of the Environment. Canberra.

DoE. 2013. EPBC Act Policy Statement 1.1 – Significant Impact Guidelines – Matters of National Environmental Significance. Department of Environment. Canberra.

DoE.2011. Approved Conseravtion Advice for Sternula nereis nereis (Fairy Tern).Department of the Environment. Canberra

DoE.2008. Approved Conservation Advice for *Dermochelys coriacea* (Leatherback Turtle). Department of the Environment. Canberra

DoEE. 2020. National Light Pollution Guidelines for Wildlife. Department of Energy and the Environment.

DoEE. 2019a. SPRAT Profile http://www.environment.gov.au/cgi-bin/sprat/public/sprat.

DoEE. 2018. Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans 2018. Department of the Environment and Energy. Canberra.

DoEE. 2017a. National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna. Department of the Environment and Energy. Canberra.

DoEE. 2017b. Australian National Guidelines for Whale and Dolphin Watching. Department of the Environment and Energy. Canberra.

DoEE. 2017c. Recovery Plan for Marine Turtles in Australia. Department of the Environment and Energy. Canberra.

DoEE. 2017d. EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species. Department of Energy and the Environment. Canberra.

DoEH. 2005. Ten seabird species issues paper – Part B; Conservation issues for specific species/ groups (continued). Department of the Environment and Heritage. Canberra.

DoF. 2013. Guidance Statement on Undertaking Seismic Surveys in Western Australian Waters. Fisheries Occasional Publication No. 112, 2013. Government of Western Australia. Department of Fisheries.

Done, T.J., Williams, D. McB., Speare, P., Turak, E., Davidson, J., DeVantier, L.M., Newman, S.J., and Hutchins, J.B. 1994. Surveys of Coral and Fish Communities at Scott Reef and Rowley Shoals. Australian Institute of Marine Science. Townsville, Australia.

DoT. 2014. Northern Territory Oil Spill Contingency Plan (Version 5.0, May 2014). Department of Transport. Darwin, Northern Territory.

DoT. 2020. Western Australian Offshore Petroleum Industry Guidance Note Marine Oil Pollution: Response and Consultation Arrangements. Department of Transport. Perth, Western Australia.

DoT. 2015. Western Australian Oil Spill Contingency Plan (Version 1, January 2015). Department of Transport. Perth, Western Australia.

Double, M., Andrews-Goff, V., Jenner, K., Jenner, M., Laverick, S., Branch, T. & Gales N. 2014. Migratory movements of pygmy blue whales (*Balaenoptera musculus brevicauda*) between Australia and Indonesia as revealed by satellite telemetry. *PLOS one*, 9(4).

DPIR. 2021. Northern Territory Commercial Fisheries. Department of Primary Industry and Resources. Darwin.

DPIR. 2019. Status of key Northern Territory fish stocks report 2017. Fishery report no. 121. Department of Primary Industry and Resources. Darwin.

DPIR. 2018. NT Fisheries. Management Arrangements for the Northern Territory Offshore Net and Line Fishery. Department of Primary Industry and Resources. Darwin.

DPIRD. 2013. Fisheries – Scallop. A WWW webpage accessed at Scallop (fish.wa.gov.au). Department of Primary Industries and Regional Development.

DPaW. 2016. Advice received in relation to Clearing Permit Application CPS 7153/1 - Threatened and Priority Flora. September 2016. Department of Parks and Wildlife, Western Australia.

DPaW. 2013. Lalang-garram/Camden Sound Marine Park Management Plan 73, 2013 – 2023. Department of Parks and Wildlife, Perth.

DPW. 2016. North Kimberley Marine Park Joint Management Plan 2016 Uunguu, Balanggarra, Miriuwung Gajerrong, and Wilinggin Management Areas, Number Plan 89. Department of Parks and Wildlife, Perth.

DPW and AMOSC. 2014. Western Australian Oiled Wildlife Response Plan. Department of Parks and Wildlife and Australian Marine Oil Spill Centre. Perth. Western Australia.

DSEWPC. 2013. Recovery Plan for the White Shark (*Carcharodon carcharias*). Department of Sustainability, Environment, Water, Population and Communities. Canberra.

DSEWPC. 2012. Marine bioregional plan for the North Marine Region. Department of Sustainability, Environment, Water, Population and Communities. Canberra.

DSEWPC. 2011. National Recovery Plan for Threatened Albatrosses and Giant Petrels 2011-2016. Department of Sustainability, Environment, Water, Population and Communities. Australian Antarctic Division. Canberra.

DSEWPC. 2010. Conservation Advice for the Leaf-scaled Sea Snake (*Aipysurus foliosquama*). Department of Sustainability, Environment, Water, Population and Communities. Canberra.

Dunlop, R.A. 2016. The effect of vessel noise on humpback whale, Megaptera novaeangliae, communication behaviour. *Animal Behaviour* (111): 13–21.

Dunlop, R.A., Noad, M.J., McCauley, R.D., Kniest, E., Slade, R. Paton, D., and Cato, D.H. 2018. A behavioural dose-response model for migrating humpback whales and seismic air gun noise. *Mar. Poll. Bull*. (133): 506–516.

Dunlop, R.A., Noad, M.J., McCauley, R.D., Kniest, E., Slade, R. Paton, D., and Cato, D.H. 2017. The behavioural response of migrating humpback whales to a full seismic air gun array. *Proceedings of the Royal Society B*. (284): 20171901.

Dunlop, R.A., Noad., M.J., McCauley, R.D., Kniest, E., Slade, R., Paton, D. and Cato, D.H. 2016. Response of humpback whales (Megaptera novaeangliae) to ramp-up of a small experimental air gun array. *Mar. Poll. Bull*. 103(1–2): 72-83.

Dunlop, R.A., Noad., M.J., McCauley, R.D., Kniest, E., Slade, R., Paton, D. and Cato, D.H. 2015. The behavioural response of humpback whales (Megaptera novaeangliae) to a 20 cubic inch air gun. *Aquatic Mammals* 41(4): 412.

Ellison, W.T., Southall, B.L., Clark, C.W. and Frankel, A.S. 2012. A new context-based approach to assess marine mammal behavioral responses to anthropogenic sounds. *Conservation Biology*, *26*(1), pp.21-28.

Engelhardt, F. 1983. Petroleum Effects on Marine Mammals. *Aquatic Toxicology* (4):199–217.

Epstein, N, Bak, RPM & Rinkevich, B .2000. 'Toxicity of Third Generation Dispersants and Dispersed Egyptian Crude Oil on Red Sea Coral Larvae'. Marine Pollution Bulletin.

Erbe, C., Reichmuth, C., Cunningham, K., Lucke, K. and Dooling, R. 2015. Communication masking in marine mammals: A review and research strategy. *Mar. Poll. Bull*. 103(1-2): 15–38.

ERM. 2011. GDF SUEZ – Marine Baseline Survey and Ecological Assessment. Report prepared for GDF SUEZ LNG. Perth, Western Australia.

ESDC.1992. National Sustainable Development Strategies. United nations. National Sustainable Development Strategies (NSDS) .:. Sustainable Development Knowledge Platform (un.org)

European Commission. 2019. Best Available Techniques Guidance Document on Upstream Hydrocarbon Exploration and Production. Luxembourg: Publications Office of the European Union.

Falkner, I., Whiteway, T., Przeslawski, R. and Heap, A.D. 2009. Review of ten key ecological features (KEFs) in the North-west Marine Region. Record 2009/13. Geoscience Australia, Canberra.

Felder, D., Thoma, B., Schmidt, W., Sauvage, T., Self-Krayesky, S., Christoserdov, A., Bracken-Grissom, H. and Fredericq, S. 2014. Seaweeds and Decapod Crustaceans on Gulf Deep Banks after the Macondo Oil Spill. *Bioscience* (64): 808–819.

Fingas, M. 2002. A review of literature related to oil spill dispersants especially relevant to Alaska. Prince William Sound Regional Citizens' Advisory Council. Environmental Technology Centre. Anchorage, Alaska.

Fingas, M. 2011. ''Oil Spill Dispersants: A Technical Summary'' in Oil Spill Science and Technology.

Finneran, J. 2016. Auditory weighting functions and TTS/PTS exposure functions for marine mammals exposed to underwater noise. Technical Report.

Fletcher, W., Mumme, M. and Webster F. (eds). 2017. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2015/16: The State of the Fisheries. Department of Fisheries, Western Australia.

Fletcher, W. and Santoro, K. 2015. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries. Department of Fisheries, Western Australia.

Fletcher, W.J. and Santoro, K. 2009. State of the fisheries report 2008/09. Western Australian Department of Fisheries, Perth.

Fossette, S., Ferreira, L., Whiting, S., King, J., Pendoley, K., Shimada, T., Speirs, M., Tucker, A., Wilson, P. and Thums, M. Movements and distribution of hawksbill turtles in the Eastern Indian Ocean. *Global Ecology and Conservation*. 29.

Frasier, K.E., Solsona-Berga, A., Stokes, L., Hildebrand, J.A. 2020. Impacts of the Deepwater Horizon Oil Spill on marine Mammals and Sea Turtles. 10.1007/978-3-030-11605-7_26.

French-McCay, D. 2002. Development and application of an oil toxicity and exposure model, OilToxEx. *Environmental Toxicology and Chemistry* (21):2080-2094.

French-McCay, D.P. 2003. Development and application of damage assessment modelling: example assessment for the North Cape oil spill. *Mar. Poll. Bull*. 47(9):9–12.

French-McCay, D. 2009. State-of-the-art and research needs for oil spill impact assessment modelling. Proceedings of the 32nd Arctic and Marine Oil Spill Program Technical Seminar. Environment Canada, Ottawa.

French-McCay, D., Crowley, D., Rowe, J.J., Bock, M., Robinson, H., Wenning, R., Hayward, A., Walker, Joeckel, J., Nedwed, T.J. and Parkerton, T.F. 2018. Comparative Risk Assessment of spill response options for a deep-water oil well blowout: Part 1. Oil spill modelling. *Mar. Poll. Bull.* 133(2018), pp 1001-1015.

French, D. Schuttenberg, H. and Isaji, T. 1999. Probabilities of oil exceeding thresholds of concern: examples from an evaluation for Florida Power and Light In: Proceedings of the 22nd Artic and Marine Oil Spill Program (AMOP), Technical Seminar, June 1999. Alberta, Canada.

Gabriele, C., Ponirakis, D., Clark, C., Womble, J., and Vanselow, P. 2018. Underwater acoustic ecology metrics in an Alaska marine protected area reveal marine mammal communication masking and management alternatives. *Front. Mar. Sci*. 5:270.

Gagnon, M. and Rawson, C. 2011. Montara Well Release, Monitoring Study S4A – Assessment of Effects on Timor Sea Fish. Curtin University, Perth, Australia.

Gala, W. 2001. Predicting the Aquatic Toxicity of Crude Oils. *International Oil Spill Conference Proceedings* (2):935–940.

Galaiduk, R., Huang, Z., Miller, K., Nanson, R., Przeslawski, R. and Nichol, S. 2018. An eco-narrative of Joseph Bonaparte Gulf Marine Park: North marine region. Report to the National Envionmental Science Program, Marine Biodiversity Hub. 21pp.

Garnett, S.T., Szabo, J.K., and Dutson, G. 2011. The Action Plan for Australian Birds 2010. CSIRO Publishing, Collingwood, Australia.

Garnett, S. and Crowley, G. 2000. The action plan for Australian birds 2000, Department of the Environment and Heritage, Canberra, ACT.

Gaughan, D. and Santoro, K. (eds). 2021. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2019/20: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia.

Gaughan, D. and Santoro, K. (eds). 2020. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2018/19: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia

Gaughan, D., Molony, B. and Santoro, K. (eds). 2019. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2017/18: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia.

Gaughan, D. and Santoro, K. (eds). 2018. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2016/17: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia.

Geiling, N., 2014. Arctic Shipping: Good for Invasive Species, Bad for the Rest of Nature. *Smithsonian Institution. Last modified May*, *29*, p.2014.

Geoscience Australia. 2022. Bonaparte Basin. Accessed online on 5 April 2022 via https://www.ga.gov.au/scientific-topics/energy/province-sedimentary-basin-geology/petroleum/offshore-northwest-australia/bonaparte

Geraci, J. and St. Aubin, D. 1988. Synthesis of Effects of Oil on Marine Mammals. Report to US Department of the Interior, Minerals Management Service, Atlantic OCS Region, OCS Study. Ventura, California.

Gleiss, A., Wright, S., Liebsch, N. & Wilson, R. 2013. Contrasting diel patterns in vertical movement and locomotor activity of Whale sharks at Ningaloo Reef. Marine Biology.

Gilmour, J. and Smith, L., 2013. *Discovering Scott Reef: 20 years of exploration*.

Gilmour J.P., Travers M.J., Underwood J.N., Markey K.L., Ninio R., Cecarelli D., Hoey A.S., Case M., O'Leary R. and Radford, B. 2012. Long-term monitoring of shallow water coral and fish communities at Scott Reef. Australian Institute of Marine Science (AIMS) report for Woodside Energy Ltd. Browse LNG Development Contract no. 4600001754, 170 pp.

Gippsland Times. 2014. Beach oil spill. Report by Julianne Langshaw, March 17, 2014. Gippsland Times and Maffra Spectator. Victoria.

Gohlke, J.M. 2011. A Review of Seafood Safety after the Deepwater Horizon Blowout. *Environmental Health Perspectives* 119(8):1062–1069.

Gomez, C., Lawson, J., Wright, A., Buren, A., Tollit, D. and Lesage, V. 2016. A systematic review on the behavioural responses of wild marine mammals to noise: the disparity between science and policy. *Canadian Journal of Zoology* 94(12): 801–819.

Gotz, T., Hastie, G., Hatch, L., Raustein, O, Southall, B., Tasker, M, Thomsen, F. 2009. Overview of the impacts of anthropogenic underwater sound in the marine environment. OSPAR Commission. London.

Government of Western Australia. 2021. inHerit database accessed at inHerit – State Heritage Office. Heritage Council. Government of Western Australia.

Hale, J. and Butcher, R.2013.Ashmore Reef Commonwealth Marine Reserve Ramsar Site Ecological Character Description. A report to the Department of the Environment, Canberra.

Hallegraeff, G.M. and Jeffrey, S.W. 1984. Tropical phytoplankton species and pigments of continental shelf waters of north and north-west Australia. Marine Ecology Progress Series, 20: 59-74.

Hansen, B.H., Altin, D., Bonaunet, K. and Øverjordet, I.B. 2014. ''Acute toxicity of eight oil spill response chemicals to temperate, boreal, and arctic species'', Journal of Toxicology and Environmental Health – Part A: Current Issues.

Harrison, P.L. 1999. Oil Pollutants Inhibit Fertilization and Larval Settlement in the Scleractinian Reef Coral Acropora tenuis from the Great Barrier Reef, Australia. In *Sources, Fates and Consequences of Pollutants in the Great Barrier Reef and Torres Strait*. Conference Abstracts. Great Barrier Reef Marine Park Authority Townsville, Queensland, Australia.

Harrison, P.L. 1994. The Effects of Oil Pollutants on Fertilization Rates in the Scleractinian Coral, Acropora tenuis. In: *Australian Coral Reef Society Annual Conference*. Conference Abstracts.

Harms, C.A., McClellan-Green, P., Godfrey, M., Christiansen, E., Broadhurst, H. and Godard-Codding, C. 2014. Clinical pathology effects of crude oil and dispersant on hatchling loggerhead sea turtles (Caretta caretta). *Proceedings of the 45th Annual International Association for Aquatic Animal Medicine.* Gold Coast, Australia, pp. 17–22.

Hart, A., Murphy, D. and Green, K. 2015. Beche-de-mer Fishery Status Report. In: Status Reports of the Fisheries and Aquatic Resources of Western Australia 2014/15: The State of the Fisheries, Fletcher, W. J. & Santoro, K. (eds.), Department of Fisheries, Western Australia, pp. 39-48.

Hayworth, J.S., Clement, T.P. and Valentine, J.F. 2011. Deepwater Horizon oil spill impacts on Alabama Beaches. Hydrology and Earth System Sciences. 15: 3639–3649.

Hazel, J., Lawler, I. and Hamann, M., 2009. Diving at the shallow end: Green turtle behaviour in nearshore foraging habitat. Journal of Experimental Marine Biology and Ecology, vol. 371, pp. 84-92.

Heck Jr., K., Hays, G. and Orth, R.J. 2003. Critical evaluation of the nursery role hypothesis for seagrass meadows. *Marine Ecology Progress Series.* 253, 123–136.

Heyward, A., Stowar, M., Wakeford, M., Colquhoun, J., Spagnol, S., Radford, B., Abdul Wahab, M.A. and Richards, Z. 2018. Shallow coral habitat distributions across the offshore Kimberley region subproject 1.1.1.8. Report prepared for the Kimberley Marine Research Program, Western Australian Marine Science Institution, Perth.

Heyward, A., Case, M., Cappo, M., Colquhoun, J., Curry, L., Fisher, R., Radford, B., Stowar, M., Wakeford, M. and Wyatt, M. 2017. The Barracouta, Goeree and Vulcan, Shoals Survey 2016. Townsville: Australian Institute of Marine Science.

Heyward, A., Wakeford, M., Cappo, M., Olsen, Y., Radford, B., Colquhoun, J., Case, M. and Stowar, M. 2017. Submerged Shoals 2017 – Final Report. Prepared for Shell/INPEX Applied Research Program. Australian Institute of Marine Science.

Heyward, A., Moore, C., Radford, B. and Colquhoun, J. 2010. Monitoring Program for the Montara Well Release Timor Sea: Final Report on the Nature of Barracouta and Vulcan Shoals. Report prepared by the Australian Institute of Marine Science for PTTEP Australasia (Ashmore Cartier) Pty Ltd.

Higgins, P.J. and Davies, S.J. 1996. Handbook of Australian, New Zealand & Antarctic birds. *Vol. 3, Snipe to pigeons*. Oxford University Press.

Hinwood, J.B., Potts, A.E., Dennis, L.R., Carey, J.M., Houridis, H., Bell, R.J., Thomson, J.R., Boudreau, P. and Ayling, A.M. 1994. 'Drilling Activities'. In: Environmental Implications of Offshore Oil and Gas Developments in Australia – the Findings of an Independent Scientific Review. Edited by Swan J.M., Neff J.M. and Young P.C. Australian Petroleum Exploration Association. Sydney.

Hochscheid, S., Bentivegna, F., Hamza, A, and Hays, G.C. 2010. When surfacers do not dive: multiple significance of extended surface times in marine turtles. Journal of Experimental Biology. 213: 1328–1337. pmid:20348345

Holdway, D. 2002. The acute and chronic effects of wastes associated with offshore oil and gas production on temperate and tropical marine ecological processes. *Mar. Poll. Bull*. (**44**): 185–203.

Holloway, P.E., Pelinovsky, E., Talipova, T. and Barnes, B. 1997. A Nonlinear Model of Internal Tide Transformation on the Australian North West Shelf. Journal of Physical Oceanography 27: 871–896.

Holloway, P. E., Humphries, S. E., Atkinson, M., and Imberger, J. 1985. Mechanisms for nitrogen supply to the Australian North West Shelf. Australian Journal of Marine and Freshwater Research 36: 753–764.

Holloway, P.E. 1983. Internal Tides on the Australian North-West Shelf: A Preliminary Investigation. Journal of Physical Oceanography Vol 13: 1357 – 1370.

Hook, S., Batley, G., Holloway, M., Irving, P. and Ross, A. 2016. Oil Spill Monitoring Handbook. CSIRO Publishing. Melbourne.

How, J.R., Webster, F.J., Travaille, K.L., Nardi, K., Harry, A.V. 2015. Western Australian Marine Stewardship Council Report Series No. 4: West Coast Deep Sea Crustacean Managed Fishery. Department of Fisheries, Western Australia. 172pp.

Howard, R.K. and Edgar, G.J. 1994. Seagrass meadows. In: Hammond, L.S. and Synnot, R.N. (eds) *Marine Biology*. Longman Cheshire, Melbourne.

Humphreys, B. and J. Blyth. 1994. Subterranean Secrets. Landscope - W.A's Conservation, Forests and Wildlife Magazine. 9, No. 3:22-27.

Humphreys, W.F. and M.N. Feinberg. 1995. Food of the blind cave fishes of northwestern Australia. Records of the Western Australian Museum. 17:29-33.

Humphreys, W.F. 1999. The distribution of Australian cave fishes. Records of the Western Australian Museum. 19:469-472.

IADC. 2015. Health, Safety and Environment Case Guidelines for Mobile Offshore Drilling Units. International Association of Drilling Contractors, USA.

IMO. 2014. International Dangerous Goods Maritime Code. International Maritime Organisation.

IMO.2012. Guidelines for the Development of Garbage Management Plans. International Maritime Organisation.

IMO. 2011. Guidelines for the control and management of ships' biofouling to minimise transfer of invasive aquatic species. International Maritime Organisation.

Inpex. 2010. Ichthys Gas Field Development. Draft Environmental Impact Statement. Inpex Browse Ltd. Perth.

IOGP.2016. Environmental fates and effects of ocean discharge of drill cuttings and associated drilling fluids from offshore oil and gas operations (Report No. 543). International Association of Oil and Gas Producers, London.

IPIECA. 2014. A guide to oiled wildlife response response planning. IPIECA report series voume 13. International Petroleum Industry Environmental Conservation Association. London.

IPIECA. 2004. Biological Impacts of Oil Pollution: Saltmarshes. International Petroleum Industry Environmental Conservation Association. London.

IPIECA. 2002. Guidelines on Biological Impacts of Oil Pollution. International Petroleum Industry Environmental Conservation Association. London.

IPIECA. 1999. Biological Impacts of Oil Pollution: Sedimentary Shores. International Petroleum Industry Environmental Conservation Association. London.

IPIECA.1995. Biological Impacts of Oil Pollution: Rocky Shores, No. 7. International Petroleum Industry Environmental Conservation Association. London.

IPIECA. 1993. Biological Impacts of Oil Pollution: Mangroves. International Petroleum Industry Environmental Conservation Association. London.

IPIECA-IOGP. 2022. Oil spill response: Should you spray dispersant? [flowchart]. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2020a. Environmental management in the upstream oil and gas industry. Report No. 254. August 2020. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2020b. Shoreline Response Program Guidance – A Technical support document to accompany IPIECA-IOGP guidance on oiled shoreline assessment and shoreline clean-up techniques, IOGP Report 635. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP.2017. Key principles for the protection, care and rehabilitation of oiled wildlife. IPIECA-IOGP Good Practice Guide Series, Oil Spill Response Joint Industry Project (OSR-JIP). International Association of Oil & Gas Producers Report 583. London.

IPIECA-IOGP.2016a. In-water surveillance of oil spills at sea, good practice guidelines for incident management and emergency response personnel. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2016b. At-sea containment and recovery. Good Practice Guidelines for incident management and emergency response personnel. IOGP Report 522. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP.2015a. Dispersants: surface application, good practice guidelines for incident management and emergency response personnel. International Association of Oil & Gas Producers and IPIECA. London.

IPICEA-IOGP.2015b. Contingency planning for oil spills on water, good practice guidelines for the development of an effective spill response capability. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2015c. Response Strategy development using net environmental benefit analysis (NEBA). Good Practice Guidelines for incident management and emergency response personnel. IOGP Report 527. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2015d. A Guide to oiled shoreline clean-up techniques. Good Practice Guidelines for incident management and emergency response personnel. IOGP Report 521. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2014a. At-sea monitoring of surface dispersant effectiveness. Final Report. International Petroleum Industry Environmental Conservation Association and the International Association of Oil and Gas Producers. London.

IPIECA-IOGP. 2014b.Oil spill training. Good practice guidelines on the development of training programmes for incident management and emergency response personnel. International Association of Oil & Gas Producers and IPIECA. London.

IPICEA-IOGP.2014c. Wildlife response preparedness, good practice guidelines for incident management and emergency response personnel. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2014d. Oil Spill Waste Minimisation and Management. Good Practice Guidelines for incident management and emergency response personnel. IOGP Report 5207. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2014e. Regulatory Approval of dispersant products and authorisation for use. Oil Spill Response Joint Industry Project. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2014f. A guide to oiled shoreline assessment (SCAT) surveys Good practice guidelines for incident management and emergency response personnel. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP.2013a. Dispersant logistics and supply planning. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2013b. The use of decanting during offshore oil spill recovery operations, Oil Spill Response, Joint Industry Project. International Association of Oil & Gas Producers and IPIECA. London.

IPIECA-IOGP. 2012. Managing oil and gas activities in coastal areas. International Association of Oil & Gas Producers and IPIECA. London.

ITOPF. 2022. Containment and Recovery. The International Tanker Owners Pollution Federation Ltd. London. A www resource located at https://www.itopf.org/knowledge-resources/documents-guides/response-techniques/containment-recovery/. The International Tanker Owners Pollution Federation Ltd. London.

ITOPF. 2014. Use of Dispersants to Treat Oil Spills. Technical Information Paper 4. The International Tanker Owners Pollution Federation Ltd. London.

ITOPF. 2011a. Effects of Oil Pollution on the Marine Environment. Technical Information Paper 13. The International Tanker Owners Pollution Federation Ltd. London.

ITOPF.2011b. Aerial Observations of Marine Oil Spills. Technical Information Paper 1. The International Tanker Owners Pollution Federation Ltd. London.

ITOPF. 2011c. Use of booms in oil pollution response. Technical Information Paper 3. The International Tanker Owners Pollution Federation Ltd. London.

ITOPF. 2011d. Clean-up of Oil from Shorelines. Technical Information Paper 7. The International Tanker Owners Pollution Federation Ltd. London.

Jenner, K., Jenner, M. and McCabe, K. 2001. Geographical and temporal movements of humpback whales in Western Australian waters. *APPEA Journal*, 2001: 749-765.

Jensen, T., Palerud, R., Olsgard, F., and Bakke, S.M. 1999. Dispersion and effects of synthetic drilling fluids in the environment. Technical Report No. 99-3507 to the Ministry of Oil and Energy.

Jenssen, B. 1994. Effects of Oil Pollution, Chemically Treated Oil, and Cleaning on the Thermal Balance of Birds. *Env. Poll*. (86):207–215.

Johnstone, R. E., and Storr, G. M.1998. Handbook of Western Australian birds. Vol. 1: non-passerines (emu to dollarbird). Western Australian Museum, Perth.

Jones, D.O.B., Gates, A. and Lausen, B. 2012. Recovery of deep-water megafaunal assemblages from hydrocarbon drilling disturbance in the Faroe-Shetland Channel. Marine Ecology Progress Series 461: 71-82.

Jones, D. and Morgan, G. J. 1994. A field guide to crustaceans of Western Australia. Western Australian Museum.

Jung, J. 2011. Biomarker Responses in Pelagic and Benthic Fish Over One Year Following the Hebei Spirit Oil Spill (Taean, Korea). *Mar. Poll. Bull*. 62(8): 1859–1866.

Kakadu Tourism. 2024. Nature And Wildlife. A WWW web page accessed at Nature and Wildlife | Kakadu National Park NT | Northern Territories (kakadutourism.com).Kakadu Tourism.

Kathiresan, K. and Bingham, B. 2001. Biology of Mangroves and Mangrove Ecosystems. *Advances in Marine Biology*. 40. 81-251. 10.1016/S0065-2881(01)40003-4.

Kauss, P., Hutchinson, T., Soto, C., Hellebust, J. and Griffiths, M. 1973. The Toxicity of Crude Oil and its Components to Freshwater Algae. International Oil Spill Conference Proceedings: March 1973, Vol. 1973, No. 1, pp. 703-714.

Kennish, M.J. 1996. Practical Handbook of Estuarine and Marine Pollution. CRC Press. Florida.

Kenworthy, W.J., Durako, M.J., Fatemy, S.M.R., Valavi. H. and Thayer, G.W. 1993. Ecology of seagrasses in northeastern Saudi Arabia one year after the Gulf War oil spill. Marine Pollution Bulletin 27:213–222.

Kenyon, R., Loneragan, N., Manson, F., Vance, D., Venables, W. 2004. Allopatric distribution of juvenile red-legged banana prawns (*Penaeus indicus* H. Milne Edwards, 1837) and juvenile white banana prawns (*Penaeus merguiensis* De Man, 1888), and inferred extensive migration, in the Joseph Bonaparte Gulf, Northwest Australia. *Journal of Experimental Marine Biology and Ecology* 309, 79–108.

Kenyon, R. February 2002. Personal communications between Rob Kenyan, CSIRO Division of Marine Research and Jannina Stillitano, Senior Environmental Consultant, Aventus Consulting.

Kjeilen-Eilertsen G., Trannum, H., Jak, R.G, Smit, M.G.D., Neff, J. and Durell, G. 2004. Literature report on burial: derivation of PNEC as component in the MEMW model tool. Report AM 2004/024. ERMS report 9B.

Klimey, A. and Anderson, S. 1996. Residency patterns of White Sharks at the South Farrallone Islands, California. In: Great White Sharks: The biology of Carcharodon carcharias. Klimley, A. P. and Ainley, D. G. (eds.), Academic Press, New York USA. pp 365 - 373.

KLC. 2022. Whats is Native Title?. A WWW webpage accessed at What is Native Title? — Kimberley Land Council (klc.org.au). Kimberley Land Council. WA.

Kloser, R.J., Keith, G. and Althaus, F. 2010. Key ecological features of the east and south-east marine regions: shelf incising canyons. Draft report to the Australian Government Department of the Environment, Water, Heritage and the Arts, Canberra.

Knap, A. H., T. D. Sleeter, R. E. Dodge, S. C. Wyers, H. R. Frith, and S. R. Smith. 1983. The effects of oil spills and dispersant use on corals. A review and multidisciplinary experimental approach. *Oil and Petrochemical Pollution 1*: 157–269.

Laist, D., Knowlton, A., Mead, J., Collet, A. and Podesta, M. 2001. Collisions between Ships and Whales. *Mar. Mam. Sci*. 17(1): 35-75.

Laleian, A. and Azwell, T. 2011. The tradeoffs of chemical dispersants in marine oil spills, Deepwater Horizon Study Group Working paper. 2011.

Lamendella, R., Strutt, S., Borglin, S., Chakraborty, R., Tas, N., Mason, O., Hultman, J., Prestat, Hazen, T. and Jansson, J. 2014. Assessment of the Deepwater Horizon oil spill impact on Gulf coast microbial communities. *Front. Microbiol*. 5: 130.

Lane, A. and Harrison, P.L. 2000. Effects of Oil Contaminants on Survivorship of Larvae of the Scleractinian Reef Corals Acropora tenuis, Goniastrea aspera and Platygyra sinensis from the Great Barrier Reef. In*: 9th International Coral Reef Symposium*. Bali, Indonesia.

Last, P. and Stevens, J. 1994. Sharks and Rays of Australia. Collingwood, Victoria: CSIRO Publishing.

Last, P., Lyne, V., Yearsley, G., Gledhill, D., Gommon, M., Rees, T. and White, W. 2005. Validation of national demersal fish datasets for the regionalisation of the Australian continental slope and outer shelf (> 40 m depth). Australian Government Department of the Environment and Heritage and CSIRO Marine Research, Australia.

Last, P. and Stevens, J. 2009. Sharks and Rays of Australia (Second Edition). Collingwood, Victoria: CSIRO Publishing.

Law, R.J., Kirby, M.F., Moore, J., Barry, J., Sapp, M., Balaam., J. 2011. PREMIAM – Pollution Response in Emergencies - Marine Impact Assessment and Monitoring: Post-incident monitoring guidelines. In Science Series Technical Report No: 146. Cefas, Lowestoft, UK.

Law, R. 1997. Hydrocarbons and PAH in Fish and Shellfish from Southwest Wales following the Sea Empress Oil Spill in 1996. *International Oil Spill Conference Proceedings 1997* (1): 205–211.

Lee, H.J., Shim, W.J., Lee, J. and Kim, G.B. 2011. Temporal and geographical trends in the genotoxic effects of marine sediments after accidental oil spill on the blood cells of striped beakperch (*Oplegnathus fasciatus*). *Mar. Poll. Bull*. 62:2264– 2268.

Legge, S., Garnett, S., Maute, K., Heathcote, J., Murphy, S., Woinarski, J.C. and Astheimer, L. 2015. A landscape-scale, applied fire management experiment promotes recovery of a population of the threatened Gouldian Finch, Erythrura gouldiae, in Australia's Tropical Savannas. *PLoS One*, *10*(10), p.e0137997.

Lewis, M. and Pryor, R. 2013. Toxicities of oils, dispersants and dispersed oils to algae and aquatic plants: Review and database value to resource sustainability. *Env. Poll*. **180**:345–367.

Limpus, C.J. 2008. A Biological Review of Australian Marine Turtles. Green Turtle, *Chelonia mydas* (Linnaeus). Prepared for the Queensland Environment Protection Agency.

Lin, Q. and Mendelssohn, I. 1996. A comparative investigation of the effects of south Louisiana crude oil on the vegetation of fresh, brackish and salt marshes. Marine Pollution Bulletin. 32 (2):202-209.

Loneragan, N., Die, D., Kenyon, R., Taylor, B., Vance, D., Manson, F., Pendrey, B. & Venables, B. (2002). The growth, mortality, movements and nursery habitats of red-legged banana prawns (Penaeus indicus) in the Joseph Bonaparte Gulf. CSIRO Marine Research. Project FRDC 97/105. 142 pp.

Lutcavage, M.E. and Lutz, P.L. 1997. Diving physiology. In: Lutz PL, Musick JA, editors. The Biology of Sea Turtles, Vol I. Boca Raton: CRC Press

Marchant, S. and P.J. Higgins. 1993. Handbook of Australian, New Zealand and Antarctic Birds. Volume 2 - Raptors to Lapwings. Melbourne, Victoria: Oxford University Press.

Marine Acoustics. 2011. Underwater Acoustic Measurement of the Spartan 151 Jack-up Drilling Rig in the Cook Inlet Beluga Whale Critical Habitat. Marine Acoustics Inc. USA.

Marquenie, J., Donners, M., Poot, H., Steckel, W. and Wit, B. 2008. Adapting the spectral composition of artificial lighting to safeguard the environment. PCIC Europe Paper 535.

Márquez, R.M., 1990. Sea turtles of the world. *FAO Fisheries Synopsis*, *11*(125), p.I.

Marshall, A., Kashiwagi, T., Bennett, M., Deakos, M., Stevens, G., McGregor, F., Clark, T., Ishihara, H. and Sato, K. 2011a. *Manta alfredi*. The IUCN Red List of Threatened Species 2011.

Marshall, A., Bennett, M. B., Kodja, G., Hinojosa-Alvarez, S., Galvan-Magana, F., Harding, M., Stevens, G. and Kashiwagi, T.2011b. *Manta birostris*. The IUCN Red List of Threatened Species 2011.

Maxwell, A. J., Vincent, L. W. & Woods, E. P. 2004. The Audacious discovery, Timor Sea and the role of pre-stack depth migration seismic processing. In: Ellis, G. K., Baillie, P. W. & Munsoon, T. J. (eds.), Timor Sea Petroleum Geoscience, Proceedings of the Timor Sea Symposium, Darwin, Northern Territory, 19-20 June 2003, Northern Territory Geological Survey, Special Publication 1, 53-65.

Mees, G.F. 1962. The subterranean freshwater fauna of Yardie Creek Station, North West Cape, Western Australia. Journal of the Royal Society of Western Australia. 45, Part 1:24-32.

Mendelssohn, I.A., Anderson, G.L., Baltz, D.M., Caffey, R.H., Carman, K.R., Fleeger, J.W., Joye, S.B., Lin, Q, Maltby, E., Overton, E.B. and Rozas, L.P. 2012. Oil impacts on coastal wetlands: Implications for the Mississippi River delta ecosystem after the Deepwater Horizon oil spill. *Bioscience*. 62 (6):562–574.

Menkhorst, P., Rogers, D., and Clarke, R. 2017. The Australian Bird Guide. Princeton University Press.

MESA.2022. Marine Pests of Australia, NZ Screw Shell – Maoricolpus roseus. Marine Education Society of Australia. Marine Pests of Australia (mesa.edu.au)

McCauley, R., Gavrilov, A., Jolliffe, R., Ward, C. and Gill, P. 2018. Pygmy blue and Antarctic blue whale presence, distribution and population parameters in southern Australia based on passive acoustics. Deep-sea Research Part II: Tropical Studies in Oceanography 157: 154-168.

McCauley, R., Day, R., Swadling, K., Fitzgibbon, Q., Watson, R. and Semmens, J. 2017. Widely used marine seismic survey air gun operations negatively impact zooplankton. Nat. Ecol. Evol. 1, 0195.

McCauley, R. and Kent, C. 2012. A lack of correlation between air gun signal pressure waveforms and fish hearing damage. Advances in Experimental Medicine and Biology 730:245–250.

McCauley, R. 2004. Underwater sea noise in the Otway Basin – drilling, seismic and blue whales. Report prepared by Centre for Marine Science and Technology, Curtin University, for Santos Ltd McIntyre, A.D. and Johnson, R. 1975. Effects of nutrient enrichment from sewage in the sea. In: ALH Gameson, ed. Discharge of sewage from sea outfalls. New York, Pergamon Press. pp.131–141.

McCauley, R., Fewtrell, J., Duncan, A., Jenner, C., Jenner M-N., Penrose, J. D., Prince, R. T., Adhitya, A., Murdoch, J. and McCabe, A. K. 2003a. 'Marine seismic surveys: analysis and propagation of source signals; and effects of exposure on humpback whales, sea turtles, fishes and squid.' In: Environmental Implications of Offshore Oil and Gas Developments in Australia: Further Research. Australian Petroleum Production and Exploration Association. Canberra.

McCauley, R., Fewtrell, J., Popper, A. 2003b.High intensity anthropogenic sound damages fish ears. J. Acoust. Soc. Am. 113, 638–642.

McCauley, R., Fewtrell, J., Duncan, A., Jenner, C., Jenner, M., Penrose, J., Prince, R., Adhitya, A., Murdoch, J. and McCabe, K. 2000a. 'Marine Seismic Surveys: Analysis and propagation of air-gun signals; and effects of air-gun exposure on humpback whales, sea turtles, fishes and squid.' In: Environmental implications of offshore oil and gas development in Australia: Further research. Australian Petroleum Production and Exploration Association. Canberra.

McCauley, R., Fewtrell, J., Duncan, A., Jenner, C., Jenner, M., Penrose, J. 2000b. Marine seismic surveys 'A study of environmental implications. APPEA Journal, 40, 692'08.

McCauley, R. D. 1994. 'Seismic Survey.' In: Environmental Implications of Offshore Oil and Gas Developments in Australia – the Findings of an Independent Scientific Review. Swan J.M., Neff J.M. and Young P.C. (eds) Australian Petroleum Exploration Association. Sydney.

McClain, C.R. and Barry, J.P. 2010. Habitat heterogeneity, disturbance, and productivity work in concert to regulate biodiversity in deep submarine canyons. Ecology, 91(4): 964-976.

McLeay, L., Sorokin, S., Rogers, P. and Ward, T. 2003. Benthic Protection Zone of the Great Australian Bight Marine Park: 1. Literature review. South Australian Research and Development Institute (Aquatic Sciences). Final report to: National Parks and Wildlife South Australia and the Commonwealth Department of the Environment and Heritage.

McPherson, C., Kowarski, K., Delarue, J., Whitt, C., MacDonnell, J. and Martin, B. 2016. Passive Acoustic Monitoring of Ambient Noise and Marine Mammals–Barossa Field. JASCO Document 00997, Version 1.0. Technical report by JASCO Applied Sciences for Jacobs.

McPherson, C., Wood, M., Li, Z., Matthews, M-N. and Warner, G. 2017. Pelican 3-D Marine Seismic Survey. Acoustic Modelling for Assessing Marine Fauna Sound Exposures. Document 01411, Version 1. Prepared by JASCO Applied Sciences for the Victorian Department of Economic Development, Jobs, Transport and Resources.

Meekan, M. G., Wilson, S. G., Halford, A. and Retzel, A. 2001. A comparison of catches of fishes and invertebrates by two light trap designs, in tropical NW Australia. *Mar. Biol*. 139: 373 – 381.

Michel, J., Christopherson, S. and Whipple, F. 1994. Mechanical Protection Guidelines, Research Planning Inc, Columbia, South Carolina, National Oceanic and Atmospheric Administration, US Coast Guard National Strike Force.

Milicich, M., Meekan, M. and Doherty, P. 1992. Larval supply: a good predictor of recruitment in three species of reef fish (Pomacentridae). *Mar. Ecol. Prog. Ser*. 86: 153-166.

Milton, D.A., 2005. Birds of Ashmore Reef National Nature Reserve: as assessment of its importance for seabirds and waders.

Minton, S. and Heatwole, H. 1975. Sea snakes from three reefs of the Sahul Shelf. In: Dunson, W. A., ed. The Biology of Sea Snakes. Page(s) 141-144. Baltimore: University Park Press.

Mollet, H., Cliff, G., Pratt, Jr. H. and Stevens, J. 2000. Reproductive biology of the female shortfin mako, *Isurus oxyrinchus* Rafinesque, 1820, with comments on the embryonic development of lamnoids. *Fishery Bulletin* 98(2): 299-318.

Moore, C., Cappo, M., Radford, B. and Heyward, A. 2017. Submerged oceanic shoals of north Western Australia are a major reservoir of marine biodiversity. *Coral Reefs*: **36**, 719-734.

Morrice, M., Gill, P., Hughes, J. and Levings, A. 2004. Summary of mitigation aerial surveys for the Santos Ltd EPP32 seismic survey, 2-13 December 2003. Report # WEG-SO 02/2004, Whale Ecology Group-Southern Ocean, Deakin University.

Mulero-Pázmány, M., Jenni-Eiermann, S., Strebel, N., Sattler, T., Negro, J.J., Tablado, Z. 2017. Unmanned aircraft systems as a new source of disturbance for wildlife: A systematic review. PLoS ONE 12(6): e0178448.

Myrberg, A. 2001. The acoustical biology of elasmobranchs. Environmental Biology of Fishes 60(3): 31- 45.

National Marine Fisheries Service. 2018. 2018 Revisions to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Dept. of Commer., NOAA. NOAA Technical Memorandum NMFS-OPR-59, 167 p.

Neff J.M. 2005. Composition, environmental fates, and biological effect of water based drilling muds and cuttings discharged to the marine environment: A synthesis and annotated bibliography. Report prepared for the Petroleum Environmental Research Forum (PERF). Washington DC: American Petroleum Institute. 73 p.

Neff, J.M.2010. Fate and effects of water based drilling muds and cuttings in cold water environments. A Scientific Review Prepared for: Shell Exploration and Production Company, Houston, Texas

Negri, A.P. and Heyward, A.J. 2000. Inhibition of fertilization and larval metamorphosis of the coral Acropora millepora (Ehrenberg, 1834) by petroleum product. Marine Pollution Bulletin 41, pp. 420–427.

Negri, A.P., Luter, H.M., Fisher, R., Brinkman, D.L. & Irving, P. 2018. Comparative toxicity of five dispersants to coral larvae. Scientific Reports 8(3043).

Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. (eds). 2023. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2021/22: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia.

Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. (eds). 2021. Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries. Department of Primary Industries and Regional Development, Western Australia.

NCE. 2007. Treatments for reducing underwater sounds from oil and gas industry activities. Report prepared by Noise Control Engineering Inc. Report: 07- 001.

NERA. 2017. Environment Plan Reference Case: Planned Discharge of Sewage, Putrescible Waste and Grey Water. Department of Industry, Innovation and Science. Canberra.

Nichol, S., Howard, F., Kool, J., Stowar, M., Bouchet, P., Radke, L., Siwabessy, J., Przeslawski, R., Picard, K., Alvarez de Glasby, B., Colquhoun, J., Letessier, T. and Heyward, A. 2013. Oceanic Shoals Commonwealth Marine Reserve (Timor Sea) Biodiversity Survey: GA0339/SOL5650 – Post Survey Report. Record 2013/38. Geoscience Australia: Canberra.

NMFS. 2018. Revision to: Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0). Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. National Marine Fisheries Service. U.S. Department of Commerce. NOAA. NOAA Technical Memorandum NFMS-OPR-59.

NMFS. 2016. Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Department of Commerce, NOAA. NOAA Technical Memorandum NMFS-OPR-55. National Marine Fisheries Service.

NMSC. 2010. Marine Incidents during 2009. Preliminary Data Analysis. A WWW publication accessed during July 2012 at http://www.nmsc.gov.au. The Australian National Marine Safety Committee.

NOAA. 2021. Oil and Sea Turtles, Biology, Planning & Response. US Department of Commerce. National Oceanic and Atmospheric Administration. Washington.

NOAA. 2020. Small diesel spills (500-5000 gallons). Oil types. National Oceanic and Atmospheric Administration Office of Response and Restoration, Emergency Response Division. Washington.

NOAA. 2016. Automated Data Inquiry for Oil Spills (ADIOS) Version 2.0.12. National Oceanic and Atmospheric Administration Office of Response and Restoration, Emergency Response Division. Washington.

NOAA. 2014. Oil Spills in Mangroves. Planning and Response Considerations. National Oceanic and Atmospheric Administration. Washington.

NOAA. 2013a. Deepwater Horizon Oil Spill: Assessment of Potential Impacts on the Deep Softbottom Benthos. Interim data summary report. NOAA Technical Memorandum NOS NCCOS 166. National Oceanic and Atmospheric Administration. Washington.

NOAA. 2013b. Shoreline Assessment Manual. 4th Edition. U.S. Dept. of Commerce. Seattle, WA: Emergency Response Division, Office of Response and Restoration, National Oceanic and Atmospheric Administration.

NOAA. 2006. Fact Sheet: Small Diesel Spills (500-5000 gallons). A WWW publication accessed at http://archive.orr.noaa.gov/book_shelf/974_diesel.pdf. National Oceanic and Atmospheric Administration. Washington.

NOAA.2002. Managing Seafood Safety after an Oil Spill. National Oceanic and Atmospheric Administration. Washington.

NOPSEMA. 2021a. Environment plan decision making guideline (NOPSEMA Guideline GL1721, 2021). National Offshore Petroleum Safety and Environmental Management Authority. Available from: https://www.nopsema.gov.au/assets/Guidelines/A524696.pdf.

NOPSEMA. 2021b.Oil pollution risk management (NOPSEMA Guidance Note, N-04750-GN1488). National Offshore Petroleum Safety and Environmental Management Authority. Available from: A382148 (nopsema.gov.au)

NOPSEMA. 2021c. Source control planning and procedures (NOPSEMA Information Paper N-04750-IP1979). National Offshore Petroleum Safety and Environmental Management Authority. Available from: Title (nopsema.gov.au)

NOPSEMA. 2020a. Environment Plan Assessment Policy (NOPSEMA Policy N-04750-PL1347, Rev 8, March 2020). National Offshore Petroleum Safety and Environmental Management Authority. Available from: https://www.nopsema.gov.au/assets/Policies/A662608.18.19.pdf.

NOPSEMA. 2020b. Reducing marine pest biosecurity risks through good practice biofouling management (NOPSEMA Information Paper N-04750-IP1899, Rev 1, March 2020). National Offshore Petroleum Safety and Environmental Management Authority. Available from: https://www.nopsema.gov.au/assets/Environment-resources/A715054.pdf.

NOPSEMA. 2020c. Acoustic impact evaluation and management (NOPSEMA Information Paper, N-04750-IP1765). National Offshore Petroleum Safety and Environmental Management Authority. Available from: https://www.nopsema.gov.au/assets/Information-papers/A625748.pdf.

NOPSEMA. 2020d. Petroleum activities and Australian Marine Parks (NOPSEMA Guidance Note, N-04750-GN1785). National Offshore Petroleum Safety and Environmental Management Authority. Available from: https://www.nopsema.gov.au/assets/Guidance-notes/A620236.pdf.

NOPSEMA. 2020e. Operational and scientific monitoring programs (NOPSEMA Information Paper, N-04750-IP1349, October 2020). National Offshore Petroleum Safety and Environmental Management Authority. Available from: https://www.nopsema.gov.au/sites/default/files/documents/2021-03/A343826.pdf

NOPSEMA.2020f. Consultation with Commonwealth agencies with responsibilities in the marine area (NOPSEMA Guideline N-06800-GL1887). National Offshore Petroleum Safety and Environmental Management Authority. Available from: A705589_0.pdf (nopsema.gov.au)

NOPSEMA. 2020g.Environment Plan content requirements (NOPSEMA guidance note N-04750-GN1344). National Offshore Petroleum Safety and Environmental Management Authority. Available from: Title (nopsema.gov.au)

NOPSEMA. 2020h.When to submit a proposed revision of an EP (NOPSEMA Guideline N04750-GL1705). National Offshore Petroleum Safety and Environmental Management Authority. Available from: Title (nopsema.gov.au)

NOPSEMA. 2019. Oil spill modelling (NOPSEMA Environment Bulletin, April 2019). National Offshore Petroleum Safety and Environmental Management Authority. Available from: https://www.nopsema.gov.au/assets/Bulletins/A652993.pdf.

Northern Territory Government. 2019. Status of Key Northern Territory Fish Stocks Report 2017. Northern Territory Government Department of Primary Industry and Resources. Fishery Report No. 121.

Nowacek, D. & Southall, B. 2016. Effective planning strategies for managing environmental risk associated with geophysical and other imaging surveys. IUCN, Gland, Switzerland.

NRC. 2005. Oil spill dispersants; efficacy and effects. The National Academic Press. Washington, D.C.

NRC. 2003. National Research Council of the National Academy of Sciences, Ocean Noise and Marine Mammals. The National Academic Press. Washington, D.C.

NRC. 1989. *Using oil spill dispersants on the sea*. National Research Council.

NRDA. 2012. April 2012 Status Update for the Deepwater Horizon Oil Spill. A WWW publication accessed at: http://www.gulfspillrestoration.noaa.gov. Natural Resource Damage Assessment.

NSF (U.S), U.S. Geological Survey, and National Oceanic and Atmospheric Administration (U.S.). 2011. Final Programmatic Environmental Impact Statement/Overseas. Environmental Impact Statement for Marine Seismic Research Funded by the National Science Foundation or Conducted by the U.S. Geological Survey. National Science Foundation, Arlington, VA.

NT Government. Senior Licensing Officer Fisheries Division, Department of Industry, Tourism and Trade. Northern Territory Government of Australia. Email. February 2024.

NT Government. 2022a. Bait net fishery and licences. Accessed online 19/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/bait-net-fishery-and-licences

NT Government. 2022b. Coastal Net fishery and licences. Accessed online 19/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/coastal-net-fishery_and-licences

NT Government. 2022c. Barramundi fishery and licences. Accessed online 19/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/barramundi-fishery-and-licences

NT Government. 2022d. Trepang fishery and licences. Accessed online 19/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/trepang-industry

NT Government. 2022e. Aquarium fishery and licences. Accessed online 20/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/aquarium-fishery-and-licences

NT Government. 2022f. Mollusc fishery and licences. Accessed online 20/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/mollusc-industry-and-licences

NT Government. 2022g. Mud crab fishery and licences. Accessed online 20/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/mud-crab-industry-and-licences

NT Government. 2022h. Pearl Oyster fishery and licences. Accessed online 20/05/2022 at https://nt.gov.au/marine/commercial-fishing/fishery-licenses/pearl-oyster-industry

NT Government. 2022i. Find a park – Casuarina Coastal Reserve. A WWW webpage accessed at Casuarina Coastal Reserve | NT.GOV.AU. Northern Territory Government. Darwin.

NT Government. 2021. Northern Territory Trepang Fishery Ecological Risk Assessment. Accessed online 20/05/2022 at https://nt.gov.au/__data/assets/pdf_file/0018/1012680/trepang-fishery-ecological-risk-assessment-report.pdf

NT Government. 2020a. Northern Territory Offshore Net and Line Fishery Ecological Risk Assessment. Accessed online 20/05/2022 at https://nt.gov.au/__data/assets/pdf_file/0011/975584/nt-offshore-net-and-line-fishery-ecological-risk-assessment-2020.pdf

NT Government. 2020b. Garig Gunak Barlu National Park factsheet and map. Accessed on 5 April 2022 via https://nt.gov.au/parks/find-a-park/garig-gunak-barlu-national-park.

NT Government. 2019. Status of Key Northern Territory Fish Stocks Report 2017. Northern Territory Government Department of Primary Industry and Resources. Fishery Report No. 121.

NT Government. 2016. Reef fish protection areas. A WWW webpage accessed at Reef fish protection areas | NT.GOV.AU. Northern Territory Government. Darwin.

NT Heritage Council 2023. NT Heritage Register a database accessed at Heritage Register Search (nt.gov.au). NT Government. NT Heritage Council.

NTSC. 2022a. Coastal Net Fishery Factsheet. Accessed online 20/05/2022 at https://www.ntsc.com.au/content/about-our-fisheries/coastal-net

NTSC. 2022b. Barramundi Fishery Factsheet. Accessed online 20/05/2022 at https://www.ntsc.com.au/content/about-our-fisheries/barramundi-wild-catch

NTSC. 2022c. Trepang Fishery Factsheet. Accessed online 20/05/2022 at https://www.ntsc.com.au/content/about-our-fisheries/trepang

NTSC. 2022d. Wildcatch and aquaculture. Accessed online 20/05/2022 at https://www.ntsc.com.au/content/about-our-fisheries/wildcatch-and-aquaculture

NTSC. 2022e. Aquarium Fishery Factsheet. Accessed online 20/05/2022 at https://www.ntsc.com.au/content/about-our-fisheries/aquarium

NTSC. 2022f. Mud Crab Factsheet. Accessed online 20/05/2022 at https://www.ntsc.com.au/content/about-our-fisheries/mud-crab

NTSC. 2022g. Pearl Oyster Culture Factsheet. Accessed online 20/05/2022 at https://www.ntsc.com.au/content/about-our-fisheries/pearling

O'Brian, P. and Dixon, P. 1976. The effects of oils and oil components on algae: A review. *British Phycological Journal.* 11:115– 141.

O'Dea, A. 2014. Guide to Threatened species of Kakadu National Park including other plants and animals of interest. kakadu_guide_to_threatened_species_lr_final.pdf (nesplandscapes.edu.au).

OGP. 2003. Environmental aspects of the use and disposal of non aqueous drilling fluids associated with offshore oil and gas operations. Report No. 342. May 2003. International Association of Oil & Gas Producers.

OGUK.2014. The Offshore Oil and Gas Industry Guidance on Risk-Related Decision Making. Oil & Gas UK, formerly UKOOA.OSPAR (2013).

O'Malley, C. 2006. National Recovery Plan for the Gouldian Finch (Erythrura gouldiae). WWF-Australia, Sydney and Parks and Wildlife NT, Department of Natural Resources, Environment and the Arts, NT Government, Palmerston

Operational Science Advisory Team (OSAT-2). 2011. Summary report for fate and effects of remnant oil in the beach environment.

Parks Australia. 2021. Indigenous rangers monitoring marine park health in Australia's Top End. Available at: https://parksaustralia.gov.au/marine/news/indigenous-rangers-monitoring-marine-park-health-in-australias-top-end/

Parry, G. and Gason, A. 2006. The Effect of Seismic Surveys on Catch Rates of Rock Lobsters in Western Victoria, Australia. Fisheries Research 79(2006): 272-284.

Passow, U. 2016. Formation of rapidly-sinking, oil-associated marine snow. Deep Sea Research Part II: Topical Studies in Oceanography. 129(2016), pp 232-240.

Patterson, H., Bromhead, D., Galeano, D., Larcombe, J., Woodhams, J. and Curtotti, R. 2021. Fishery status reports 2021. Australian Bureau of Agricultural and Resource Economics and Sciences. Canberra.

Patterson, H., Georgeson, L., Larcombe, J. and Curtotti, R. 2020. Fishery status reports 2020. Australian Bureau of Agricultural and Resource Economics and Sciences. Canberra.

Patterson, H., Noriega, R., Georgeson, L., Larcombe, J. and Curtotti, R. 2019. Fishery status reports 2019. Australian Bureau of Agricultural and Resource Economics and Sciences. Canberra.

Patterson, H., Noriega, R., Georgeson, L., Larcombe, J. and Curtotti, R. 2018. Fishery status reports 2018. Australian Bureau of Agricultural and Resource Economics and Sciences. Canberra.

Patterson, H., Noriega, R., Georgeson, L., Larcombe, J. and Curtotti, R. 2017. Fishery status reports 2017. Australian Bureau of Agricultural and Resource Economics and Sciences. Canberra.

Patterson, H., Noriega, R., Georgeson, L., Stobutski, I. and Curtotti, R. 2016. Fishery status reports 2016. Australian Bureau of Agricultural and Resource Economics and Sciences. Canberra.

Paulay, G., Kirkendale, L., Lambert, G. and Meyer, C. 2002. Anthropogenic biotic interchange in a coral reef ecosystem: A case study from Guam. Pacific Science 56(4): 403-422.

Payne, J., Andrews, C., Fancey, L., White, D. and Christian, J. 2008. Potential Effects of Seismic Energy on Fish and Shellfish: An Update since 2003. Report Number 2008/060. Canadian Science Advisory Secretariat.

Peakall, D., Wells, P. and Mackay, D. 1987. A hazard assessment of chemically dispersed oil spills and seabirds. *Mar. Env. Res*. 22(2):91-106.

Pearce, C. and Duke, N. 2013. Shoreline ecological assessment aerial surveys. Report of Research. Montara Environmental Monitoring Program. James Cook University. Australia.

Pearce, A., Buchan, S., Chiffings, T., D'Adamo, N., Fandry, C., Fearns, P., Mills, D., Phillips, R. and Simpson, C. 2003. A review of the oceanography of the Dampier Archipelago, Western Australia. In: Wells, F. E., Walker, D. I. & Jones, D. S. (eds.). The marine flora and fauna of Dampier, Western Australia. Western Australian Museum, Perth, 13-50.

Pearson, R.G. 1981. Recovery and Recolonisation of Coral Reefs. *Mar.Ecol.Prog.Ser*. 4(1981), pp 105-122.

Pedretti, Y. and Paling, E. 2001. WA Mangrove Assessment Project 1999-2000. Marine and Freshwater Research Laboratory, Murdoch University, Perth, Western Australia.

Peel, D., Kelly, N., Smith, J. and Childerhouse, S. 2016. National Environmental Science Program Project C5 – Scoping of Potential Species for Ship Strike Risk Analysis, Pressures and impacts. CSIRO. Australia.

Peters, E.C. 1981. Bioaccumulation and Histopathological Effects of Oil on a Stony Coral. Marine Pollution Bulletin. 12(10): 333–339.

Polar Imaging. 2014. An Assessment of Surface Surveillance Capabilities for Oil Spill Response using Airborne Remote Sensing. Polar Imaging Limited. London.

Pollard, D.A., Lincoln Smith, M.P. and Smith, A.K.1996. The biology and conservation status of the grey nurse shark (Carcharias taurus Rafinesque 1810) in New South Wales, Australia. *Aquatic Conservation: Marine and Freshwater Ecosystems*, *6*(1), pp.1-20.

Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D.A., Bartol, S., Carlson, T.J., Coombs, S., Ellison, W.T., Gentry, R.L. 2014. Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI. SpringerBriefs in Oceanography, Volume ASA S3/SC1.4 TR-2014. ASA Press.

Przeslawski, R., Daniell, J., Anderson, T., Barrie, J. V., Heap, A., Huges, M., Li, J., Potter, A., Radke, L., Siwabessy, J., Tran, M., Whiteway, T. and Nichol, S. 2011. Seabed Habitats and Hazards of the Joseph Bonaparte Gulf and Timor Sea, Northern Australia. Geoscience Australia.

PTTEP. 2013. Montara Environmental Monitoring Program. Report of Research. A WWW document accessed at: www.au.pttep.com/sustainable-development/environmentalmonitoring. PTTEP Australasia. Perth.

Putland, R., Merchant, N., Farcas, A., and Radford, C. 2018. Vessel noise cuts down communication space for vocalizing fish and marine mammals. *Glob. Change Biol*. **24**, 1708–1721

Rajkhowa, R., 2014. Light pollution and impact of light pollution. *International Journal of Science and Research (IJSR)*, *3*(10), pp.861-867.

Ramachandran, S., Hodson, P., Khan, C. and Lee, K. 2004. Oil dispersant increases PAH uptake by fish exposed to crude oil. *Ecotoxicology and Environmental Safety* **59**:300– 308.

Rawson, C., Gagnon, M.M. and Williams, H. 2011. Montara Well Release Olfactory Analysis of Timor Sea Fish Fillets. Curtin University, Perth, Western Australia, November 2011.

Reardon, M., Gerber, L. and Cavanagh, R. 2006. *Isurus paucus*. The IUCN Red List of Threatened Species 2006.

Ren, L., Huang, X-D., McConkey, B.J., Dixon, D.G. and Greenberg, B.M. 1994. Photoinduced toxicity of three polycyclic aromatic hydrocarbons (Fluoranthene, Pyrene and Napthalene) to the duckweed Lemna gibba. *Ecotoxicology and Environmental Safety* 28:160–170.

Richards, Z.T., Garcia, R.A., Wallace, C.C., Rosser, N.L. and Muir, P.R. 2015. A diverse assemblage of reef corals thriving in a dynamic intertidal reef setting (Bonaparte Archipelago, Kimberley, Australia). *PLoS One*, *10*(2), p.e0117791.

Richardson, A., Matear, R. and Lenton, A. 2017. Potential impacts on zooplankton of seismic surveys. CSIRO. Australia.

Rothlisberg, P., Condie, S., Hayes, D., Griffiths, B., Edgar, S., and Dunn, J. 2005. Collation and Analysis of Oceanographic Datasets for National Marine Bioregionalisation: The Nothern Large Marine Domain: A report to the Australian Government, National Oceans Office.

Rowe, C., Mitchelmore, C. and Baker, J. 2009. Lack of Biological Effects of Water Accommodated Fractions of Chemically and Physically Dispersed Oil on Molecular, Physiological, and Behavioural Traits of Juvenile Snapping Turtles Following Embryonic Exposure. *Science of the Total Environment*. 407(20): 5344– 5355.

RPS. 2022a. Beehive-1 Exploration Drilling. Drill Cuttings and Muds Dispersion Modelling. Rev 1. 17 February 2022. Prepared by RPS for Aventus Consulting Pty Ltd.

RPS. 2022b. Beehive-1 Exploration Drilling. Crude Oil Spill Modelling. Rev 1. 18 January 2022. Prepared by RPS for Aventus Consulting Pty Ltd.

RPS. 2022c. Beehive-1 Exploration Drilling. Crude Oil Spill Modelling with Surface Dispersant Appliction. Rev 0. 27 October2022. Prepared by RPS for Aventus Consulting Pty Ltd. RPS. 2021. Beehive-1 Exploration Drilling. Marine Diesel Spill Modelling. Rev 1. 06 September 2021. Prepared by RPS for Aventus Consulting Pty Ltd.

Ruberg, E.J., Williams, T.D. and Elliott, J.E. Review of petroleum toxicity in marine reptiles. Ecotoxicology 30(2021), pp 525–536.

Santos. 2022. Barossa Development Drilling and Completions Environment Plan. BAD-200-0003. Rev 3. Prepared by Santos, Perth.

Schoenjahn, J., 2018. Adaptations of the rare endemic Grey Falcon Falco hypoleucos that enable its permanent residence in the arid zone of Australia.

Scholten, M., Kaag, N., van Dokkum, H., Jak, R., Schobben, H. and Slob, W.1996. Toxic Effects of Oil in the Aquatic Environment. TNO-MEP– R96/230.

Semeniuk, V. 1993. The Pilbara coast: a riverine coastal plain in a tropical arid setting, north-western Australia. *Sedimentary Geology*. 83(3-4):235-256.

Sepulveda, C., Kohin, S., Chan, C., Vetter, R. and Graham, J. 2004. Movement patterns, depth preferences, and stomach temperatures of free-swimming juvenile mako sharks in the Southern California Bight. *Marine Biology* 145: 191-199.

Setvik, Å., 2010. Effects of water based drilling muds on recolonization of sandy soft bottom communities (Master's thesis).

Shaw, R., Lindquist, D., Benfield, C., Farooqi, T., Plunket, J. 2002. Offshore petroleum platforms: functional significance for larval fish across longitudinal and latitudinal gradients. Prepared by the Coastal Fisheries Institute, Louisiana State University. U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2002-077.

Shigenaka, G. 2011. Chapter 27 – Effects of Oil in the Environment. In: Oil Spill Science and Technology. Gulf Professional. Pp 985-1024.

Shigenaka, G. 2003. Oil and Sea Turtles: Biology, Planning, and Response. National Oceanographic and Atmospheric Administration, United States of America.

Short, M. 2011. Pacific Adventurer Oil Spill: Big Birds, Sea Snakes and a Couple of Turtles. International Oil Spill Conference Proceedings 2011(1).

Simmonds, M., Dolman, S. and Weilgart, L. 2004. Oceans of Noise. Whale and Dolphin Conservation Society. Wiltshire.

Smyth, D. 2007. Indigenous Protected Areas in Australia. Parks Vol 16 No 1, pp14-20. World Conservation Union, Switzerland.

Southall, B., Bowles, A., Ellison, W., Finneran, J., Gentry, R., Greene C. Kastak, D., Ketten, D., Miller, J., Nachtigall, P., Richardson, W., Thomas, J. and Tyack, P. 2007. Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendations. *Aquatic Mammals*. **33**(4): 411–521.

Southall, B.L., Nowaceck, D.P., Miller, P.J.O. and Tyack, P.L. 2016. Experimental field studies to measure behavioral responses of cetaceans to sonar. *Endangered Species Research* **31**: 293-315.

SPE.2016. Calculation of Worst-Case Discharge (WCD). SPE Technical Report. Society of Petroleum Engineers, USA.

Stevens, J. D., Pillans, R. D. and Salini, J. P. 2005. Conservation assessment of *Glyphis glyphis* (speartooth shark), *Glyphis garricki* (northern river shark), *Pristis microdon* (freshwater sawfish) and *Pristis zijsron* (green sawfish). Report to Department of Environment and Heritage. Canberra, Australia. 84 pp.

Stevens, J.D., McAuley, R.B., Simpfendorfer, C.A. and Pillans, R.D. 2008. Spatial distribution and habitat utilisation of sawfish (*Pristis* spp.) in relation to fishing in northern Australia, report to the Australian Government Department of Environment and Heritage, Canberra.

Stokes, T. 1988. A review of the birds of Christmas Island, Indian Ocean. Australian National Parks & Wildlife Service Occasional Paper 16.

Taylor, H., and Rasheed, M. 2011. Impacts of a fuel oil spill on seagrass meadows in a subtropical port, Gladstone, Australia – The value of long-term marine habitat monitoring in high risk areas. Marine Pollution Bulletin 63:431-437.

Tennessen, J. and Parks, S. 2016. Acoustic propagation modeling indicates vocal compensation in noise improves communication range for North Atlantic right whales. *Endanger. Species Res*. 30, 225–237

Terhune, J., Stewart, R., and Ronald, K. 1979. Influence of vessel noises on underwater vocal activity of harp seals. *Can. J. Zool*. **57**, 1337–1338

Thursby, G.B. and Steele, R. L. 2004. Toxicity of arsenite and arsenate to the marine macroalga *Champia parvula* (rhodophyta). *Environmental Toxicology and Chemistry*. (**3**):391-397.

Tiwi Land Council, 2013. Vernon Islands. Conservation Management Plans. Available at: https://tiwilandcouncil.com/documents/Uploads/Vernon%20Islands%20Conservation%20Management%20Plan%20May%202013lr.pdf

Tjeerdema, R., Bejarano, A.C. and Edge, S. No date. Biological Effects of Dispersants and Dispersed Oil on Surface and Deep Ocean Species. A WWW publication accessed at: http://crrc.unh.edu/sites/crrc.unh.edu/files/tjeerdemabejeranoedge.pdf. University of New Hampshire.

Tonks, M., Griffiths, S., Heales, D., Brewer, D. & Dell, Q. 2008. Species composition and temporal variation of prawn trawl bycatch in the Joseph Bonaparte Gulf, northwestern Australia. *Fisheries Research* 89: 276–293.

TSSC, 2018a. Listing Advice: *Sphyrna lewini* (scalloped hammerhead). Available at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/85267-listing-advice-15032018.pdf. Accessed 22 February 2022.

TSSC .2018b Conservation Advice for the Tiwi Islands hooded robin *Melanodryas cucullata melvillensis*. Threatened Species Scientific Committee. Canberra.

TSSC. 2016a. Conservation Advice - *Calidris canutus* (red knot). Threatened Species Scientific Committee. Canberra.

TSSC. 2016b. Conservation Advice *Limosa lapponica menzbieri* Bar-tailed godwit (northern Siberian). Threatened Species Scientific Committee. Canberra.

TSSC. 2015a. Approved Conservation Advice for *Megaptera novaeangliae* (humpback whale). Threatened Species Scientific Committee. Canberra.

TSSC. 2015b. Conservation Advice – *Balaenoptera borealis* (sei whale). Threatened Species Scientific Committee. Canberra.

TSSC. 2015c. Conservation Advice – *Balaenoptera physalus* (fin whale). Threatened Species Scientific Committee. Canberra.

TSSC. 2015d. Conservation Advice – *Rhincodon typus* (whale shark). Threatened Species Scientific Committee. Canberra.

TSSC. 2015e. Conservation Advice -*Calidris ferruginea* (curlew sandpiper). Threatened Species Scientific Committee. Canberra.

TSSC. 2014a. Approved Conservation Advice for *Glyphis garricki* (northern river shark). Threatened Species Scientific Committee. Canberra.

TSSC. 2014b. Approved Conservation Advice for *Pristis pristis* (largetooth sawfish). Threatened Species Scientific Committee. Canberra.

TSSC. 2011. Approved Conservation Advice for Sternula nereis nereis (Fairy Tern). Threatened Species Scientific Committee. Canberra.TSSC. 2010. Listing Advice: *Thunnus maccoyii* (southern bluefin tuna). Available at: https://www.environment.gov.au/biodiversity/threatened/species/pubs/69402-listing-advice.pdf. Accessed 22 February 2022.

Tsvetnenko, Y. 1998. Derivation of Australian Tropical Marine Water Quality Criteria for Protection of Aquatic Life from Adverse Effects of Petroleum Hydrocarbons. Environmental Toxicology and Water Quality 13(4):273284.

Turnpenny, A. and Nedwell, J. 1994. The effects on marine fish, diving mammals and birds of underwater sound generated by seismic surveys. Fawley Aquatec Research Laboratories Ltd. Consultancy Report. FCR 089/94.

Tyack, P. 2008. Convergence of calls as animals form social bonds, active compensation for noisy communication channels, and the evolution of vocal learning in mammals. *Journal of Comparative Psychology*, 122(3), 319–331. https://doi.org/10.1037/a0013087.

Udyawer V, Stowar M, Harries S & Streten C. 2023. Ranger led marine ecological surveys of the Joseph Bonaparte Gulf Marine Park. Report prepared for Parks Australia. Australian Institute of Marine Science, Darwin. (33 pp)

UNESCO. 2023. UNESCO Intangible Cultural Heritage 1992-2023. A WWW webpage accessed at What is Intangible Cultural Heritage? - intangible heritage - Culture Sector - UNESCO. UNSECO.

UNESCO. 2009. UNESCO Framework for Cultural Statistics. UNESCO Institute for Statistics.

URS. 2001. Review of Environmental Impacts of Petroleum Exploration and Appraisal Activities in Commonwealth Waters. Report prepared for the Department of Science & Resources.

Van Meter, R., Spotila, J. and Avery, H. 2006. Polycyclic Aromatic Hydrocarbons Affect Survival and Development of Common Snapping Turtle (*Chelydra serpentina*) Embryos and Hatchlings. *Env. Poll*. 142(3): 466–475.

Van Overbeek, J., & Blondeau, R. 1954. Mode of Action of Phytotoxic Oils. *Weeds*. **3**(1), 55-65.

Velando, A., Munilla, I., Lopez-Alonso, M., Freire, J., Perez, C. 2010. EROD activity and stable isotopes in seabirds to disentangle marine food web contamination after the Prestige oil spill. Environmental Pollution 158, pp. 1275-1280. doi:10 1016/j.envpol.2010.01.029.

Vetter, E.W. 1994. Hotspots of benthic production. Nature, 372(6501): 47.

Vinogradova, N.G. 1959. The zoogeographical distribution of the deep-water bottom fauna in the abyssal zone of the ocean. Deep-Sea Research, 5: 205-208.

Volkman, J., Miller, G., Revill, A. and Connell, D. 1994. 'Oil spills.' In: Environmental Implications of offshore oil and gas development in Australia - the findings of an independent scientific review. Edited by Swan, J.M., Neff, J.M. and Young, P.C. Australian Petroleum Exploration Association. Sydney.

Walker, D. and McComb, A. 1990. Salinity response of the seagrass *Amphibolis antarctica* (Labill) Sonder et Aschers: an experimental validation of field results. *Aquat Bot*. 36:359–366.

Walker, D., Wells, F. and Hanley R. J. 1996. Marine biological survey of the eastern Kimberley, Western Australia. Unpublished report by UWA, WAM and MARNT.

WAM, 2009. Marine Biodiversity Survey of Mermaid Reef (Rowley Shoals), Scott and Seringapatam Reef. Marine Survey Team, Aquatic Zoology, Western Australian Museum. Perth, Australia, Records of the Western Australian Museum Supplement No. 77.

Wardrop, J. A., Butler, A. J. & Johnson, J. E. 1987. 'Field study of the toxicity of two oils and a dispersant to the mangrove Avicennia Marina', Marine Biology, 96(1): 151-156.

WDCS. 2006. Vessel collisions and cetaceans: What happens when they don't miss the boat. Whale and Dolphin Conservation Society. United Kingdom.

WDCS. 2004. Oceans of Noise. Whales and Dolphin Conservation Society. United Kingdom.

White, H.K., Lyons, S.L., Harrison, S.J., Findley, D.M., Liu, Y., Elizabeth, B. and Kujawinski, E.B. 2014. Long-Term Persistence of Dispersants following the Deepwater Horizon Oil Spill, Environmental Science & Technology Letters 1(7), pp 295-299.

Whitehead P.J., Tschirner K. 1992. Sex and age-related variation in foraging strategies of the Magpie Goose *Anseranas semipalmata*. Emu 92: 28-32.

Whiting, A., Thomson, A., Chaloupka, M. & Limpus, C. 2008. Seasonality, abundance and breeding biology of one of the largest populations of nesting flatback turtles, *Nator depressus*: Cape Domett, Western Australia. *Australian Journal of Zoology* 56: 297 – 303.

Whiting, S. Long, J.L. and Coyne, M. 2007. Migratory routes and foraging behaviour of olive ridley turtles *Lepidochelys olivacea* in northern Australia. Endangered Species Research, 3: 1-9.

Whittock, P.A., Pendoley, K. and Hamann, M. 2016. Flexible foraging: Post-nesting flatback turtles on the Australian continental shelf. Journal of Experimental Marine Biology and Ecology 477: 112-119.

Wiese, F., Montevecci, W., Davoren, G., Huettmann, H., Diamond, A. and Linke, J. 2001. Seabirds at risk around offshore oil platforms in the northwest Atlantic. *Mar. Poll. Bull*. 42:1285–1290.

Wildsmith, M.D., Potter, I.C., Valesini, F.J. and Platell, M.E.2005. Do the assemblages of benthic macroinvertebrates in nearshore waters of Western Australia vary among habitat types, zones and seasons? Journal of the Marine Biological Association of the United Kingdom, 85, 217-232.

Wilson, B., 2013. *The biogeography of the Australian North West Shelf: Environmental change and life's response*. Newnes.

Wilson, D.F. 2005. Arafura Sea biological survey report on RV Southern Surveyor expedition 05/2005. A National Oceans Office, Australian Museum and CSIRO project, Hobart.

Wilson, K., 2011. The effects of oil and dispersed oil on three temperate Australian seagrass: scaling of pollution impacts *(Doctoral dissertation).*

Wilson, K.G. and Ralph, P.J. 2012. Laboratory testing protocol for the impact of dispersed petrochemicals on seagrass. Marine Pollution Bulletin 64:2421–2427.

Wilson, P., Thums, M. Pattiaratchi, C. Meekan, M., Pendoley, K., Fisher, R., and Whiting, S. 2018. Artificial light disrupts the nearshore dispersal of neonate flatback turtles (*Natator depressus*). *Marine Ecology Progress Series*. 600. 10.3354/meps12649.

Wilson, S., Depczynski, M., Fisher, R., Holmes, T., O'Leary, R. and Tinkler, P. 2010. Habitat associations of juvenile fish at Ningaloo Reef, Western Australia: The importance of coral and algae.*PloS ONE* **5**, Doi:10.1371/journal.pone.0015185.

Wilson, S.G., Polovina, J.J., Stewart, B.S. & Meekan, M.G .2006. Movements of Whale sharks (Rhincodon typus) tagged at Ningaloo Reef, Western Australia. Marine Biology 148:1157-1166.

Woinarski, J., Hadden, K., Hicks, J. and McLeod, D., 2003. Biodiversity conservation on the Tiwi Island, Northern Territory: Part 3. Management and planning for biodiversity conservation. Darwin.

Wood, J., Southall, B.L. and Tollit, D.J., 2012. PG&E offshore 3D Seismic Survey Project EIR-Marine Mammal Technical Draft Report. SMRU Ltd.

Woodside. 2011. Browse LNG Development. Draft Upstream Environmental Impact Assessment, EPBC Referral 2008/4111, November 2011. Woodside Energy Ltd. Perth.

Woodside. 2008. Browse LNG Development. Torosa South-1 Pilot Appraisal Well Environment Plan. Woodside Energy Ltd. Perth.

Woodside. 2004. Draft Environmental Impact Statement – Blacktip Project. Available from: https://ntepa.nt.gov.au/environmental-assessments/register/blacktip-gas/draft-environmental-impact-statement-eis.

Woodside. 2003. Environmental Impact Statement/Environment Effects Statement: Otway Gas Project. Woodside Energy Ltd. Perth.

World Bank Group. 2015. Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development. World Bank Group. Washington.

Yearsley, GK, Last, P. & Ward, RD (eds) .1999. Australian seafood handbook: an identification guide to domestic species, CSIRO Marine Research, Hobart.

Zieman, J.C., Orth, R., Phillips, R.C., Thayer, G. and Thorhaug, A. 1984. The effects of oil on seagrass ecosystems. pp. 37–64 in Cairn, J. and Buikema, A.L. (eds), *Restoration of Habitats Impacted by Oil Spills*. Butterworth, Boston, USA.

Appendices

Appendix 1
Commonwealth, State and Territory Legislation

COMMONWEALTH LEGISLATION

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (& Regulations 2000)	Protects matters of national environmental significance (MNES), provides for Commonwealth environmental assessment and approval processes and provides an integrated system for biodiversity conservation and management of protected areas. MNES are: 1. World heritage properties; 2. National heritage places; 3. Wetlands of international importance (Ramsar wetlands); 4. Nationally threatened species and ecological communities; 5. Migratory species; 6. Commonwealth marine environment; 7. The Great Barrier Reef Marine Park; 8. Nuclear actions (including uranium mining); and 9. A water resource, in relation to coal seam gas development and large coal mining development. **Relevance to this activity:** This EP includes a description and assessment of MNES and migratory species (Item 4 and Item 5 in this list) including the Commonwealth marine environment (Item 6), that may be impacted by the activity.	• Republic of Korea Migratory Birds Agreement 2006 (ROKAMBA). • Convention on Biological Diversity and Agenda 21 1992. • Agreement between the Government and Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment 1986 (CAMBA). • Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979. • Agreement between the Government and Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment 1974 (JAMBA). • Convention on International Trade in Endangered Species of Wild Fauna and Flora 1973 (CITES). • Convention on Wetlands of International Importance especially as Waterfowl Habitat 1971 (RAMSAR). • International Convention for the Regulation of Whaling 1946.	DCCEEW (National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) in the case of this activity)

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Offshore Petroleum Greenhouse Gas Storage Act (OPGGSA) 2006 and OPGGS (Environment) Regulations 2023	The Act addresses all licensing and HSE issues for offshore GHG activities extending beyond the 3 nm limit. The Regulations (Part 2) specify that an EP must be prepared for any petroleum activity and that activities are undertaken in an ecologically sustainable manner. **Relevance to this activity:** The submission and acceptance of this EP satisfies the key requirements of this legislation.	Not applicable.	NOPSEMA
Environment Protection (Sea Dumping) Act 1981 (& Regulations 1983)	Aims to prevent the deliberate disposal of wastes (loading, dumping, and incineration) at sea from vessels, aircraft, and platforms. **Relevance to this activity:** There will be no dumping at sea within the meaning of the legislation that would require a sea dumping permit to be obtained.	• Protocol on the Prevention of Marine Pollution by Dumping of Waste and Other Matter 1996 [London Protocol] • Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter 1972 [London Convention]	DCCEEW
Australian Maritime Safety Authority Act 1990	Facilitates international cooperation and mutual assistance in preparing and responding to a major oil spill incidents, and encourages countries to develop and maintain an adequate capability to deal with oil pollution emergencies. Requirements are effected through the Australian Maritime Safety Authority (AMSA). AMSA is the lead agency for responding to oil spills in the Commonwealth marine environment and is responsible for implementing the Australian National Plan for Maritime Environmental Emergencies (NatPlan). **Relevance to this activity:** In the event of a Level 2 or 3 hydrocarbon spill to sea from a vessel in Commonwealth waters, AMSA is the designated Combat Agency and implements the NatPlan. In the event of a spill from a well blowout, AMSA will assist the Drilling Incident Management Team (DIMT)	• Protocol on Preparedness, Response and Cooperation to Pollution Incidents by Hazardous and Noxious Substances 2000 • International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC).	AMSA

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Underwater Cultural Heritage Act 2018	Protects the heritage values of shipwrecks, sunken aircraft and relics (older than 75 years) in Australian Territorial waters below the low water mark to the outer edge of the continental shelf (excluding the State's internal waterways. It is an offence to interfere with a shipwreck covered by this Act. This Act replaced the *Historic Shipwrecks Act* 1976 and came into effect on 1 July 2019. **Relevance to this activity:** No historic shipwrecks have been identified within the operations area through desktop research. In the event of discovery of, and damage to, previously unrecorded wrecks, this legislation may be triggered.	• Convention on Protection of the Underwater Cultural Heritage 2001. • Agreement between the Netherlands and Australia concerning old Dutch Shipwrecks 1972.	DCCEEW
Ozone Protection and Synthetic Greenhouse Gas Management Act 1989	Regulates the manufacture, importation and use of ozone depleting substances. **Relevance to this activity:** The MODU and support vessels will have a register of ozone-depleting substances (ODS).	• United Nations Framework Convention on Climate Change 1992. • Montreal Protocol on Substances that Deplete the Ozone Layer 1987.	DCCEEW
Recycling and Waste Reduction Act 2020 *Recycling and Waste Reduction (Mandatory Product Stewardship—Mercury added Products) Rules* 2021	The Rules are made under the *Recycling and Waste Reduction Act* 2020 and reflect requirements outlined with paragraph 94(1)(c) regarding Australia's obligations to agreements made with one or more other countries, in this case the rules support the implementation of Australia's commitment to the Minamata Convention. The Rules aim to reduce the risks to human health and environment from mercury used in imported and manufactured products. Prohibiting Australia from importing, exporting, and manufacturing mercury-added products listed in Annex A, Part I of the Minamata Convention, incorporation of listed mercury-added products into other products is also prohibited. **Relevance to this activity:** the management of mercury in drill cuttings and muds is addressed in Section 7.6.	• The Minamata Convention (2013).	DCCEEW (lead) & relevant state and territory governments.

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Navigation Act 2012 (& Regulations 2013)	This Act regulates ship-related activities in Commonwealth waters and invokes certain requirements of the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) relating to equipment and construction of ships. Several Marine Orders (MO) are enacted under this Act relating to offshore petroleum activities, including: • MO Part 21: Safety of navigation and emergency procedures • MO Part 30: Prevention of collisions • MO Part 50: Special purpose ships • MO Part 59: Offshore industry vessel operations • MO Part 70: Seafarer certification. **Relevance to this activity:** Support vessels will adhere to the relevant MOs while operating within Commonwealth waters.	• International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) as amended, 1995. • United Nations Convention on the Law of the Sea 1982 (UNCLOS). • International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 (MARPOL). • International Convention for the Safety of Life at Sea 1974 (SOLAS). • Convention on the International Regulations for Preventing Collisions at Sea 1972 (COLREG).	AMSA

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Protection of the Sea (Prevention of Pollution from Ships) Act 1983 Protection of the Sea (Prevention of Pollution from Ships) (Orders) Regulations 1994	Regulates ship-related operational activities and invokes certain requirements of the MARPOL Convention relating to discharge of noxious liquid substances, sewage, garbage, air pollution etc. Requires that ships >400 gross tonnes to have pollution emergency plans. Several MO are enacted under this Act relating to offshore petroleum activities, including: • MO Part 91: Marine Pollution Prevention – Oil • MO Part 93: Marine Pollution Prevention – Noxious Liquid Substances • MO Part 94: Marine Pollution Prevention – Harmful Substances in Packaged Forms • MO Part 95: Marine Pollution Prevention – Garbage • MO Part 96: Marine Pollution Prevention – Sewage • MO Part 97: Marine Pollution Prevention – Air Pollution • MO Part 98: Marine Pollution Prevention – Anti-fouling Systems. **Relevance to this activity:** The MODU and support vessels > 400 gross tonnes will adhere to the relevant MOs by having a SMPEP, Oil Record Book and Garbage Management Plan in place and implemented, along with international pollution prevention certificates verifying compliance with oil, air pollution and sewage measures.	• Various parts of MARPOL.	AMSA

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Protection of the Sea (Civil Liability for Bunker Oil Pollution Damage) Act 2008	Sets up a compensation scheme for those who suffer damage caused by spills of oil that is carried as fuel in ships' bunkers. There is an obligation on ships > 1,000 gross tonnes to carry insurance certificates when leaving/entering Australian ports, or leaving/entering an offshore facility within Australian coastal waters. **Relevance to this activity:** Vessels will hold the required insurance certificates.	• International Convention on Civil Liability for Bunker Oil Pollution Damage 2001.	AMSA
Protection of the Sea (Harmful Antifouling Systems) Act 2006	Creates an offence for a person to engage in negligent conduct that results in a harmful anti-fouling compound being applied to a ship. Also provides that Australian ships must hold 'anti-fouling certificates', provided they meet certain criteria. **Relevance to this activity:** The MODU and support vessels will hold the required valid anti-fouling certificates.	• International Convention on the Control of Harmful Anti-fouling Systems on Ships 2001.	AMSA
Protection of the Sea (Shipping Levy) Act 1981	Provides that where, at any time during a quarter when a ship with tonnage length of no less than 24 m was in an Australia port, there was on board the ship a quantity of oil in bulk weighing more than 10 tonnes, a levy is imposed in respect of the ship for the quarter. **Relevance to this activity:** The support vessels will adhere to the shipping levy, as required.	Not applicable.	AMSA
Maritime Legislation Amendment (Prevention of Air Pollution from Ships) Act 2007	This Act implements the requirements of MARPOL 73/78 Annex VI for shipping in Commonwealth waters as per: • MO Part 97: Marine Pollution Prevention – Air Pollution. **Relevance to this activity:** The MODU and support vessels will use low sulfur diesel fuel.	• Various parts of MARPOL.	Department of Infrastructure, Transport, Regional Development and Communications

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
National Greenhouse and Energy Reporting Act 2007 (NGER) (& Regulations 2008)	Establishes the legislative framework for the NGER Scheme, which is a national framework for reporting GHG emissions, GHG projects and energy consumption and production by corporations in Australia. **Relevance to this activity:** Under the NGER Act, a controlling corporation assesses its reporting obligations by reference to the facilities that are under its 'operational control.' As the MODU and support vessel contractors do not come under EOG's operational control, they will be required to collect and submit their own emissions data under the NGER Act (if triggered).	• United National Framework Convention on Climate Change (UNFCCC), entered into force in 1994. Goals under the framework are updated during the annual convention.	Clean Energy Regulator
Biosecurity Act 2015 (& Biosecurity Regulations 2016 and Biosecurity Amendment (Biofouling Management) Regulations 2021)	This Act provides the Commonwealth with powers to take measures of quarantine, and implement related programs as are necessary, to prevent the introduction of any plant, animal, organism or matter that could contain anything that could threaten Australia's native flora and fauna or natural environment. The Commonwealth's powers include powers of entry, seizure, detention and disposal. Offshore petroleum installations outside of 12 nm are located outside of Australian territory for the purposes of the Act. While these installations are not subject to biosecurity control, aircraft and vessels (not subject to biosecurity control) that leave Australian territory and are exposed to the installations are subject to biosecurity control when returning to Australian territory. When a vessel or aircraft leaves Australian territory and interacts with an installation or petroleum industry vessel it becomes an 'exposed conveyance' and is subject to biosecurity control when it returns to Australian territory unless exceptions can be met.	• IMO Guidelines MEPC 207 for the Control and Management of Ships' Biofouling to Minimise the Transfer of Invasive Aquatic Species 2011. • International Convention for the Control and Management of Ships Ballast Water & Sediments 2004. • World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (SPS agreement) 1995. • World Organisation for Animal Health and the International Plant Protection Convention 1952.	DCCEEW

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
	The person in charge of an exposed conveyance carries the responsibility for pre-arrival reporting under the Act and must arrive at a first point of entry. This Act includes mandatory controls in the use of seawater as ballast in ships and the declaration of sea vessels voyaging into and out of Commonwealth waters. The regulations stipulate that all information regarding the voyage of the vessel and the ballast water is declared correctly to the quarantine officers. The Biosecurity Amendment (Biofouling Management) Regulations 2021 entered into force on the 15th of June 2022 and requires that vessel operators provide information on biofouling management practices prior to arriving in Australia. **Relevance to this activity:** The MODU and support vessels sourced from foreign ports will adhere to the DCCEW guidelines regarding quarantine clearance to enter Australian waters.		

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Marine Safety (Domestic Commercial Vessel) National Law Act 2012 (& Regulations 2013)	This Act provides for a national system for Domestic Commercial Vessels (DCV) between states and territories to ensure their safe operation. This system provides for MO and National Standards to be adopted for DCVs of different classes. Current MO include: • MO 501 (Administration – National Law) 2013 • MO 502 (Vessel Identifiers – National Law) 2013 • MO 503 (Certificates of Survey – National Law) 2013 • MO 504 (Certificates of Operation and Operational Requirements – National Law) 2013 • MO 505 (Certificates of Competency – National Law) 2013 • MO 507 (Load Line Certificates – National Law) 2013. This law does not over-ride state legislation with respect to marine environmental management, dangerous goods management, speed limits, navigation aids, rules for prevention of collisions, monitoring of marine communications systems, workplace health and safety or emergency management and response. **Relevance to this activity:** The MODU and support vessels will adhere to the relevant MOs while operating within Commonwealth waters.	Not applicable.	AMSA
Native Title Act 1993	Allows for recognition of native title through a claims and mediation process and also sets up regimes for obtaining interests in lands or waters where native title may exist. **Relevance to this activity:** Native Title Determination area does not cover the operational area, and therefore there is no relevance to this activity.	Not applicable.	National Native Title Tribunal (NNTT)

Commonwealth Legislation/ Regulation	Scope	Related International Conventions	Administering Authority
Fisheries Management Act 1991 (& Regulations 2009)	This Act aims to implement efficient and cost-effective fisheries management on behalf of the Commonwealth, ensure that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of Ecologically Sustainable Development (ESD), maximise the net economic returns to the Australian community from the management of Australian fisheries, ensure accountability to the fishing industry and to the Australian community in in the Australian Fisheries Management Authority's (AFMA's) management of fisheries resources, and achieve government targets in relation to the recovery of the costs of AFMA. **Relevance to this activity:** Provides the regulatory and other mechanisms to support any necessary fisheries management decisions in the event of a hydrocarbon spill in Commonwealth waters.	Not applicable.	AFMA
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	This Act provides for the preservation and protection from injury or desecration areas and objects that are of significance to Aboriginal people, under which the Minister may make a declaration to protect such areas and objects. Under the Act, discovery of Aboriginal remains must be reported to the Environment Minister. **Relevance to this activity:** No known sites of Aboriginal heritage significance occur within the operational area. May be relevant in the event of a hydrocarbon spill requiring shoreline access for clean-up purposes.	Not applicable.	DCCEEW

WESTERN AUSTRALIAN LEGISLATION

WA Legislation/ Regulation	Scope	Relevance to activity	Administering Authority
Conservation and Land Management Act 1984	This Act makes provision for the use, protection and management of certain public lands and waters and the flora and fauna. It establishes authorities responsible for such protection. This Act covers the management of Nationally Important Wetlands that are present along the coast of the EMBA.	This Act would be triggered in the event of a hydrocarbon spill that threatens coastal marine parks, or that access to respond to a hydrocarbon spill is required through such parks.	Conservation and Parks Commission
Contaminated Sites Act 2003 (& Regulations 2006)	This Act provides for the identification, recording, management and remediation of contaminated sites. Under the Act, a 'site' is an area of land or water in WA, including surface water, groundwater and offshore areas out to 3 nm. A site is 'contaminated' if it has a substance in it at above background concentrations, which presents or has the potential to present a risk of harm to human health or the environment.	This Act would be triggered in the event that a hydrocarbon spill contaminates shorelines and requires remediation.	Department of Water and Environmental Regulation (DWER)
Environmental Protection Act 1986	This is the principal Act relating to environmental protection in WA. It establishes the EPA and gives the EPA overall responsibility for the prevention, control and abatement of environmental pollution and for the conservation, preservation, protection, enhancement and management of the environment. Part 5 of the Act states that a person who causes pollution or environmental harms or allows pollution or environmental harm to be caused commits an offence.	Hydrocarbons are listed in Schedule 1 of the Act as a Listed Waste. The Act would be triggered in the event of a hydrocarbon spill that reaches the coast, particularly with regard to waste treatment, transport and disposal.	Office of the EPA
Environmental Protection (Controlled Waste) Regulations 2004	These regulations detail the appropriate management and handling of controlled wastes in respect to the environment. Schedule 1 of the regulations lists waste oil and water, or hydrocarbons and water, mixtures or emulsions as a controlled waste.	These regulations may be triggered in the event that a hydrocarbon spill enters state waters and reaches shorelines, requiring collection and onshore handling, transport and disposal.	DWER

WA Legislation/ Regulation	Scope	Relevance to activity	Administering Authority
Environmental Protection (Unauthorised Discharges) Regulations 2004	These regulations make it an offence to cause pollution through unauthorised discharges, particularly with regard to dark smoke (anything darker than shade 1 on the Australian Miniature Smoke Chart, AS 3543, 1989). It may be a defence to cause dark smoke to prevent irreversible damage to a significant part of the environment. Schedule 1 of the regulations lists hydrocarbon as a material that must not be discharged to the environment.	This Act would be triggered in the event that a hydrocarbon spill enters state waters and/or in-situ burning is a response consideration.	DWER
Emergency Management Act 2005	This Act provides for prompt and coordinated organisation of emergency management in the State. Hazards captured under the Act include events that result in destruction of or damage to the environment. It establishes the State Emergency Management Committee (SEMC), which is the key plan in responding to emergencies of state significance.	This Act would be triggered in the event that a hydrocarbon spill threatens state waters and shorelines. The SEMC would implement the State Emergency Management Plan on behalf of the state.	SEMC
Aquatic Management Resources Act 2016 (ARMA)	This Act provides for the ecologically sustainable development and management of the State's aquatic resources including management of aquatic biosecurity.	This Act would be triggered in the event that a hydrocarbon spill enters state waters and has the potential to impact commercial fishing activities (e.g., closures).	Department of Primary Industry and Regional Development (DPIRD)
Harbours and Jetties Act 1928	This Act relates to the liability of owners of ships for damage to harbours and jetties, and works connected therewith.	This Act may be triggered in the event that a support vessel used for the project causes loss or damage to a harbor or jetty.	Department of Transport (DoT)
Pollution of Waters by Oil and Noxious Substances Act 1987 (& Regulations 1993)	This Act provides for the protection of the sea and certain waters from pollution by oil and other noxious substances discharged from ships (as defined in the WA Marine Act, see below). This Act prohibits the discharge of oil or noxious substances into State waters and provides for the removal of oil or any mixture containing oil from affected waters.	This Act may be triggered in the event that a hydrocarbon spill enters state waters.	EPA & DoT
Western Australian Marine Act 1982 (& (Infringements) Regulations 1985)	This Act regulates navigation and shipping in WA waters.	Activity vessels traversing WA state waters (e.g., in the event of hydrocarbon spill) must abide by the requirements of the Act with regard to marine safety requirements.	DoT

WA Legislation/ Regulation	Scope	Relevance to activity	Administering Authority
Biodiversity Conservation Act 2016 (& Regulations 2018)	This Act provides for the conservation and protection of wildlife. Licences to take (i.e., for fauna, to kill, capture, disturb, hunt and for flora to gather, pluck, dig up, destroy, etc) protected flora and fauna on Crown land (e.g., coastal parks) are required under this act. The regulations provide for the issuing of licences to take, keep, import and export flora and fauna, and for the caring of sick or injured fauna.	This Act would be triggered in the event that native wildlife rescue and treatment is required in the event of a hydrocarbon spill, or that native habitat on the coast may be damaged in the process of responding to coastal stranding of hydrocarbons.	Department of Biodiversity, Conservation and Attractions (DBCA)
Animal Welfare Act 2002 (& Animal Welfare (General) Regulations 2003)	This Act is established to provide for the welfare, safety and health of animals, to regulate the use of animals for scientific purposes and for related purposes. The Act is focused on prohibiting cruelty to, and other inhumane or improper treatment of, animals.	This Act would be triggered in the event that wildlife rescue and treatment is required in the event of a hydrocarbon spill.	DPIRD

NORTHERN TERRITORY LEGISLATION

NT Legislation/ Regulation	Scope	Relevance to activity	Administering Authority
Environment Protection Act 2019 (& Regulations 2020)	This Act provides the requirement for operators in the Northern Territory to hold an 'environmental approval' for proposed actions that will have a significant impact on the environment or require referral under a 'referral trigger'.	The Act would be triggered in the event of a hydrocarbon spill that reaches the shoreline, particularly with regard to pollution and waste containment, avoidance and abatement.	NT EPA
Waste Management and Pollution Control Act 1998 (& (Administration) Regulations 1998)	Legislation protecting the environment through the encouragement of effective waste management, pollution prevention and control practices (relevant for waste disposal and transfer).	This Act and its regulations may be triggered in the event that a hydrocarbon spill enters state waters.	NT EPA
Dangerous Goods Act 1998 (& Regulations 1985)	This Act provides for the safe storage, handling and transport of certain Dangerous Goods.	This Act and its regulations may be triggered in the event that a hydrocarbon spill enters state waters, with regard to incident reporting requirements.	NT Worksafe
Marine Pollution Act 1999 (& Regulations 2003)	This Act provides protection of the marine and coastal environment by minimising intentional and negligent discharges of ship sourced pollutants to coastal waters. It also enacts Annexures 1, 2, 3 and 5 of MARPOL.	This Act and its regulations may be triggered in the event that a hydrocarbon spill enters state waters.	NT Department of Environment, Parks and Water Security (DEPWS)

Appendix 2
Consultation: Relevant Persons Consultation and Engagement Plan

RELEVANT PERSONS CONSULTATION AND ENGAGEMENT PLAN

EOG Beehive
Exploration Project
February 2024

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Contents

1. Introduction

EOG holds a 100% interest in the WA-488-P Permit, an exploration permit located offshore Western Australia (Figure 1), and intends to explore for petroleum in the area targeting the Beehive Prospect. As part of operating in Australia, EOG recognises the importance of engaging with local community stakeholders to build relationships and lines of communication and to understand the social, economic, and cultural features of the environment as well as the heritage value of places near EOG's proposed Work Plan, defined as the group of petroleum activities that EOG proposes to undertake in the Block. EOG has specific consultation requirements in connection with obtaining approvals for each Environmental Plan (EP) required by the Work Plan. This Relevant Persons Consultation and Engagement Plan (RPCEP) describes how EOG plans to undertake its consultation activities in Australia.

1.1. Scope

This RPCEP outlines EOG's planned consultation and engagement activities in connection with its Work Plan. This document is prepared in accordance with NOPSEMA Guideline N-04750-GL2086 and is also informed by the principles of the International Association for Public Participation IAP2 spectrum. This RPCEP also considers the consultation process requirements identified by EOG following the Federal Court of Australia appeal decision of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (the Decision).

1.2. Background

EOG has previously taken steps to introduce its Work Plan to relevant persons and the public. EOG commenced consultation activities in September 2021. Initially, 62 relevant persons were identified and consulted with prior to first submission of its Drilling EP and Geotech EP. EOG has met with all three Land Councils in the Environment that May Be Affected (as defined by regulations, the EMBA) and a Prescribed Body Corporate (PBC), while it continues to seek in-person meetings with other PBCs that are identified as relevant persons.

In monitoring the regulatory requirements and developments in Australia leading up to and including the Decision, EOG began to update and enhance its consultation process. EOG's updated methods have identified over 400 relevant persons, and we continue our efforts to identify and consult with all relevant persons. Our recent efforts have included posting additional public notices at the boat ramps and ports and developing a dedicated Work Plan-specific EOG website through Social Pinpoint to use as part of our consultation and engagement.

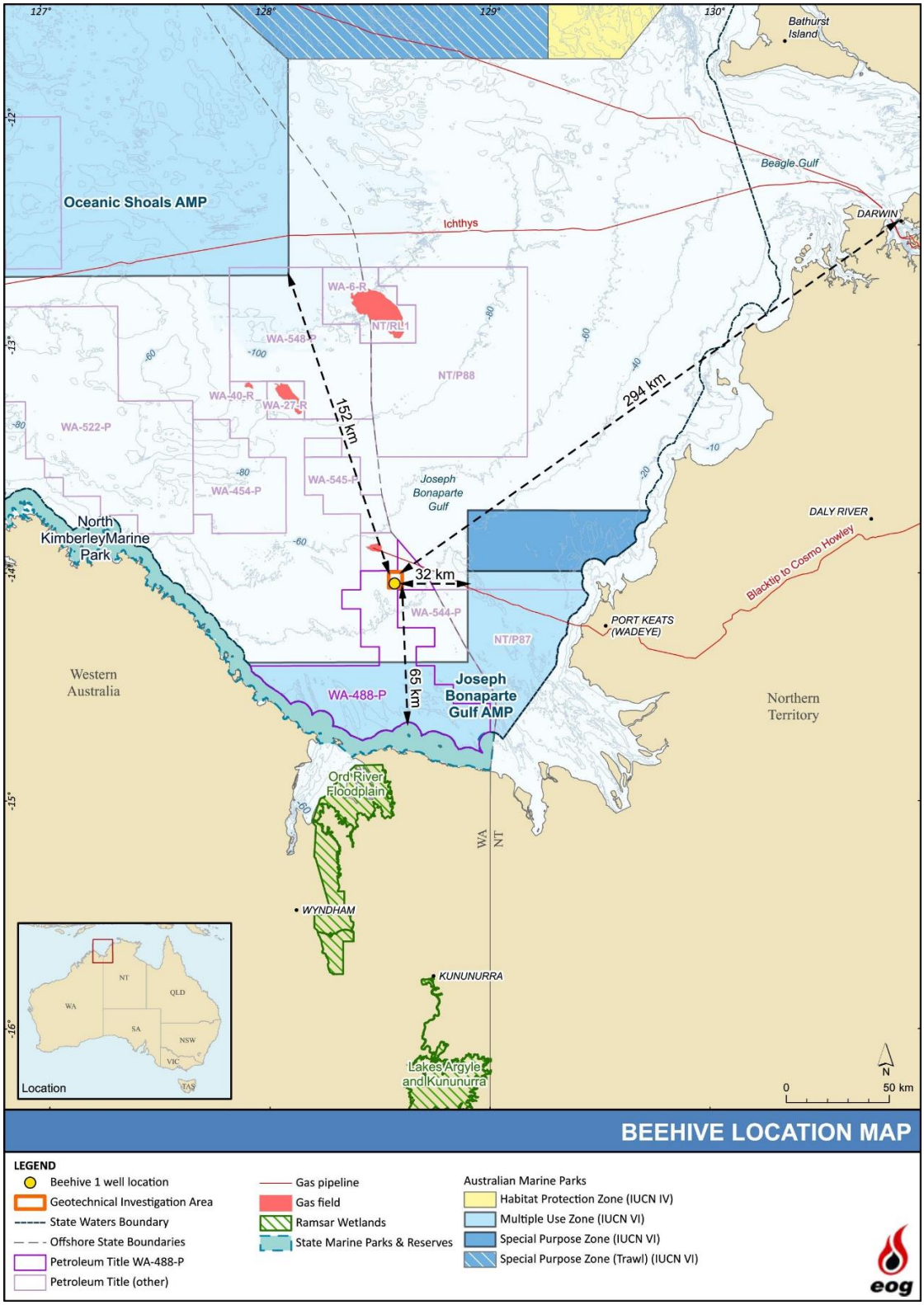

Figure 1 - Location of Beehive-1 WA-488-P

1.3. Definitions and Abbreviations

Table 1 – Definitions and Abbreviations

Term	Definition
Activities	To be read broadly and is broader than the definition of "activity" in section 5 of the OPGGS (E) Regulations and is likely directed to what the relevant person is already doing.
Activity	Petroleum activity as per definition of the OPGGS (E) Regulations
ALARP	As low as reasonably practicable
Drilling EP	The Beehive-1 Exploration Drilling Environment Plan
EOG	EOG Resources Australia Block WA-488 Pty Ltd., a subsidiary of EOG Resources, Inc.
EMBA	Environment that May Be Affected
EP	Environment Plan as defined in the OPGGS (E) Regulations
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
Functions	Refers to "a power or duty to something."
Geotech EP	Beehive Pre-Drill Geotechnical Assessment Environment Plan
Interests	To be construed as conforming with the accepted concept of "interest" in other areas of public administrative law. Includes "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."
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
OPGGS Act	*Offshore Petroleum and Greenhouse Gas Storage Act 2006*
OPGGS (E) Regulations	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
Relevant Person	A person specified under subsection 25(1) of the OPGGS (E) Regulations.
RPCEP	Relevant Persons Consultation and Engagement Plan
Work Plan	The group of petroleum activities that EOG proposes to undertake to meet our obligations under the WA-488-P title

2. Overview

2.1. Aim and Objectives

Through its consultation efforts, EOG aims to demonstrate that its Work Plan will be planned and executed in a way that considers the rights, interests, and concerns of all relevant persons, and establishes two-way, good faith, responsive engagement.

The objectives of EOG's consultation efforts are to:

- Establish lines of communication between EOG and relevant persons
- Gather knowledge about the social, economic, and cultural features of the environment as well as the heritage value of places near EOG's proposed Work Plan
- Collect feedback from the community and assess input from relevant persons to inform the quality of EOG's environmental impact assessments
- Assess the magnitude and significance of potential interferences with other rights or potential impacts on the environment and evaluate opportunities to improve EOG's ability to minimise environmental impacts and risk from the Work Plan, including through mitigation and monitoring processes
- Evaluate acceptable levels of environmental impacts consistent with the OPGGS Act and the OPGGS (E) Regulations and perform the consultations in accordance with Australian law.

2.2. Key Legislation Summary

Table 2 – Legislation and regulations used to develop this RPCEP

Legislation	Summary	Requirement
OPGGS Act S 280	Interference with other rights	A person carrying out activities in an offshore area under the permit, lease, license authority or consent should not interfere with: a. Navigation; or b. Fishing; or c. The conservation of the resources of the sea and seabed; or d. Any activities of another person being lawfully carried on by way of: • Exploration for, recovery of or conveyance of a mineral (whether petroleum or not); or • Construction or operation of a pipeline; or • Offshore infrastructure activities (within the meaning of *Offshore Electricity Infrastructure Act 2021*); or e. The enjoyment of native title rights and interests (within the meaning of the *Native Title Act 1993*); to a greater extent than is necessary for the reasonable exercise of the rights and performance of the duties of the first person.
OPGGS (E)R Part 4 Division 2 Section 21	Environmental Assessment	Description of the environment (2) The environment plan must: (a) describe the existing environment that may be affected by the activity; and (b) include details of the relevant values and sensitivities (if any) of that environment. Note: The definition of ***environment*** in section 5 includes its social, economic and cultural

		features. (3) Without limiting paragraph (2)(b), relevant values and sensitivities may include any of the following: (a) the world heritage values of a declared World Heritage property; (b) the National Heritage values of a National Heritage place; (c) the ecological character of a declared Ramsar wetland; (d) the presence of a listed threatened species or listed threatened ecological community; (e) the presence of a listed migratory species; (f) any values and sensitivities that exist in, or in relation to, part or all of: (i) a Commonwealth marine area; or (ii) Commonwealth land.
OPGGS (E)R Part 4 Division 3 Section 25	Consultations with relevant persons	(1) In the course of preparing an environment plan (including a revised environment plan) a titleholder must consult each of the following (a ***relevant person***): (a) each commonwealth, state or northern territory agency or authority to which the activities to be carried out under the environment plan, or the revision of the environment plan, may be relevant; (b) if the plan relates to activities in the offshore area of a State—the Department of the responsible State Minister; (c) if the plan relates to activities in the Principal Northern Territory offshore area—the Department of the responsible Northern Territory Minister; (d) a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan; (e) any other person or organisation that the title holder considers relevant.
OPGGS (E)R Part 4 Division 3 Section 25	Sufficient Information	(2) For the purpose of consultation, the titleholder must give each 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.
OPGGS (E)R Part 4 Division 3 Section 25	Reasonable period	(3) The titleholder must allow a relevant person a reasonable period for the consultation.
OPGGS (E)R Part 4 Division 3 Section 25	Sensitive information	(4) The titleholder must tell each relevant person the titleholder consults that: (a) The relevant person may request that particular information the relevant person provides in consultation not be published; and (b) Information subject to such a request is not to be published under this Part.
OPGGS (E)R Part 4 Division 4 Section 26(8)	Sensitive information	All sensitive information (if any) in an environment plan, and the full text of any response by a relevant person to consultation under section 25 in the course of preparation of the environment plan, must be contained in the sensitive information part of the environment plan and not anywhere else in the environment plan.
OPGGS (E)R Part 4 Division 2 Section 22	Consultation and compliance	(15) The implementation strategy must provide for appropriate consultation with: (a) relevant authorities of the Commonwealth, a State or Territory; and (b) other relevant interested persons or organisations.
OPGGS (E)R Part 4 Division 2 Section 24	Consultation report	The environment plan must contain the following: (b) a report on all consultations under section 25 of any relevant person by the titleholder, that contains: (i) a summary of each response made by a relevant person; and (ii) an assessment of the merits of any objection or claim about the adverse impact of each activity to which the environment plan relates; and (iii) a statement of the titleholder's response, or proposed response, if any, to each objection or claim; and (iv) a copy of the full text of any response by a relevant person;

		(c) details of all reportable incidents in relation to the proposed activity.
OPGGS (E)R Part 4 Section 34 (g)(i)(ii)	Criteria for acceptance of environment plan	For the purposes of section 33, the criteria for acceptance of an environment plan are that the plan: (g) demonstrates that: (i) the titleholder has carried out the consultations required by section 25; and (ii) the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate.

2.3. Acceptable Levels of Environmental Impact and Risk

Section 280 of the OPGGS Act and the OPGGS (E) Regulations implement Australian government policy regarding mutual marine use. The OPGGS Act and OPGGS (E) Regulations also recognise that the offshore petroleum industry can mitigate potential impacts so that they are reduced to as low as reasonably possible (ALARP) and acceptable levels and are consistent with the principles of ecologically sustainable development.

Acceptable levels of environmental impact and risk are context specific, so they are established in the preparation of each individual EP and are informed by the consultation process. Generally, the following levels of environmental impact and risk are considered acceptable:

- No person, organisation, or authority is worse off because of offshore petroleum activities;
- Environmental impacts are short-term, temporary, and recoverable; and
- Environmental risks have consequences that are preventable and effectively managed.

3. The Principles of Engagement and Consultation

3.1. Application

When conducting consultation, EOG focuses on fostering relationships, establishing a clear process of two-way, good faith, responsive engagement, and providing opportunity for identification of substantive issues. Our consultations with external authorities, organisations, or persons are guided by the principles displayed in Figure 2.

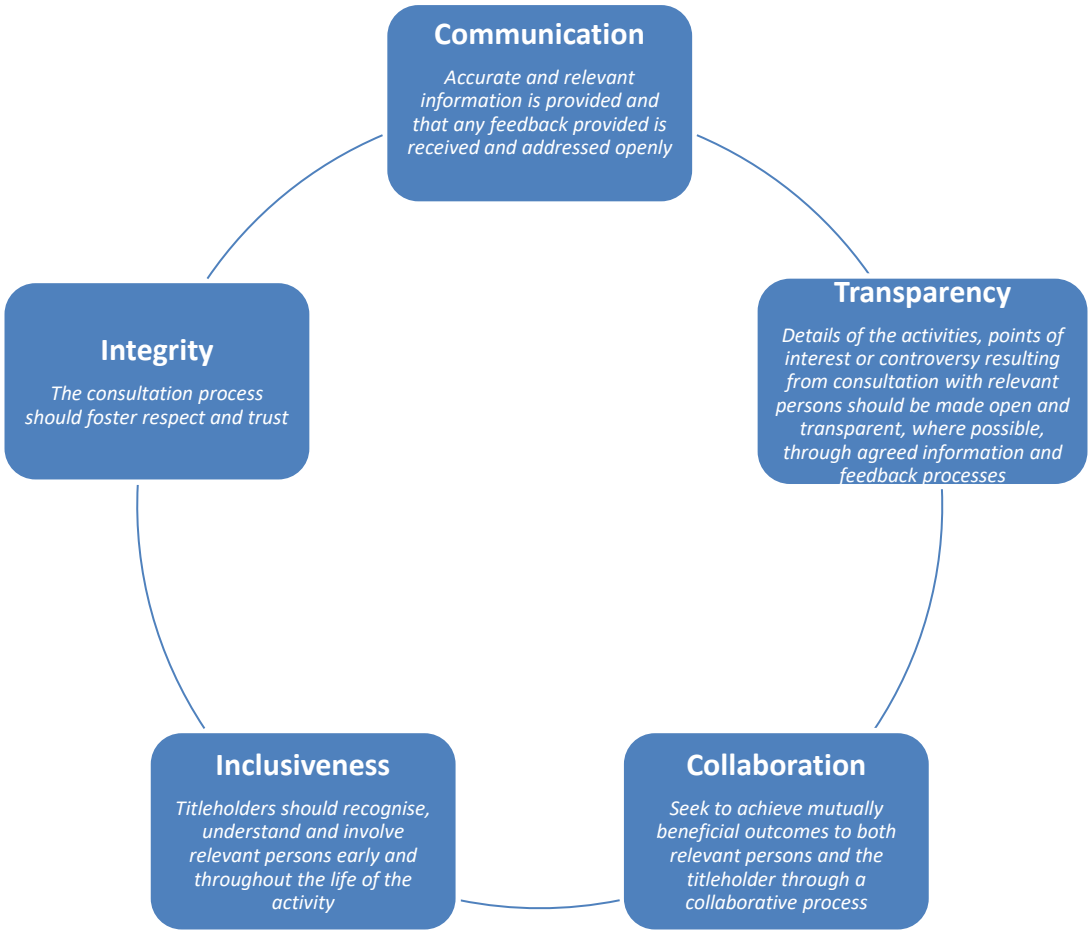

Figure 2 - Guiding principles for relevant persons engagement and consultation

To conduct consultations in a reasonable manner, EOG will not respond to or consider information that includes:

- statements of general objection to offshore energy projects
- comments that contain threats or profanities
- comments made outside of the communication methods provided by EOG (e.g., through online social media channels)
- SPAM mail, form letters, or petitions

3.2. Engagement with the Public

This RPCEP makes a distinction between public comment and public engagement. Public comment is a regulatory process facilitated by NOPSEMA allowing anyone to make comment on the EP directly to the regulator. Public engagement is a task completed by the titleholder to transparently share information on its activities in preparation of an EP and to support self-identification of relevant persons. Public engagement also includes providing the public and relevant persons with an online resource where the latest information and progress on the Work Plan can be found.

3.2.1. Public Comment

The OPGGS (E) Regulations provide members of the public the ability to comment directly to the regulator on their views for a 30-day period on a seismic or exploratory drilling EP. At the time of submittal, the Drilling EP has been through two public comment periods. The Geotech EP was not published for public comment as it does not fit into the required category related to public comment. The public comment period does not replace the need for public engagement.

3.2.2. Public Engagement

The public is a broader group of people than those who can be identified as relevant persons. Without proactive action from EOG, the first time the public are made aware of the Work Plan in the EP may be via the publication on NOPSEMA's website. EOG aims to support persons who may self-identify as someone who may be affected by the activities in our Work Plan as early in the EP development process as possible. Therefore, EOG plans to publish or has published notices in print media, social media, and online to:

- Notify the public of the commencement of the preparation of an EP
- Encourage relevant persons to self-identify for consultation
- Notify the public of the commencement of the consultation process.

EOG has made available an online feedback function and survey on a dedicated Work Plan-specific EOG website through Social Pinpoint. Not only will this provide another venue for public engagement and feedback, it will also individuals determine if they are a relevant person. If the person's responses initially indicate they are not a relevant person, then they will still be given an option to self-identify as relevant and EOG will consider them as a relevant person. Persons may identify as a relevant person at any point during EP development or during the Work Plan.

A full copy of the latest submission of each EP will be available on the respective activity-specific websites.

3.3. Identification of Relevant Persons: Authorities, Organisations, and Persons

The OPGGS (E) Regulations create a distinction between the public and relevant persons (authorities, organisations, and persons), and require consultation with all relevant persons in the preparation of each EP. The OPGGS (E) Regulations further specify that relevant persons include people and organisations whose functions, interests, and activities may be affected by the petroleum activity. The Federal Court of Australia helped to define these terms in the *Tipakalippa v National Offshore Petroleum Safety and*

Environmental Management Authority (No 2) [2022] FCA 1121 and *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193.

Identification of potentially affected persons is the first step in being able to manage and address the concerns and issues of groups, organisations, or individuals who may impact or be impacted by the Work Plan. When EOG prepares to undertake an EP, EOG seeks to proactively identify relevant persons and provide them opportunity to be consulted consistent with the regulated process and will continue identification activities throughout the Work Plan.

EOG recognises that a community can be disaggregated and a member of a community may identify differently from the community at large. These methodologies are open-ended approaches that cast a broad net. The result is a that a large pool is created from both general and targeted searches from which relevant persons can be located so that it is reasonable to conclude that all relevant persons have been identified. The exact methods used and the outputs of those methods will be recorded in each EP as applicable.

Taking into consideration the considerations discussed above, EOG uses the following methods to find relevant persons (authorities, organisations and persons) who may be affected by our Work Plan:

- **Geographic searches:** Geospatial focused and location-based search of maps and public GIS data to help form an understanding of the persons and organisations within the environment planning area.
- **Healthy Country Plans:** Review of Aboriginal Corporation public Healthy Country Plans to understand the values and sensitivities for those groups within the Work Plan area.
- **Government agencies and organisations:** Relevant government agencies may have information about individuals and organisations that may be affected by the Work Plan
- **Review of EPs both accepted and under assessment within the same Work Plan region:** Previous petroleum activities within a bioregion show who has previously engaged in consultation with petroleum titleholders. It is a broad search method with large coverage.
- **Online internet research:** A search for news articles and press releases about similar activities in the environment planning area and identify individuals and groups that were mentioned.
- **Notices in print media:** EOG will utilise the NT News, The Australian, The West Australian, Koori Mail and The Kimberly Echo to provide notice of the activity and seek input and feedback.
- **Social media searches:** The use of social media to find relevant persons by following local groups and searching for pages, hashtags and key words related to the activity.
- **Dedicated Work Plan-specific EOG website:** Making activity information available to the public and allowing persons or organisations to self-identify.
- **Referrals from others:** Asking persons if they know of other relevant persons.
- **Self-identification:** Through the outreach methods and actions listed above, EOG provides several avenues for relevant persons to self-identify and engage in the consultation process.

Once a relevant person has been identified, under the OPGGS (E) Regulations, EOG must tell any authority, person, or organisation that:

- They have been identified as a relevant person.
- The subsequent consultation effort is being undertaken as per the prescribed process.
- EOG is obligated to expressly advise them of titleholder obligations for consultation.

3.4. Tailored Consultation Approach – Subject-Centred Groups

Subject-centred grouping allows for tailoring communication and engagement strategies. People and organisations grouped into subject-centred categories can allow the search for one member of a group to lead to the discovery of additional members of that group. The identification of persons or organisations within subject-centred groups will evolve as engagement with these groups is carried out. In all cases, each person contacted will be asked to identify other relevant persons and encouraged to share information about the petroleum activity and how to connect us with others in the subject-centred group.

The following subject-centred groups have been identified in the preparation of this RPCEP. A person could be associated with more than one of these groups while an organisation is more likely to be associated with just one.

Subject-centred groupings

- Marine users
- Tourism operators
- Traditional owners / First Nations Peoples and land trusts
- Port users
- Petroleum titleholders
- Commercial fishers
- Recreational fishers
- Native title prescribed bodies corporate and land councils
- Conservation groups
- Fishing associations
- Other marine users
- Commercial shipping
- Local councils
- Educational bodies
- Commerce
- Ports and harbours
- Heritage groups

Information about each of these subject-centred groups that supports the identification of relevant persons can be found in materials published by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) including:

- **Plans of Management**: including for World and National Heritage places, Ramsar wetlands, Australian marine parks, Commonwealth reserves and Commonwealth Heritage places.
- **Recovery Plans**: for listed threatened species and ecological communities.
- **Policy Statements**: including significance impact guidelines and industry specific guidelines.
- **Other Material**: including management principles, online databases, factsheets and other publications.

3.4.1. Marine Users

EOG will post notices at ports, boat launches, and ramps to connect with a wide variety of marine users.

3.4.2. Tourism Operators

To identify tourism operators, EOG plans to perform the following searches:

- Online searches for cruise operators, marine tours and recreational experiences such as marine mammal observations, diving, recreational fishing and thrill-seeking experiences.
- Request Tourism Australia and Tourism WA to query any databases of local businesses along the coastline within the socio-economic risk EMBA.
- Enquire with local Chambers of Commerce to identify marine-based tourism operators in the region.
- Search for upcoming marine-based community or sporting events.

3.4.3. Traditional Owners / First Nations Peoples and Land Trusts

EOG appreciates that First Nations Peoples have deep connections to and concerns about the protection of Sea Country that may be viewed the same as their onshore country. Communications with the group will inform EOG about the cultural features of the environment that may be affected by the Work Plan.

The method of identifying potential First Nations Peoples that may be relevant persons will include:

- Assessing the total values and sensitivities of the environment that may be affected by the Work Plan and events that may lead to unplanned work in the EP, to include the spatial extent of the activities.
- Desktop research of any public Sea Country information within the EMBA of each specific activity.
    - Marine Park management programs
    - Aboriginal group Healthy Country Plans

- Engaging with the First Nations groups such as land councils and PBC to seek who they represent, how First Nations groups or individuals should be consulted as relevant persons, and if there are any groups or persons which we have not identified.
- Providing Work Plan information via written correspondence, EOG information flyers, and the Work Plan-specific EOG website and continually engaging with additional relevant persons or organisations as they are identified.
- Advertising in the Koori Mail and Kimberly Echo newspapers to invite consultation with any person who may have a function, interest or activity that may be affected by the Work Plan. Use of aboriginal-owned publications allows for persons that have not yet been identified to self-identify their relevance.

Further, the following activities will be performed to identify First Nations Peoples:

- Visit the local government authority websites (the shire or municipal council) that often include an acknowledgement of the local traditional owners.
- Search state and territory government websites that include information about traditional owners in their jurisdictions, especially in the context of information about local offices.
- Search online for states' and territories' Aboriginal and Torres Strait Islander consultative bodies.
- Contact land councils representing the local Aboriginal or Torres Strait Islander communities.
- Online searches for Native Title groups and corporations on the Prescribed Bodies Corporate website.
- Register searches on the National Native Title Tribunal website.
- Geospatial searches by completing the forms on the National Native Title Tribunal website.

Note that EOG plans to categorise any person with Native Title claims of any standing as a relevant person.

3.4.4. Port Users

To identify port users, the following searches will be performed:

- Contact relevant harbourmaster to enquire about frequent users
- Online searches for businesses located at wharves in regional ports.

3.4.5. Petroleum Titleholders

To identify petroleum titleholders, the following searches will be performed:

- Use the NEATS database to find titles and titleholders within the EMBA.
- Use the NOPSEMA EP database to find other titleholders with activities within the EMBA.
- Subscribe to the NOPSEMA EP submissions pages for all activities within the EMBA.

3.4.6. Commercial Fishers

To identify commercial fishers, the following searches will be performed:

- Request data from the fishing authorities to understand historical fishing activity within the EMBA.
- Visit local ports to find local fishers who operate in the area.
- Contact all state licensed fishers.
- Contact all Commonwealth fishing license holders.
- Query and review Fisheries Research and Development Corporation website including the annual State of the Fisheries Report (www.fish.wa.gov.au) and engagement with the Western Australia Fishing Industry Council, Inc.

3.4.7. Recreational Fishers

To identify recreational fishers, the following searches will be performed.

- Engagement with recreational fishing associations to use newsletters/circulars or websites
- Request contact details for license holders
- Request to engage with advisory bodies or reference groups to establish the best approach to identify relevant persons.

3.4.8. Native Title, Prescribed Bodies Corporate, and Land Councils

To identify native title land councils, the following searches will be performed:

- Seek contact details of land councils from the National Native Title Tribunal.

3.4.9. Conservation Groups

To identify conservation groups, the following searches will be performed:

- Review of previously submitted EPs on the NOPSEMA website
- Online searches for conservation groups with interests in similar activities
- Online searches for new articles and current campaigns related to similar activities.

3.4.10. Fishing Associations

To identify fishing associations, the following tasks and searches will be performed:

- Identify the target species within the EMBA through online research
- Ask the peak fishing association to identify other species-specific associations

- Request contact details for license holders.

3.4.11. Other Marine Users

To identify other marine users, the following searches will be performed:

- Online searches for groups who use or have a connection to the marine environment. This search will focus on marine users proximate to the EMBA.

3.4.12. Commercial Shipping

To identify commercial shipping entities, the following searches will be performed:

- Contact relevant harbourmasters and shipping agents to enquire about frequent users
- Online searches for businesses located at wharves in regional ports.

3.4.13. Local Councils

To identify local councils, shires and cities, the following searches will be performed:

- Search the Western Australian and Northern Territory Electoral Commission and Government databases for councils, shires and cities proximate to the activity.

3.4.14. Educational Bodies

To identify educational and research bodies, the following searches will be performed:

- Contact the Department of Education to identify relevant institutions and research programs
- Contact the universities to identify any relevant research programs.

Note: for this category the exposure thresholds for monitoring of potential impacts of the activity will be used rather than the socio-economic thresholds because this is more relevant to the likely activities of research institutions.

3.4.15. Commerce

To identify commercial entities, the following searches will be performed:

- Contact the local Chambers of Commerce to identify local marine-based businesses
- Online searches for news articles or press releases about marine-based businesses in the area.

3.4.16. Ports and Harbours

To identify ports and harbours (including boat ramps), the following searches will be performed:

- Review of automatic information system (AIS) data of vessel activities along the coast to establish frequented ports

- Review the States/NT boat ramp database
- Contact local councils, cities and shires for listing of local boat ramps and users.

3.4.17. Heritage Groups

To identify heritage groups, the following searches will be performed:

- Contact State/NT heritage organisations to identify other relevant persons
- Query the Australian Heritage Database
- Query the Australasian Underwater Cultural Heritage Database.

Each of the relevant persons identification searches will be re-run at least quarterly while the EP is in-force and at least once a month before the Work Plan commences.

3.5. Authorities

Authorities are relevant to each of EOG's petroleum activities within its Work Plan. Each Department or Agency has been identified through online searches, expert advice, review of legislation, and review of previous EPs adjacent to the title area and are listed in Schedule B.

NOPSEMA guideline GL1887 identifies the government agencies as a relevant person as they have responsibilities within the Commonwealth marine area.

4. The Consultation Framework

A consultation framework will be implemented, within which there is flexibility to tailor the consultation so it is appropriate to the nature of the relevant person's specific functions, activities and interests. This includes providing initial information to the public sufficient to allow a person to self-identify as a relevant person. The early engagement of relevant persons will help provide clarity to the consultation process. Further, early engagements with relevant persons enable discussions about the expectations a relevant person may have about the type and level of detail of information required through the process.

Undertaking a petroleum activity is a complex task that requires extensive planning, integration of many components, and detailed risk management. To deliver the Work Plan, an integrated schedule governs the timing of all petroleum activities including the preparation of EPs and relevant persons consultation. This framework is designed to be flexible and is recognised in the first stage of the framework, which encourages relevant persons to influence the design of the subsequent processes and activities. This framework acknowledges that consultation activities cannot be 'one-size-fits-all' and should be adapted to feedback from the community and relevant persons.

4.1. Reasonable Period for the Consultation

EOG has established a framework for 'reasonable period' to consult with relevant persons once they have received 'sufficient information' to make an informed assessment of an effect on their functions, interests, and activities. The framework is adaptable to information gathered from relevant persons; for example, fishers who may be away fishing for 3-4 weeks at a time will have 45 days to consider 'sufficient information'. The minimum definition of a 'reasonable period' will include:

Work Plan introduction

- Information made available in the public sphere prior to the first notice of commencement of the consultation process.

Initial provision of sufficient information

- ***At least*** 30 calendar days after providing sufficient information to the relevant person.

Ongoing consultation

- ***At least*** 10 calendar days following EOG's response to inquiry, claims or objections.

4.2. Sufficient Information

Information provided to a relevant person must be sufficient to allow an informed assessment of the possible consequences of the Work Plan on the functions, interests, or activities of the relevant person. What constitutes sufficient information as part of a consultation process will differ depending on the relevant person(s) and will consider:

- The functions, interests, or activities of the relevant person
- The environmental impacts and risks that may affect them
- The degree to which a relevant person is affected.

The overarching consultation framework will remain as the base case for consultation. The framework has been designed so that the draft EP (minus the sensitive information) will be made publicly available (and therefore to all relevant persons) for a minimum of 30 days prior to first submission of the EP. This design implies that sufficient information is, at least, the full EP contents that will be put before the regulator upon which they will decide whether to accept or refuse to accept the EP.

Notwithstanding the above measures to publish the full draft EP prior to submission, the specific processes applied to relevant persons will need be defined in collaboration with those persons for each EP. The type, format, and level of detail of information necessary is likely to vary for different relevant persons depending on the above factors. We will endeavour to tailor the information we provide in a convenient and digestible format that respects the needs and activities of each relevant person.

4.3. Adaptable Engagement and Consultation Activities

The regulatory expectation for co-design of consultation processes means that detailed planning in advance of talking to relevant persons is somewhat limited as the needs of the relevant person need to be taken into consideration. This does not remove the need for a preferred consultation and engagement plan to be developed. Rather, it means that the engagement and consultation activities need to be adapted in response to circumstances.

4.4. IAP2 Methodology

In designing our consultation process, we considered the International Association for Public Participation IAP2 spectrum (IAP2 Spectrum). Table 3 shows how our consultation activities and related objectives map to the IAP2 Spectrum elements.

The assessment included consideration of the following:

- Accessibility to the communication channel
- Accessibility of information
- Depth and quality of information able to be communicated
- Limited burden on the relevant persons
- Opportunity to respond to the information
- Ability to show genuine consideration of the views prior to a decision.

4.5. Consultation with Relevant Persons Process Flowchart

Relevant persons may reveal themselves at any time in the preparation of an EP. As a result, the flowchart in Figure 3 governs how each relevant persons will be treated irrespective of the stage within the framework.

Table 3 – Mapping of EOG Consultation Activities to IAP2 Spectrum

IAP2 Spectrum Element		EOG Consultation Activities	Objectives of EOG Consultation Activities
Inform	To provide balanced and objective information to assist persons to make an informed decision whether they wish to participate in the process and to understand the problems, alternatives and/or solutions.	EOG Australia website Dedicated Work Plan-specific EOG website (Social Pinpoint) Activity information flyers Print media notices Mandated public comment process	These activities cover a wide range of persons and provide specific information about EOG's proposed Work Plan and the related potential environmental impacts and risks.
Consult	To obtain specific feedback on analysis, alternatives and/or decisions from potentially relevant persons.	Exchange of letters/emails Informal discussions Activity update flyers	The methods adopted for consultation are fit-for-purpose as they are tailored to the relevant person and/or provide updates to specific information as the activity definition develops.
Involve	To work directly with relevant persons throughout the process to ensure that their functions, interests, and activities are consistently understood and considered.	Phone calls Online meetings Face-to-face meetings	These methods were adopted to support the provision of detailed and tailored information to allow informed assessment of the possible consequences of EOG's proposed Work Plan on the relevant persons' specific functions, interests or activities and building of one-on-one relationships.
Collaborate	To partner with the public in each aspect of our decision making, including the development of alternatives and the identification of the preferred solutions.	Dual consultation process for both the public and relevant persons Participatory decision making.	The dual consultation process for the public and for relevant persons allow anyone to engage as they prefer. Both processes may directly influence the design of the activity, its environmental management measures and the decision about whether the activity is environmentally acceptable.
Empowerment in respect of the process	To provide the opportunity to co-design the consultation process and directly influence the final design of the activity.	NOPSEMA, as the independent regulator undertakes its statutory duties, which includes the receipt of submissions that allow for public comment as well as ultimate review and oversight approval by NOPSEMA	These activities are meant to satisfy the requirements of the OPGGS (E) Regulations so that NOPSEMA approves the Environmental Plans.

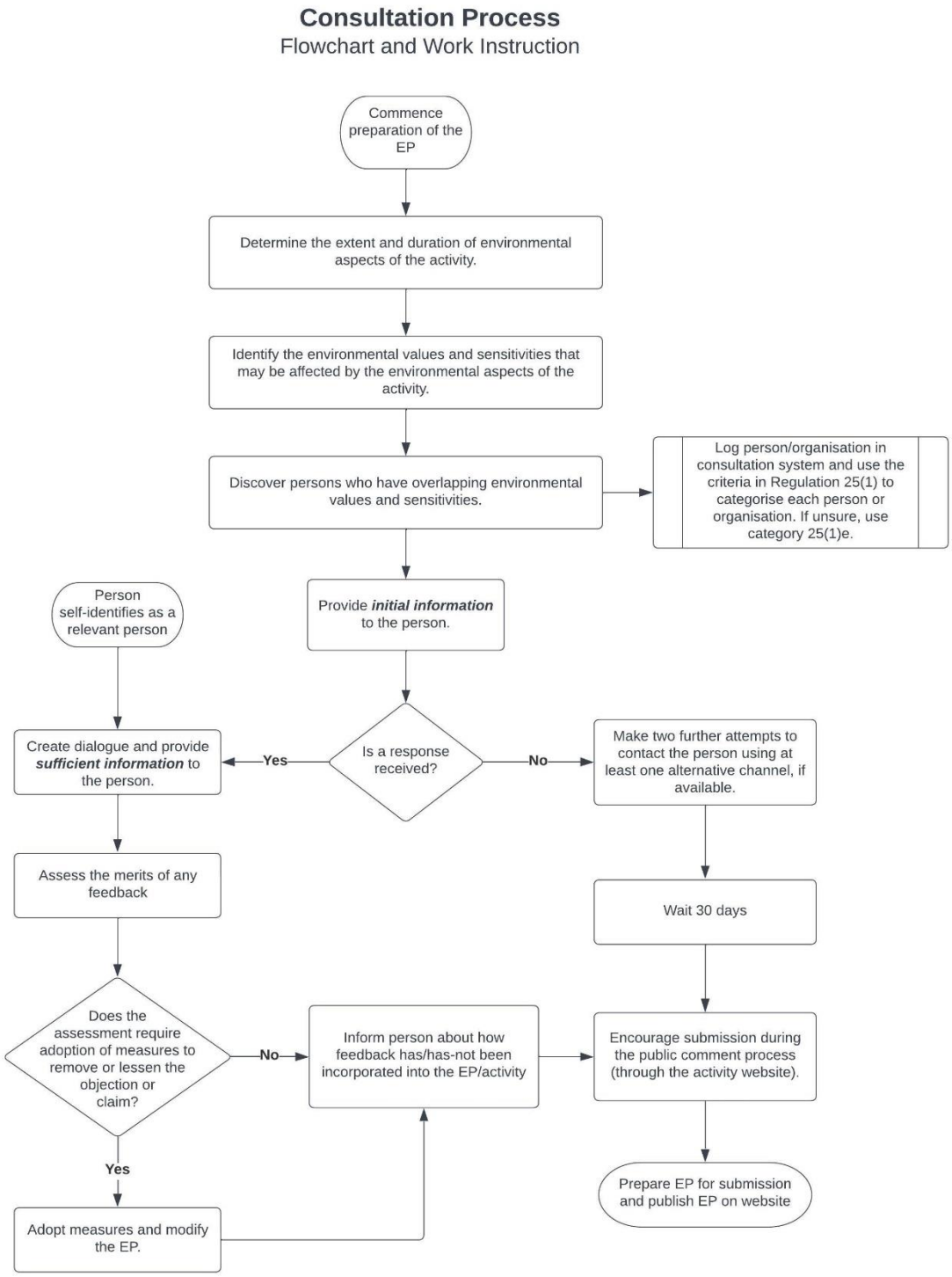

Figure 3 - Relevant persons consultation process

5. Consultation Activities and Tasks

EOG has identified consultation activities that it will carry out and consultation activities that are contingent. Contingent activities are typically less effective and/or are better implemented on request rather than proactively.

5.1. Consultation Activities to be Carried Out

The following tables identify all the activities and the tasks that EOG will carry out in preparation of an EP. The tables in this section provide guidance for how these activities are planned to be completed. The OPGGS (E) Regulations require that all consultation activities are specific to each EP. Consultation activities may relate to multiple petroleum activities, however each consultation activity needs to be clearly recorded against a specific petroleum activity and its EP.

Subject to feedback from stakeholders and the willingness of relevant persons to engage in a co-design methodology, the activities that EOG may undertake are listed below and are expanded on in the following tables.

1. Establish a dedicated Work Plan-specific website (Table 4)
2. Public notices in print media (Table 5)
3. Publication of information flyers (Table 6)
4. Written correspondence, including response to public comments (Table 7)
5. Phone calls (Table 8)
6. Beehive Project Information Sessions (Table 9)
7. Public notices at prominent locations (Table 10)
8. Face-to-face meetings (Table 11)
9. Further Requested Beehive Project Information Sessions (Table 12)

Table 4 - Establish a dedicated Work Plan-specific website

Consultation Activity	Dedicated Work Plan-specific EOG website
Purpose	The purpose of this activity is to establish a central place for all activity-specific information that is easily accessible to as many people as possible at any time during the consultation process and during the activity. The website will provide sufficient information in order for the community to understand the project, including whether they are a relevant person, and provide feedback or concerns.
Tasks	- Build an activity-specific webpage - Publish the details of the proposed activity and the consultation process going forward - Create a place for people to provide feedback on the proposed activities

Table 5 - Public notices in print media

Consultation Activity	Public notices in print media
Purpose	The purpose of these activities is to increase awareness of the petroleum activity and direct interested persons to the website. Notices are to be placed in local, regional, and other relevant print media. Subject-centred groups may have their own newsletters or print communication methods that could be used, if possible, to communicate within those groups.

Table 6 – Publication of information flyers

Consultation Activity	Information flyers
Purpose	Short summary flyers containing activity-specific content about the petroleum activity and its potential environmental impacts and risks will be produced for distribution alongside other consultation activities. They will be accessible through the Work Plan-specific EOG website and appended to correspondence, as necessary. If a relevant person requests more information, or the information in a different form, subject-specific flyers may be created to further tailor the information to the relevant person that made the request. For example, if a fisher requests information about impacts on their target species, a tailored flyer may be produced and provided.

Table 7 – Written correspondence, including response to public comments

Consultation Activity	Written correspondence
Purpose	To provide formal consultation between the titleholder and a relevant person. Written correspondence is useful to initiate (or continue) consultation with authorities and organisations.
Tasks	- Communicate with all identified authorities and organisations to commence the consultation process. - Focus of the letter/email is to notify the commencement of the preparation of the EP and invite co-design of the consultation process. - Communicate with all identified fishers to commence the consultation process; focus of the letter/email is to notify the commencement of the preparation of the EP and invite co-design of the consultation process. - Respond to inquiries and to continue the consultation process as agreed - Notify of the available activity-specific online presence and request input on the environmental values and sensitivities within the EMBA through the interactive map, via email, via phone call or written correspondence - Notify that the EP is available on the activity-specific online presence and request any remaining feedback that has not been addressed by the consultation process to date.

Table 8 – Phone calls

Consultation Activity	Phone calls
Purpose	To supplement written correspondence to assist in delivering the message effectively and build relationships with the receiver. Cold calls are not part of this activity and are not supported as an effective method of commencing consultation.
Tasks	- Call relevant persons to confirm receipt of correspondence and offer opportunity to ask any questions.

Table 9 – Beehive Project information sessions

Consultation Activity	In person or online in relation to native title holders, Aboriginal land holders and traditional owners
Purpose	To seek and address feedback of communal interest holders through traditional decision-making processes or agreed and adopted processes
Tasks	- Engage with land councils, PBC and land trusts to seek facilitation of native title holder group/traditional owner meetings. - Prepare information in a format and provide content that is culturally appropriate to communicate details of the Work Plan and its impacts, including possible effects on native title and traditional country, as well as resources integral to culture and customs. - Attend and participate in native title holder group/traditional owner meetings online or in person and obtain consultation feedback as provided, in accordance with relevant decision-making processes. - Provide details of merits assessment of feedback and responses through channels agreed or committed to in the meeting.

Table 10 – Public Notices at prominent locations

Consultation Activity	Public Notices at prominent locations
Purpose	These notices can be targeted to relevant subject-centred groups and individual persons in public places of use with high traffic activity within the EMBA.
Tasks	- Public notices to be placed on notice boards, boat ramps, ports, local councils and other prominent community gathering sites to inform of the activity and request to seek consultation with relevant persons. Primary message is to provide the activity website QR code so the public can (1) access information about the activity, (2) determine if they are a relevant person, and (3) contact EOG.

5.2. Contingent activities

EOG recognises that some consultation activities may be inappropriate to carry out if it is contrary to group norms, cultural traditions, or without support of representative bodies. As further detailed in the

tables below, subject to feedback and the willingness of relevant persons to engage in a co-design methodology, if requested by a relevant person who is a representative body, EOG may conduct Beehive Project information sessions beyond those discussed in Section 5.1.

Table 11 – Face-to-face meetings

Consultation Activity	Face-to-face in person meetings
Purpose	In person meetings can be meaningful to communicate the same messages and content to multiple relevant persons at the same time on the same subject content.
Tasks	- Face-to-face meetings to be held, if requested, with a clear agenda communicated and agreed beforehand.

Table 12 – Further requested Beehive Project information sessions

Consultation Activity	Requested Beehive Project information sessions
Purpose	Open forums held at relevant locations proximate to the location of the activity to engage local communities within the Work Plan
Triggers	Upon request of a relevant person who is a representative body
Tasks	- Community briefings at strategic locations for anyone to come and meet with the EOG consultation team and discuss concerns.

5.3. Coordination of Activities

All activities are coordinated by the EOG consultation team who are also responsible for updating this plan and communicating the change to external stakeholders, where relevant.

5.4. Assessment of Merit of Objections and Claims

Feedback is welcomed throughout the consultation process and will be recorded in our consultation management system, will form part of the EP, and may be incorporated into the Implementation Strategy of the EP. The process in Figure 4 will be applied to assess the merit of objections and claims received from relevant persons.

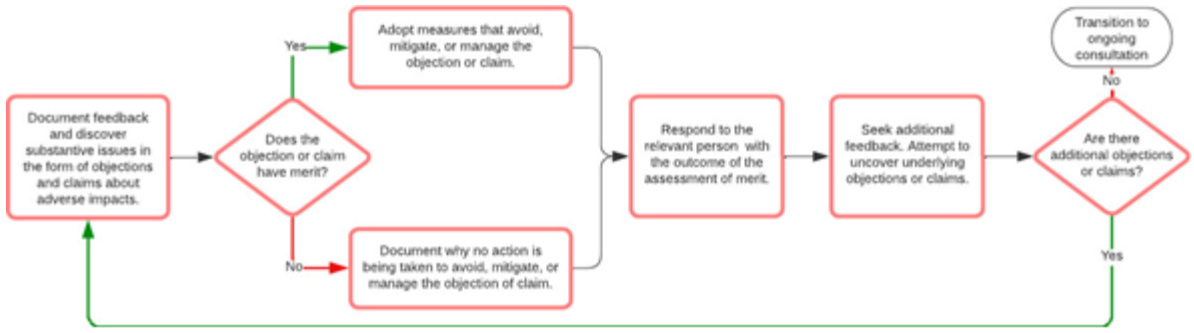

Figure 4 – Merit of objections and claims process

An assessment of merit of each objection or claim will be carried out by EOG. A relevant person's objection or claim will have higher merit when one or more of the following criteria is met:

- The objection or claim is relevant to environmental management of the activity.
- The objection or claim is relevant to the person's functions, interests, and activities.
- The objection or claim can be resolved through the adoption of additional control measures, an activity design variation/limitation, or through changes to the Implementation Strategy for the EP.

An objection or claim may be resolved by providing more information and/or adopting one of the three main types of 'measures' which can be adopted because of the consultations:

1. Control measures (with associated environmental performance outcomes and standards)
2. Activity design variations/limitations applied within the activity description.
3. Inclusions within the Implementation Strategy of the EP.

Despite our best efforts to resolve all objections and claims, we understand that relevant persons may not agree with our treatment of their objection or claim. In such circumstances the process for seeking approval can continue provided that the relevant person has received a response about our assessment of their objections and claims and is aware how our respective views will be presented to NOPSEMA.

5.5. Ongoing Consultation

Section 22 of the OPGGS (E) Regulations requires ongoing consultation to be incorporated into the Implementation Strategy of the EP (see Chapter 9). This RPCEP is a part of the Implementation Strategy of each EP.

EOG will continue to engage with relevant persons before, during, and after the Work Plan up until all EP's have been finalised or expired. In addition, EOG will keep relevant persons up to date with the status of the title by sending periodic public notifications and correspondence to all relevant persons who have not explicitly requested that communications cease.

EOG acknowledges that relevant persons may have decided not to engage in the consultation process but may reconsider that decision at any time. As such, EOG will continue to provide notifications to relevant persons if they haven't specifically requested to be excluded from the consultation processes. EOG will

apply the same consultation processes that applied in preparation of each EP for the duration of the Work Plan. In addition, key milestones that will trigger further consultation with relevant persons include:

- Notification prior to commencing and after completing an activity under an EP, as outlined with each EP.
- If there is a change to the EOG Work Plan scope that would affect the relevant person in a new or different manner to that which has been discussed.
- Any reportable incidents (e.g., large fuel spill).
    - EOG will notify all identified relevant persons within 72 hours of the event. EOG's public information officer, liaison officer or equivalent from the drilling incident management team or crisis response team will be the focal point for external engagement during the response operation.
    - During a spill event, a daily incident action plan and operational net environmental benefit analysis are undertaken using information gathered through the monitoring and evaluation strategies outlined in the Oil Pollution Emergency Plan. This information will be used to assess whether any relevant person's functions, activities or interests could be impacted within 7 days. If so, EOG will directly contact the relevant person(s) and provide them with relevant information in respect of the incident and activities that will occur. Final decisions on actions to be taken will be determined by the appropriate control agency.
    - Results of the response activities will be provided to relevant persons. Information will be shared with regulatory agencies/authorities, as required, and inputs received from relevant persons will be evaluated and where practicable, be used to refine the ongoing spill response and/or ongoing operational and/or scientific monitoring.

5.6. Communication and Communication of Changes

In its consultation communication, EOG is aware of and will communicate the legislative requirements around sensitive information. That is, parties may request any information provided throughout the consultation not be made publicly available. Whilst that information must still be included in the EP submitted to NOPSEMA, as ***sensitive information*** it will be excluded from the information published on NOPSEMA's website.

EOG acknowledges that changes to Work Plans based on knowledge underpinning the environmental impact and risk assessments occur from time to time. In the event of such a change that affects a relevant person's functions, interests, or activities, EOG will complete an assessment that includes provision of information to affected relevant persons in respect of the change and consideration of their feedback.

As required by OPGGS (E) Regulation section 24(b), EOG shall assess the merits of any new claims or objections made because of the change that may have an adverse impact on their functions, interests, or activities. If the claim has merit, where appropriate, EOG will modify the management of the EOG Work Plan.

EOG will seek to finalise its determination of the merits of any claim or objection received before the Work Plan starts, and if after commencement within 1 week of receipt, and undertake any resulting management of change actions as soon as practicable, but preferably within that timeframe. The assessment of merit and any resulting management of change actions will be shared with the concerned relevant persons. For objections and claims that do not require a change in management of the Work Plan, EOG will respond to relevant persons providing reasoning and supporting information (as relevant) to support EOG's conclusions. This may include an outline of the options/controls explored to mitigate the degree to which the person may be affected and/or demonstration that the impact or risk in question has been reduced to ALARP and acceptable levels.

Any claims or objections raised by relevant persons after submission of the EP will be assessed for merit and a response provided. If a change to the EOG Work Plan or controls adopted during the EOG Work Plan occurs because of relevant persons consultation, the change will be managed in accordance with the processes outlined in the relevant EP.

5.7. Monitoring

5.7.1. Effectiveness of Consultation

The effectiveness of consultation undertaken will be evaluated in the following ways:

- **Responsiveness:** EOG has reached out to relevant persons, listened to their concerns, and taken appropriate actions to address those concerns.
- **Two-way communication:** EOG has provided sufficient information to relevant persons and allowed for reasonable time for relevant persons to review and provide feedback. Relevant persons feedback is crucial to two-way communication and successful consultation. In the event relevant persons do not respond to requests to consult, EOG will continue to seek consultation for the life of the EP and inform the relevant person of the activity's progress.
- **Inclusion**: EOG has reached out to a comprehensive range of people, including those who may be particularly affected by the Work Plan within reasonable and practicable manners.
- **Transparency**: EOG can show we have provided relevant persons with accurate and transparent information about the Work Plan and has been open and honest in our communication.
- **Feedback**: EOG has responded to feedback received from relevant persons and has taken appropriate actions to address their concerns.
- **Compliance**: EOG has followed all relevant laws and regulations related to consultation, such as ensuring that rights of all persons are respected.

5.8. Records Management

Engagement and consultation activities with relevant persons will be logged by the person who carried out the activity in the consultation management system.

DOCUMENT ADMINISTRATION

Revision History

Document number		996161-2023-Beehive-RPCEP-Rev1			
Rev	Date	Purpose	Prepared	Reviewed	Approved
1	28/02/2024	Address new OPGGS (E) Regulations 2023	EOG	AF, LR, JC, NP, MS	AF, LR, JC
0	15/09/2023	Issued for NOPSEMA assessment	EOG	JC, NP, LG-A, AF, LR, MS, JH,	KT, KE
C	11/05/2023	Address internal and external comments	EOG	JC, NP, LG-A, AF, LR, MS, JH, GP	KT, KE
B	15/02/2023	Issued for internal and external review	EOG	JC, NP, KE, KT, LG-A, AF, LR, MS, JH, GP	-
A	19/01/2023	Issued for internal review	EOG	JC, NP, LG-A, LR, AF, MS	-

Project Team

Name	Title	Project role
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Matt Smith	Director - Klarite	Contributing author

SCHEDULE A – References

The following requirements and guidance have been followed during the consultation process:

The OPGGS (E) Regulations

NOPSEMA policies, guidance, and information papers, including:

P–1347 - Environment plan assessment policy (19 May 2020).

G–1721 - Environment plan decision making (10 June 2021).

G–1887 - Consultation with Commonwealth agencies with responsibilities in the marine area (3 July 2020).

G–1344 - Environment plan content requirements (11 September 2020).

G–1488 - Oil pollution risk management (7 July 2021).

G–1785 - Petroleum activities and Australian marine parks (3 June 2020).

G–1847 - Responding to public comment on environment plans (11 September 2020).

N-04750-GL2086 A900179- Consultation in the course of preparing an environment plan.

N-04750-GL1887 A705589- Consultation with Commonwealth agencies with responsibilities in the marine area

Other relevant guidance, including:

- Australian Fisheries Management Authority: Petroleum industry consultation with the commercial fishing industry (available at https://www.afma.gov.au/sustainability-environment/petroleum-industry-consultation).
- Western Australian Department of Primary Industries and Region Development: Guidance statement for oil and gas industry consultation with the Department of Fisheries (July 2013).
- Western Australian Department of Transport: Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020).
- AIATSIS Engaging with Traditional Owners Guidance

SCHEDULE B – Relevant Authorities

Relevant Authorities	Role and Relevancy
Australian Hydrographic Office (AHO)	Responsible for the publication and distribution of nautical charts and other information required for safe shipping and navigation in Australian waters. Relevant when the activity may impact operational requirements and where nautical products and other maritime safety information is required to be updated.
Australian Maritime Safety Authority (AMSA)	Responsible for maritime safety. Relevant when the activity may impact on the safe navigation of commercial shipping and to determine shipping traffic in the activity area.
Australian Communications and Media Authority (ACMA)	Administrator of submarine cable protection zones. Relevant when the activity may impact on subsea cables.
Department of Defence (DoD)	Responsible for Australian defence activities. Relevant when the activity encroaches on known training areas and/or restricted airspace.
Australian Fisheries Management Authority (AFMA)	Manager of fisheries in Commonwealth waters. Relevant when the activity has the potential to impact on fisheries resources in AFMA managed fisheries.
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Administers *the Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the *Underwater Cultural Heritage Act 2018* (see further information for underwater cultural heritage below) and the *Environment Protection (Sea Dumping) Act 1981*.
Department of Agriculture, Fisheries and Forestry (DAFF)	Commonwealth department responsible for managing biosecurity for incoming goods and conveyances. Relevant due to the potential for the transfer of marine pests between MODU, vessels and the mainland.
Director of National Parks (DNP)	Manages the AMP network. Relevant when activities undertaken outside an AMP may impact on the values within an AMP.
National Native Title Tribunal (NNTT)	Responsible for administration of the *Native Title Act 1993*. Maintains registers (and associated mapping) of native title determinations, PBC, and registered native title claims. Relevant when the activity may impact on Native Title.
Maritime Border Command (MBC)	Key agency for border protection. Relevant when the activity may impact on border protection activities (e.g., vessel patrols).
Dept. of Foreign Affairs and Trade (DFAT)	Promotes and protects Australia's interests internationally. Manages relationships with countries neighbouring Australia's north, including Indonesia, Timor Leste and Papua New Guinea. Relevant when the activity may impact on waters outside Australia's maritime jurisdiction (such as an oil spill).
WA Department of Primary Industries and Regional Development (DPIRD)	Manages West Australian commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DPIRD.
WA Department of Biodiversity, Conservation and Attractions (DBCA)	Manages State marine parks and reserves and protected marine fauna and flora. Relevant when activities undertaken outside a marine park may impact on the values within a marine park.
WA Department of Transport (DoT)	Manages oil pollution preparedness for response in WA state waters. Relevant if the activity results in impacts to a marine park.

Relevant Authorities	Role and Relevancy
WA Department of Fisheries (DoF)	Manages West Australian commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DPIRD.
Department of Planning Lands and Heritage (DPLH)	Protect Aboriginal heritage, assist with compliance with the *Aboriginal Heritage Act 1972* and provide access to heritage information. Relevant if the activity results in impacts to Aboriginal heritage.
Pilbara Ports Authority	Manages the Dampier Port under the *Port Authorities Act 1999 (WA).* Relevant if the activity results in impacts to port activities.
NT Department of Industry, Tourism and Trade (DITT)	Manages NT commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DITT managed fisheries.
NT Department of Environment, Parks and Water Security (DEPWS)	Protects the environment and natural resources in the NT, including marine fauna management. Relevant when activities may impact on marine or coastal values.
NT Department of Industry, Tourism and Trade (DITT) - Fisheries	Responsible for managing NT fisheries and aquatic ecosystems. Relevant when the activity has the potential to impact on fisheries resources in DITT managed fisheries.
NT Department of Transport (DoT)	Manages oil pollution preparedness and response in NT waters. Relevant if the activity results in impacts to the NT waters or coastlines.
NT Environmental Protection Authority (EPA)	Independent authority established under the *Northern Territory Environment Protection Authority Act 2012* to prevent and respond to pollution. Relevant if the activity results in pollution to NT waters or coastline.
WA Department of Mines, Industry Regulation and Safety (DMIRS)	Manages offshore petroleum approvals in WA State waters. Relevant if the activity results in impacts to WA state waters.
NT Department of Industry, Tourism and Trade (DITT)	Manages NT commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DITT managed fisheries.

SCHEDULE C – Guidance and Legal Decisions

NOPSEMA recently developed a Guideline, "Consultation in the course of preparing an environment plan Document No N-04750-GL2086 A900179," dated 15/12/2022, to support clarity and transparency on the legal requirements, including recent case law, for consultation by titleholders in the course of preparing their EP prior to submission to NOPSEMA.

Some key elements from NOPSEMA's GL2086 as well as guidance from *Santos NA Barossa pty Ltd v Tipakalippa* [2022] FCAFC 193 are outlined below:

1. The purpose of consultation under section 25 of the OPGGS (E) Regulations
    - Consultation processes must be designed in the context of the objects of the Regulations, which are to ensure that any offshore petroleum or greenhouse gas activity is carried out in a manner:
        i. Consistent with the principles of ecologically sustainable development set out in section 3A of the EPBC Act
        ii. By which the environment impacts and risks of the activity will be reduced as low as reasonably practicable; and
        iii. By which the environmental impacts and risk of the activity will be of an acceptable level.
    - The consultation process must assist to ensure that the titleholder has ascertained, understood, and addressed all the environmental impacts and risks that might arise from its proposed activity, including information that the titleholder would otherwise not be aware of, except through an appropriate consultation process in order to inform the most effective environmental management of the activities, impacts and risks.
    - The consultation process should 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.
2. Legislative and regulatory requirements
    - Section 25 of the OPGGS (E) Regulations establishes a duty on titleholders to carry out consultation in the course of preparing an EP. NOPSEMA's role is to assess whether or not the duty has been discharged, read particularly with section 34(g).
    - Section 34 of the OPGGS (E) Regulations, the criteria for acceptance of an EP are that the plan
        (g) demonstrates that:
            i. The titleholder has carried out the consultations required by the Regulations; and
            ii. The measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate.
    - The EP must include sufficient information to enable NOPSEMA to form the requisite state of satisfaction on the basis of an evident and intelligible justification.

3. Identifying relevant persons
    - Titleholders must clearly identify in their EP who is a relevant person and the rationale the titleholder has used to determine who they consider falls within that definition.
    - Section 25 of the OPGGS (E) Regulations, like most statutory consultation provisions, imposes an obligation that must be capable of practicable and reasonable discharge by the titleholder. It involves 'some decisional choice' that the titleholder must make in identifying relevant persons and in how the consultation is undertaken.
    - Processes for the identification of relevant persons must provide for sufficiently broad capture of ascertainable persons and organisations who may have their functions, interests or activities affected or that may be affected by the activity.
    - Persons and organisations under section 25(1)(d)
    - Section 25 creates an artificial definition of 'relevant person' which is broader than the usual legal meaning given to the term 'person'. For the purposes of section 25(1)(d), while an individual person may be a relevant person, so too may an organisation.
4. Functions, interest or activities under regulation section 25(1)(d) defined
    - Functions: refers to "a power or duty to do something"
    - Activities: to be read broadly and is broader than the definition of 'activity' in section 4 of the of the OPGGS (E) Regulations and is likely directed to what the relevant person is already doing.
    - Interests: to be construed as conforming with the accepted concept of "interest" in other areas of public administrative law
        - Includes "any interest possessed by an individual whether or not the interest amounts to a legal right or is proprietary or financial interests or related to reputation"
5. General principles for effective consultation
    - Consultation should be a genuine and meaningful two-way dialogue in which relevant persons are given sufficient information and time to allow them to make an informed assessment of the possible consequences of the activity on their functions, interests, or activities.
    - Principles adapted and amended from a report by the former Ministerial Council on Mineral and Petroleum Resources.
6. Providing sufficient information under section 25(2) of the OPGGS (E) Regulations
    - Information provided must be sufficient to allow an informed assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person.
    - Titleholders should consider the functions, interest or activities of the relevant person and the impacts and risks that affect them when determining information requirements.
    - Information should be in a form that is readily accessible and appropriate for the relevant person being consulted. Materials provided may include written forms, pictorial or other graphics, verbal briefings or presentations, and the use of other technologies.

- Information may well need to be provided in an interactive manner, as finer detail and precision is developed through the consultation process. Titleholders are encouraged to discuss expectations around the type and level of detail of information with relevant persons early when commencing consultation.

7. Providing reasonable period under section 25(3) of the OPGGS (E) Regulations
    - Titleholders must provide a "reasonable period" for the relevant person to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities and they are able to respond with any concerns.
    - Nature, scale and complexity of an activity as well as the extent and severity of potential impacts and risks on a relevant person's functions, interests or activities may inform what makes a reasonable period for consultation.
8. Consulting with groups where interests are held communally
    - Where interests are held communally, in accordance with tradition, the method of consultation will need to reasonably reflect the characteristics of the interests affected by the titleholder's proposed activity.
    - A titleholder will need to demonstrate to NOPSEMA that what it did constituted consultation which is appropriate and adapted to the nature of the interests of the relevant persons.
    - The Full Federal Court has held that there is good reason to adopt pragmatic and practical approaches to consultation conducted in accordance with section 25 of the OPGGS (E) Regulations.
    - Consultation may be via properly notified and conducted meeting, or other arrangements that facilitate genuine two-way dialogue between the titleholder and relevant persons.
9. Reporting on consultation in the EP under section 24 of the OPGGS (E) Regulations
    - The consultation process must be documented within the EP through the titleholder report on consultation and the sensitive information report.
    - The report on consultation should include clear and precise identification of claims and objections presented, an assessment of the merit of each objection or claim with sufficient rationale provided to support that assessment, and a demonstration of the suitability of any measures adopted as a result of the consultation.
    - Full text (source) records must be provided to verify the accuracy of the summary of the consultation. NOPSEMA interprets the term "full text" to mean an unedited version of the correspondence received without redacted or modified text.
    - Titleholders will need to document in written form all communications undertaken between themselves and relevant persons. This may require documenting the minutes of meetings, undertaking written communications wherever practicable and requesting that responses from relevant persons be provided in writing where practical.
10. First Nations People / groups
    - First Nations groups such as land councils and PBC may be relevant persons with a function that may be affected by the activities in the EP, but they may also provide advice

in relation to who and how other First Nations groups or individuals should be consulted as relevant persons whose interests may be affected by the activities.

- A connection of traditional owners with Sea Country may constitute an interest for the purposes of section 25 of the OPGGS (E) Regulations.
- The Federal Court has noted that there is no shortage of guidance on decisions on consultation processes under the *Native Title Act 1993* (NT Act) which is illustrative of how a seemingly rigid statutory obligation to consult persons holding communal interest may operate in a workable manner. The NT Act authorities require reasonable notice to group members, but not exhaustive communications with each and every person.

Appendix 3
Consultation: List of Relevant Persons

Category 1 - Commonwealth Department or Agencies (Reg 25(1)(a))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Australian Communications & Media Authority (ACMA)	Administrator of submarine cable protection zones. Relevant if the activity impacts on subsea cables.
Australian Fisheries Management Authority (AFMA)	Manager of fisheries in Commonwealth waters. Relevant if the activity impacts on fisheries resources in AFMA-managed fisheries.
Australian Hydrographic Office (AHO)	Responsible for the publication and distribution of nautical charts and other information required for safe shipping and navigation in Australian waters. Relevant if the activity impacts operational requirements and where nautical products and other maritime safety information is required to be updated.
Australian Institute of Marine Science (AIMS)	Applies science-based solutions to the key challenges facing those who live and work in the waters of northern Australia. AIMS' researchers understand large-scale, complex and emerging challenges in iconic marine habitats in Australia's vast and remote tropical waters.
Australian Maritime Safety Authority (AMSA)	Responsible for maritime safety. Relevant if the activity impacts on the safe navigation of commercial shipping.
Department of Agriculture, Fisheries and Forestry (DAFF)	Responsible for agricultural, fisheries and forestry industries by creating new and/or maintaining existing agricultural export opportunities for Australia as well as managing biosecurity risks to protect the Australian agricultural industries. Relevant due to the potential for the transfer of marine pests from the MODU and vessels to marine waters.
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Administers the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the *Underwater Cultural Heritage Act 2018* and the *Environment Protection (Sea Dumping) Act 1981*. Relevant due to their role in marine conservation and if underwater cultural heritage is directly or indirectly adversely affected by the activity.
Department of Defence (DoD) - Property Management Branch	Responsible for Australian defence activities. Relevant if the activity encroaches on known training areas and/or restricted airspace.
DoD - Unexploded Ordinance	Responsible for managing unexploded ordnance. Relevant if the activity encroaches on known training areas and/or restricted airspace.
Department of Foreign Affairs & Trade (DFAT)	Promotes and protects Australia's interests internationally. Manages relationships with countries neighbouring Australia's north, including Indonesia, Timor Leste and Papua New Guinea.

Category 1 - Commonwealth Department or Agencies (Reg 25(1)(a))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
	Relevant if the activity impacts on waters outside Australia's maritime jurisdiction (such as an oil spill).
Indigenous Land & Sea Corporation (ILSC)	Corporate Commonwealth entity established under the *Aboriginal and Torres Strait Islander Act 2005* (ATSI Act). The ILSC's long-term vision for meeting its ATSI Act mandate is for Aboriginal and Torres Strait Islander people to enjoy the rightful entitlements, opportunities, and benefits that the return of country and its management brings. The ILSC's primary grant program – Our Country Our Future – provides assistance for acquiring and managing rights and interests in land, salt water and freshwater country in order to achieve this vision. Relevant if the activity results in an oil spill that impacts on coastal waters and shorelines used by Aboriginal and Torres Strait Islander people.
Maritime Border Command	Responsible for border protection. Relevant if the activity impacts on border protection activities (e.g., vessel patrols).
National Native Title Tribunal (NNTT)	Responsible for administration of the *Native Title Act 1993*. Relevant if the activity results in an oil spill that impacts on waters and shorelines subject to Native Title.
Parks Australia (Australian Marine Parks)	Manages the Australian Marine Park (AMP) network. Relevant when activities undertaken outside an AMP may impact on the values within an AMP.

Category 2 - State Department or Agencies (Reg 25(1)(a))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Northern Territory	
Government departments Department of Environment, Parks & Water Security (DEPWS)	Responsible for protecting the environment and natural resources in the NT, including marine fauna management. Relevant if the activity results in an oil spill that impacts on marine or coastal values in NT waters.
Department of Industry, Tourism & Trade (DITT) - Fisheries Branch	Responsible for managing NT fisheries and aquatic ecosystems. Relevant if the activity impacts the operations or target species of DITT-managed fisheries.
DITT - Petroleum Operations	Responsible for managing petroleum activities onshore and within NT waters. Relevant if the activity results in an oil spill that impacts on other petroleum operations.
Department of Infrastructure, Planning & Logistics (DIPL) - Marine Safety NT	Responsible for administering commercial fishing and aquaculture, marine pests, biosecurity, indigenous fishing, recreational fishing, boat ramps, tides, boat rules and safety in the NT. Relevant if the activity results in an oil spill that impacts on the use of coastal infrastructure.
DIPL - Regional Harbourmaster	Responsible for the moorings in the Darwin Port. Relevant for managing moorings that may be used by the support vessels.
Department of Territory Families, Housing & Communities - Heritage Branch	Works with the community to conserve the unique and diverse heritage of the NT. Supports the Heritage Council, provides advice about heritage management, promotes heritage, and encourages good conservation practice, oversees the NT Heritage Grants Program and the Rates Relief Program, and works with other government departments to conserve Government-owned heritage assets. Relevant if the activity results in an oil spill that impacts on heritage assets owned by the department.
Department of Transport - Marine Safety Branch	Manage oil pollution preparedness and response in NT waters. Relevant if the activity results in an oil spill that impacts on NT waters or coastlines.
NT Environmental Protection Authority	Independent authority established under the NT *Environment Protection Authority Act 2012* to prevent and respond to pollution. Relevant if the activity results in an oil spill that impacts on NT waters or coastlines.

Category 2 - State Department or Agencies (Reg 25(1)(a))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Local Government Areas (LGAs) *Relevant if the activity results in an oil spill that contacts the coastline in their council area.*	
West Daly Regional Council	The local government authority (LGA) for the Wadeye, Peppimenarti, Council Homelands & Palumpa Communities (covering a large section of the Joseph Bonaparte Gulf coastline).
Tiwi Islands Regional Council	The LGA for Bathurst & Melville Islands (Tiwi Island Group) that have access to Beagle Gulf & Van Diemen Gulf coastline.
West Arnhem Regional Council	The LGA for Kakadu, West Arnham & Coburg Communities that have access to Van Diemen Gulf coastline.
Wagait Shire Council	The LGA for the Cox Peninsula (Beagle Gulf area).
Litchfield Council	The LGA for Channel Island, Wickham, Micket Creek, Shoal Bay, Murrumujuk, Gunn Point, Glyde Point & Koolpinyah Communities (Darwin Harbour, Beagle Gulf & Van Diemen Gulf coastline).
City of Palmerston Council	The LGA for Wishart & East Arm Communities (Darwin Harbour coastline).
City of Darwin Council	The LGA for Darwin City, Larrakeyah, The Gardens, Fannie Bay, East Point, Nighcliff, Rapid Creek, Brinkin, Tiwi, Lee Point & Buffalo Creek Communities (Darwin Harbour & Beagle Gulf coastline).
Western Australia	
Government departments Department of Biodiversity, Conservation & Attractions (DBCA)	Manage state marine parks and reserves and protected marine fauna and flora. Relevant if the activity impacts on the values within a WA marine park.
Department of Planning, Lands & Heritage (DPLH)	Protect Aboriginal heritage, assist with compliance with the *Aboriginal Heritage Act 1972* and provide access to heritage information. Relevant if the activity results in an oil spill that impacts on Aboriginal heritage in WA waters or coastlines.
Department of Primary Industries & Regional Development (DPIRD) - Fisheries	Manage WA commercial fisheries. Relevant if the activity has the potential to impact on the operations or target species of DPIRD-managed commercial fisheries.
Department of Transport (DoT) - Oil Spill Response Coordination	Manage oil pollution preparedness for response in WA state waters. Relevant in planning for oil spill preparedness and if the activity results in impacts to a marine park.

Category 2 - State Department or Agencies (Reg 25(1)(a))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
LGAs *Relevant if the activity results in an oil spill that contacts the coastline in their council area.*	
Shire of Broome	The LGA with approximately 900 km of coastline.
Shire of Derby / West Kimberley	The LGA covering 118,560 km^2 of land in the North West Kimberley Region with an expansive coastline.
Shire of Wyndham / East Kimberley	The LGA covering 121, 000 km^2 of land in the Kimberley Region with an expansive coastline.
Ports Kimberley Ports Authority	Responsible for the Ports of Broome, Wyndham, Derby & Yampi Sound under the *Port Authorities Act 1999* (WA) to operate, maintain, control, and preserve the ports and the assets. Relevant if the activity results in impacts to port activities.
Pilbara Ports Authority	Manage the Dampier Port under the *Port Authorities Act 1999* (WA). Relevant if the activity results in impacts to port activities.

Category 3 - Department of State Minister (Reg 25(1)(b))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Western Australia	
Department of Mines, Industry Regulation & Safety (DMIRS)	Manages petroleum approvals onshore and offshore in WA state waters. Relevant if the activity results in an oil spill that impacts WA state waters.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Traditional Owners	
Relevant if the routine aspects of the activity impact the values associated with sea country or if unplanned events (i.e., oil spill) impact shorelines and sea country in their registered area.	
Aboriginal Sea Company	Governed by a board comprising equal representation from the three land councils with traditional ownership of sea country (Northern Land Council, Tiwi Land Council & Anindilyakwa Land Council) as well as independent industry experts. ASC empowers Aboriginal Traditional Owners to be actively engaged in the commercial fishing and aquaculture industries.
Ardyaloon Inc.	Charitable organisation providing services and programs to Aboriginal residents of the One Arm Point/Ardyaloon Community. Objective of the association is to provide for the cultural, social and economic needs of the community, acting at all times as a benevolent body and not as a profit making enterprise.
Arnhem Land Aboriginal Land Trust	The Arnhem Land Aboriginal Land Trust is established under the *Aboriginal Land Rights (Northern Territory) Act 1976*. Contact is through the Northern Land Council.
Bindunbur	Bindunbur (WCD2018/005) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA). Bindunbur has representation through three PBCs: Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation.
Balanggarra Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Balanggarra (Combined) (WCD2013/005), Balanggarra #3 (WCD2013/006) and Balanggarra #4 (WCD2015/005) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Balanggarra (Combined) (WCD2013/005), Balanggarra #3 (WCD2013/006) and Balanggarra #4 (WCD2015/005) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Bardi & Jawi Niimidiman Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Bardi and Jawi Native Title Determination (WCD2005/003)to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Bardi and Jawi Native Title Determination (WCD2005/003) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).
Cobourg Peninsula Sanctuary Land Trust	The Cobourg Peninsula Sanctuary Land Trust is established under the Aboriginal Land Rights (Northern Territory) Act 1976. Contact is through the Northern Land Council.
Dak Djerat Guwe People	Native Title Claimant with an application made for the legal recognition of native title rights and interests held by Indigenous Australians. Claim is over an area of land adjoining the coast on the western side on Northern Territory south of Darwin.
Daly River / Port Keats Aboriginal Land Trust	The Daly River / Port Keats Aboriginal Land Trust is established under the Aboriginal Land Rights (Northern Territory) Act 1976. Contact is through the Northern Land Council.
Dambimangari Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Dambimangari (WCD2011/002) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).
Gogolanyngor Aboriginal Corporation	The Prescribed body corporate (PBC) nominated by Bindunbur (WCD2018/005) to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).
Kalumburu Aboriginal Corporation	Traditional custodians of Kalumburu. Northern most settlement in Western Australia on the King Edward River and not far from the coast in the Kimberley region. Also lease Carson River Station which has access to coastal waters.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Kenbi Aboriginal Land Trust	The Kenbi Aboriginal Land Trust is established under the *Aboriginal Land Rights (Northern Territory) Act 1976*. Contact is through the Northern Land Council.
Kimberley Land Council (KLC)	Peak Indigenous body in the Kimberley region working with Aboriginal people to secure native title, conduct conservation and land management activities and develop cultural business enterprises.
Larrakia Nation Aboriginal Corporation	Aboriginal Corporation registered with Othe Office of the Registrar of Indigenous Corporations with a principal activity to provide land and waters management (care of Country) within the negative Determination area for Larrakia (Part A - consolidated proceeding) (DCD2006/001). Larrakia (Part A - consolidated proceeding) (DCD2006/001) is the most recent native title applicant on the National Native Title Tribunal for the Darwin area.
Limilngan-Wulna Aboriginal Corporation	Adelaide River Aboriginal Corporation registered with the Office of the Registrar of Indigenous Corporations with a principal activities of land and waters management—care for Country (holding land title/deeds), and Land Holding and community homeland development.
Madanaa Nada Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Warrwa Mawadjala Gadjidgar (WCD2020/009) to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).
Mayala Inninalang Aboriginal Corporation	The PBC nominated by Mayala People (WCD2018/009) and Mayala People #2 (WCD2019/007) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Mayala People (WCD2018/009) and Mayala People #2 (WCD2019/007) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).
Miriuwong & Gajerrong Aboriginal Corporation	The PBC nominated by Miriuwung-Gajerrong (WCD2003/001) and Miriuwung Gajerrong #4 (WCD2006/002) to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
	PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Miriuwung-Gajerrong (WCD2003/001) and Miriuwung Gajerrong #4 (WCD2006/002) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).
Nimanburr Aboriginal Corporation	The PBC nominated by Bindunbur (WCD2018/005) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).
North Australian Indigenous Land & Sea Management Alliance Ltd (NAILSMA)	North Australian Indigenous Land & Sea Management Alliance Ltd (NAILSMA) is an Indigenous led not-for-profit company operating across north Australia who work to assist Indigenous people manage their country sustainably for future generations.
Northern Land Council (NLC)	NT Independent statutory authority of the Commonwealth responsible for assisting Aboriginal peoples in the NT to acquire and manage their traditional lands and sea.
Nyul Nyul PBC Aboriginal Corporation	The PBC nominated by Bindunbur (WCD2018/005) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).
Top End Aboriginal Coastal Alliance (TEACA)	Alliance of Coastal Traditional Owners in the Northern Territory (primarily) and Western Australian (secondarily).
Tiwi Land Council (TLC)	The TLC represents the Tiwi people in the protection of land, sea and environment, while at the same time supporting sustainable economic development to improve Tiwi lives through employment, income, education and health opportunities. The TLC is the only body with authority and capacity to direct and administer the Tiwi Islands Aboriginal Land Trust.
Top End Aboriginal Corporation Croker Island	The PBC nominated by Croker Island (DCD1998/001) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
	Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Croker Island (DCD1998/001) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA). Contact is through the NLC.
Top End Aboriginal Corporation Legune Pastoral Lease	The PBC nominated by Legune Pastoral Lease (DCD2011/007) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Legune Pastoral Lease (DCD2011/007) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA). Contact is through the NLC.
Top End Aboriginal Corporation Spirit Hills Pastoral Lease	The PBC nominated by Spirit Hill Pastoral No 2 (DCD2011/002) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Spirit Hill Pastoral No 2 (DCD2011/002) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA). Contact is through the NLC.
Wanjina-Wunggurr Aboriginal Corporation	The PBC nominated by Wanjina - Wunggurr Wilinggin Native Title Determination No 1 (WCD2004/001), Uunguu Part A (WCD2011/001), Uunguu - Area B (WCD2012/003) and Dambimangari (WCD2011/002) to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
	Wanjina - Wunggurr Wilinggin Native Title Wanjina - Wunggurr Wilinggin Native Title Determination No 1 (WCD2004/001), Uunguu Part A (WCD2011/001), Uunguu - Area B (WCD2012/003) and Dambimangari (WCD2011/002) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).
Northern Territory Fishers & Traditional Owners	
Relevant if the routine aspects of the activity impact the values associated with sea country or fishing operations or if unplanned events (i.e., oil spill) impact shorelines, sea country or fishing operations in their registered area.	
Bawinanga Aboriginal Corporation	NT Aquarium Fish, Display & Mud Crab Fishing Licence Holder. In addition to aquaculture and fishing interests, Bawinanga has ORIC Principal activities listed to include: Heritage and culture (museums and keeping places) and Land and waters management—care for Country (conservation).
Garngirr Fishing Aboriginal Corporation	NT Coastal Line Fishing Licence Holder. The Garngirr Fishing Aboriginal Corporation has ORIC Principal activities listed solely as: Agriculture, aquaculture, forestry, fishing.
Commonwealth Fisheries Associations	
Relevant if the routine aspects of the activity impact the operation of their members' fishing operations or if unplanned events (i.e., oil spill) impact their members' operations or target species.	
Australian Southern Bluefin Tuna Industry Association Ltd	Peak body representing the Australian Southern Bluefin Tuna Industry.
Commonwealth Fisheries Association	Peak industry body representing the collective rights, responsibilities and interests of a diverse group of commercial fishers in Commonwealth regulated fisheries.
Seafood Industry Australia	National peak-body representing the Australian seafood industry as a whole (wild catch, aquaculture and post-harvest sectors). Relevant if the activity results in impacts to commercial fisheries.
Tuna Australia	Represents statutory fishing right owners, holders, fish processors and sellers, and associate members of the Eastern and Western tuna and billfish fisheries of Australia. Relevant if the activity results in impacts to their fishery.
Northern Prawn Fishery Industry Pty Ltd	NPF Industry Pty Ltd is a single voice for the industry in the Northern Prawn Fishery.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
WA Fishers Associations	
Relevant if the routine aspects of the activity impact the operation of their members' fishing operations or if unplanned events (i.e., oil spill) impact their members' operations or target species.	
Recfish West	Peak body representing recreational fishers in WA.
Western Australian Fishing Industry Council (WAFIC)	Peak industry body representing the interests of the WA commercial fishing, pearling and aquaculture sectors.
Pearl Producers Association	Peak representative organisation of the Australian South Sea Pearling Industry.
NT Fisheries Associations	
Relevant if the routine aspects of the activity impact the operation of their members' fishing operations or if unplanned events (i.e., oil spill) impact their members' operations or target species.	
Amateur Fishermen's Association of the Northern Territory (AFANT)	Peak body representing the varied interests and pursuits of recreational fishers in the NT.
NT Guided Fishing Industry Association (NTGFIA)	Peak body responsible for promoting, developing, and maintaining the guided fishing industry in the NT. The NTGFA represents professional fishing guides and operators.
Northern Territory Seafood Council (NTSC)	The Northern Territory Seafood Council (NTSC) is an incorporated association that focuses on the needs of its members as well as promoting and developing the Northern Territory seafood industry.
Commonwealth Fishers	
Relevant if the routine aspects of the activity impact their fishing operations or if unplanned events (i.e., oil spill) impact their operations or target species.	
ABS Qld Holding Pty Ltd Crystal Trawling Co Pty Ltd De Costi Seafoods Pty Ltd Dujour Pty Ltd Machro Fishing Co Pty Ltd Ronbridge Pty Ltd Schulz Fisheries Pty Ltd 3 x private licence holders	Licence holders in the Northern Prawn Fishery.
Raptis Fishing Licences Pty Ltd	Licence holder in the Northern Prawn, North West Slope and Western Deepwater Trawl fisheries.
Stehr Group Pty Ltd Tunafish.Com Pty Ltd	Licence holders in the Southern Bluefin Tuna & Western Tuna & Billfish Fishery.
Angelica Fisheries Pty Ltd Australian Ocean Producers Pty Ltd Charissa Pty Ltd	Licence holders in the Southern Bluefin Tuna Fishery.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Chasper Investments Pty Ltd Clark Fishing Pty Ltd Davica Pty Ltd DDD Lavelle Fisheries Pty Ltd DL & LT Pty Ltd Esbjorn Co Pty Ltd F M F Pirrello & FMC Fisheries Pty Ltd FC & S Campisi Pty Ltd Fina K Pty Ltd Gracie P Pty Ltd Kin Premium Australian Seafood Pty Ltd Lavalle Fisheries Pty Ltd LCM77 Super Pty Ltd Macfish Mae Investments Pty Ltd Markane Seafoods Pty Ltd Marnikol Fisheries Pty Ltd Muollo Fishing Pty Ltd Mures Fishing Pty Ltd Pearl Seafood Exports Pescatore Di Mare Pty Ltd Prisman Pty Ltd R & R Hobart Investments Pty Ltd Sniper Fishing Pty Ltd Whan & Boxsell Pty Ltd Z Cross Construction Pty Ltd 12 x private licence holders	
Sea Harvest Marine Pty Ltd	Licence holder in the Western Deepwater Trawl and Western Tuna & Billfish fisheries.
FM Investments (NSW) Pty Ltd	Licence holder in the Western Deepwater Trawl Fishery.
Tony's Tuna International Pty Ltd	Licence holder in the Western Skipjack and Southern Bluefin Tuna fisheries.
Emily Krstina (Australia) Pty Ltd Ship Agencies Australia Pty Ltd	Licence holders in the Western Skipjack and Western Tuna & Billfish fisheries.
Talley's Australia Pty Ltd	Licence holder in the Western Skipjack Fishery.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Blaslov Fishing Pty Ltd S & Z Lukin Pty Ltd Tuna Farmers Pty Ltd Australian Fishing Enterprises Pty Ltd	Licence holders in the Western Skipjack, Southern Bluefin Tuna and Western Tuna & Billfish fisheries.
All Oceans Tuna Pty Ltd Correia Holding Pty Ltd DI Fishing Eden Pty Ltd G J Holdings Pty Ltd Gary J Kennedy Pty Ltd Harkness Pty Ltd Hinchcliff Holdings Pty Ltd Jetopay Pty Ltd Latitude Fisheries Pty Ltd Menbar Pty Ltd North Coast Fishing Company Pty Ltd Panther Nominees Pty Ltd Pelamis Australia Pty Ltd Peltown Pty Ltd Quota Holdings Pty Ltd Quota Pool Pty Ltd Radar Holdings Pty Ltd Seacave Enterprises Pty Ltd & Puresea Investments Pty Ltd Sunzrays Pty Ltd Tirrenia Nominees Pty Ltd Toren Fishing & Trading Co Pty Ltd Viking J Fisheries Pty Ltd Vinci Holdings Pty Ltd Warburton Aquaculture Pty Ltd Westshape Pty Ltd Willowood Holdings Pty Ltd YB Licence Pty Ltd 17 x private licence holders	Licence holders in the Western Tuna & Billfish Fishery.
Commonwealth, WA & NT Fishers	
Relevant if the routine aspects of the activity impact their fishing operations or if unplanned events (i.e., oil spill) impact their operations or target species.	
Austral Fisheries Pty Ltd	Licence holder in the Cth Northern Prawn and Western Deepwater Trawl and NT Timor Reef & Demersal and WA Kimberley Prawn fisheries.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Tasmanian Seafoods Pty Ltd	Licence holder in the Western Skipjack and Western Tuna Billfish, NT Trepang and WA Onslow Prawn fisheries.
Commonwealth & WA Fishers	
Relevant if the routine aspects of the activity impact their fishing operations or if unplanned events (i.e., oil spill) impact their operations or target species.	
Shark Bay Seafoods Pty Ltd	Licence holder in the Cth North West Slope and WA Gascoyne Demersal fisheries.
Seafresh Holdings Pty Ltd & Fabron Holdings Pty Ltd	Licence holders in the Cth North West Slope and Western Deepwater Trawl and WA Kimberley Prawn fisheries.
Seafresh Holdings Pty Ltd	Licence holder in the Cth North West Slope and Western Deepwater Trawl & WA Kimberley Prawn, Nickol Bay Prawn & Onslow Prawn fisheries.
Austfish Pty Ltd	Licence holder in the Cth Northern Prawn and North West Slope & WA Broome Prawn, Kimberley Prawn, Nickol Bay Prawn & Onslow Prawn fisheries.
WA Seafood Exporters Pty Ltd	Licence holder in the Cth Northern Prawn and WA Broome Prawn & Kimberley Prawn fisheries.
Advance Pty Ltd Henchman Fishing Company Pty Ltd Madang Contractors (Qld) Pty Ltd Ruby Marine Engineering Pty Ltd The Deckstore Pty Ltd	Licence holders in the Cth Northern Prawn and WA Kimberley Prawn fisheries.
Marellen Pty Ltd	Licence holders in the Cth Western Tuna & Billfish and WA Gascoyne Demersal & Kimberley Prawn Fishing Licence Holder.
Commonwealth & NT Fishers	
1 x private license holder	Licence holder in the Cth Western Tuna & Billfish and NT Bait Net fisheries. Relevant if the routine aspects of the activity impact their fishing operations or if unplanned events (i.e., oil spill) impact their operations or target species.
WA Fishers	
Relevant if the routine aspects of the activity impact their fishing operations or if unplanned events (i.e., oil spill) impact their operations or target species.	
Brampton Fishing Company Pty Ltd	Licence holder in the Broome Prawn Fishery.
Correia Fishing Co (WA) Pty Ltd Elmwood Holdings Pty Ltd Isle Holdings Pty Ltd KB Takari Pty Ltd	Licence holders in the Gascoyne Demersal & Kimberley Prawn fisheries.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Brefjen Nominees Pty Ltd Spaniard Fishing Pty Ltd	Licence holders in the Gascoyne Demersal & Mackerel fisheries.
1 x private licence holder	Licence holders in the Kimberley Crab, Kimberley Gillnet & Barramundi fisheries.
Cervan Marine Pty Ltd	Licence holder in the Kimberley Crab & Northern Demersal Scalefish fisheries.
Big Blue Fishing Pty Ltd 2 x private licence holder	Licence holders in the Kimberley Gillnet & Barramundi fisheries.
1 x private licence holder	Licence holders in the Kimberley Prawn & Mackerel & Onslow Prawn.
Sea Harvest Fishing Company Pty Ltd	Licence holder in the Kimberley Prawn & Mackerel fisheries.
Tennereef Pty Ltd	Licence holder in the Kimberley Prawn & Pearl Oyster fisheries.
Albany Seafoods Pty Ltd Anjoy Nominees Pty Ltd Athanasios Raptis Pty Ltd Frenchman Nominees Pty Ltd Imoboat Pty Ltd Puresea Investments Pty Ltd Scallop Nominees Pty Ltd Shrimp King Pty Ltd Tanus Fisheries Pty Ltd Zilzie Nominees Pty Ltd 5 x private licence holders	Licence holders in the Kimberley Prawn Fishery.
Newbeach Nominees Pty Ltd Sakan Pty Ltd	Licence holders in the Kimberley Prawn, Nickol Bay Prawn & Onslow Prawn fisheries.
M G Kailis Pty Ltd	Licence holders in the Kimberley Prawn, Onslow Prawn & Pearl Oyster fisheries.
KFM Leasing Pty Ltd	Licence holder in the Mackerel & Northern Demersal Scalefish fisheries.
Albany Tuna No3 Pty Ltd Bardsley Fisheries Pty Ltd Bilyara Holdings Pty Ltd Kai Nominees Pty Ltd Sabea Fishing Co Pty Ltd Sagacity Pty Ltd Viency Pty Ltd West Coast Crabs Pty Ltd 6 x private licence holder	Licence holders in the Mackerel Fishery.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Sakan Pty Ltd & Newbeach Nominees Pty Ltd	Licence holder in the Nickol Bay Prawn & Onslow Prawn fisheries.
Brown Dog Fishing Company Pty Ltd Lenden Nominees Pty Ltd	Licence holders in the Northern Demersal Scalefish Fishery.
Boots Superannuation Pty Ltd	Licence holders in the Onslow Prawn Fishery.
Arrow Cygnet Bay Consolidated Pty Ltd Fantome Pearls Pty Ltd Maxima Pearling Co Pty Ltd Willie Creek Pearling Pty Ltd	Licence holders in the Pearl Oyster Fishery.
DVS Enterprises Pty Ltd Seahorse Horizon Pty Ltd Shelldiver Pty Ltd Westcoast Shells Pty Ltd 21 x private licence holders	Licence holders in the Specimen Shell Fishery.
Mt Sopris Pty Ltd Yennett Pty Ltd 1 x private licence holder	Licence holders in the West Coast Deep Crustacean Fishery.
1 x private licence holder	Licence holder in the Kimberley Crab Fishery.
WA & NT Fishers	
Relevant if the routine aspects of the activity impact their fishing operations or if unplanned events (i.e., oil spill) impact their operations or target species.	
A Raptis & Sons Pty Ltd	Licence holder in the NT Demersal & WA Kimberley Prawn fisheries. Raptis owns and operates 15 commercial fishing vessels in their licenced fishing zones.
Clipper Pearls Pty Ltd Paspaley Pearling Co Pty Ltd	Licence holders in the NT Pearl Oyster & WA Pearl Oyster fisheries.
Northern Wildcatch Seafood Australia Pty Ltd	Licence holder in the NT Timor Reef & Demersal & WA Kimberley Prawn & Northern Demersal Scalefish fisheries. Northern Wildcatch Seafood Australia Pty Ltd operates its fleet from Darwin, fishing from longitude 120 degrees east to the NT/Qld border in the Gulf of Carpentaria out to the limit of the Australian Fishing Zone. They undertake trap fishing in the WA Northern Demersal Scalefish Fishery, NT Timor Reef Fishery & NT Demersal Fishery.
NDSF Licenses Holding Company Pty Ltd	Licence holder in the NT Timor Reef & Demersal and WA Northern Demersal Scalefish fisheries.
1 x private licence holder	Licence holder in the NT Spanish Mackerel and WA Kimberley Prawn fisheries.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
NT Fishers	
Relevant if the routine aspects of the activity impact their fishing operations or if unplanned events (i.e., oil spill) impact their operations or target species.	
Cairns Marine Coral Holdings Pty Ltd Monsoon Aquatics Pty Ltd 5 x private license holders	Licence holders in the Aquarium Fish & Display Fishery.
Calpino Nominees Pty Ltd DCF Fisheries Pty Ltd 1 x private licence holders	Licence holders in the Barramundi fisheries.
Wild Barra Fisheries Pty Ltd	Licence holder in the Coastal Line and Barramundi fisheries.
Commercial Catamarans Pty Ltd	Licence holder in the Coastal Line and Demersal fisheries.
Askbase Pty Ltd Panlyn Pty Ltd 1 x private licence holder	Licence holders in the Coastal Line and Spanish Mackerel fisheries.
Australian Trade and Produce PTY LTD Bokma Pty Ltd Caracciolo Holdings Pty Ltd Hong Peng Group PTY LTD JJ's Fish & Chips & Charcoal Chicken Pty Ltd Monsoon Fishing (NT) Pty Ltd Piedmont Investments Pty Ltd The RCJ Collins Investments Pty Ltd Seagull Fishing Pty Ltd 12 x licence holders	Licence holders in the Coastal Line Fishery.
Taroona Pty Ltd	Licence holder in the Coastal Line, Jigging and Spanish Mackerel fisheries.
Fischer Wholesale Pty Ltd H & T Investment Pty Ltd 2 x private licence holder	Licence holders in the Coastal Line, Timor Reef and Demersal fisheries.
Australia Bay Seafoods Pty Ltd 2 x private licence holders	Licence holders in the Demersal Fishery.
A&W Rapp Pty Ltd (Wansima) B & W International Trading Pty Ltd DDTB Seafood Pty Ltd Mudkrabba Pty Ltd Timms NT Pty Ltd	Licence holders in the Mud Crab Fishery.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
25 x private licence holders	
Enigma Rose Pty Ltd North Coasties (Holdings) PTY LTD Toren Fishing Co Pty Ltd Wren Fishing Pty Ltd 1 x private licence holders	Licence holders in the Offshore Net and Line Fisheries.
South Sea Pearling Co Pty Ltd The Australian South Sea Pearl Company Pty Ltd	Licence holders in the Pearl Oyster Fishery.
MJMT Super Pty Ltd as trustee for The Matty Tybell	Licence holder in the Restricted Bait Entitlement and Mud Crab fisheries.
Dapmist Pty Ltd Wildmackerel Pty Ltd 3 x private licence holders	Licence holders in the Spanish Mackerel Fishery.
Box Fishing Pty Ltd NT Box Fisheries Pty Ltd Reef Fishing Pty Ltd Timor Fisheries Pty Ltd	Licence holders in the Timor Reef Fishery.
1 x private licence holder	Licence holder in the Bait Net Fishery.
2 x private licence holders	Licence holders in the Coastal Line and Coastal Net fisheries.
1 x private licence holder	Licence holder in the Coastal Line and Mud Crab fisheries.
1 x private licence holder	Licence holders in the Coastal Line and Timor Reef fisheries.
3 x private licence holder	Licence holder in the Coastal Net Fishery.
Petroleum titleholders	
Relevant if there is a large oil spill from the activity that results in delays to existing or planned operations, lost production operations or loss of industry reputation.	
BP Developments Australia Pty Ltd	Titleholder of nearby petroleum permit WA-359-P.
Carnarvon Energy Limited	Titleholder and operator in Bonaparte & Roebuck Basins. Exploration Permits WA-435-P, WA-436-P, WA-437-P, WA-438-P, AC/P62, AC/P63. Production Licence WA-64-L.
Chevron Australia Pty Ltd	Titleholder of nearby petroleum permit WA-37-L.
Eni Australia B.V.	Titleholder of adjacent petroleum permit WA-33-L.
Finder Energy	Titleholder and operator in the Northern Carnarvon & Bonaparte Basins (Finder No 1 Pty Limited; Finder No 16 Pty Ltd; Finder No 9 Pty Limited 64; Beagle No. 1 Pty Ltd). Exploration Permits WA-412-P, WA-542-P, WA-547-P, AC/P61.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
INPEX	Titleholders and operator in Offshore Canning, Browse & Bonaparte Basins (INPEX Browse E&P Pty Ltd; INPEX Ichthys Pty Ltd; INPEX Oil & Gas Australia Pty Ltd). Exploration Permits WA-274-P, WA-281-P, WA-285-P, WA-343-P, WA-344-P, WA-371-P, WA-502-P, WA-513-P, WA-514-P, WA-532-P, WA-533-P, AC/P36, AC/P66. Production Licences WA-44-L, WA-50-L, WA-51-L. Retention Leases WA-37-R, WA-56-R, WA-74-R, WA-79-R, WA-80-R, WA-81-R, WA-84-R, WA-85-R, WA-86-R. Infrastructure Licence WA-2-IL. Greenhouse Gas Assessment Permit G-7-AP.
IPB Petroleum Limited	Titleholder and operator in Browse Basin (IPB WA 424P Pty Ltd). Exploration Permit WA-424-P.
Jadestone Energy (Australia) Pty Ltd	Titleholder and operator in the Bonaparte Basin. Exploration Permit AC/P34. Production Licence AC/L7, AC/L8.
Kato Energy	Titleholder and operator in the Northern Carnarvon Basin (Kato NWS Pty Ltd; Kato Amulet Pty Ltd). Exploration Permit WA-191-P. Production Licence WA-8-L.
Melbana Energy	Titleholder of nearby petroleum permits NT/P87 & WA-544-P.
Mobil Australia Resources Company Pty Limited	Titleholder and operator in Northern Carnarvon Basin. Exploration Permits WA-205-P, WA-248-P, WA-253-P, WA-374-P, WA-392-P, WA-444-P. Production Licences WA-37-L, WA-38-L. Retention Leases WA-5-R, WA-14-R, WA-15-R, WA-17-L, WA-19-R, WA-20-R, WA-21-R, WA-22-R, WA-23-R, WA-24-R, WA-39-R, WA-73-R, WA-76-R, WA-77-R, WA-82-R, WA-87-R.
Neptune Energy Bonaparte Pty Ltd	Titleholder of nearby petroleum permit WA-27-R.
Pathfinder Energy Pty Ltd	Titleholder and operator in Roebuck Basin. Exploration Permit WA-479-P, WA-487-P.
PTTEP	Titleholder and operator in Bonaparte Basin (PTTEP Australasia (Ashmore Cartier) Pty Ltd; PTTEP Australia Timor Sea Pty Ltd). Exploration Permits AC/P17, AC/P24, AC/P33, AC/P54. Retention Leases AC/RL4, AC/RL6, AC/RL7, AC/RL10, AC/RL12.
Santos	Titleholder of nearby petroleum permit WA-454-P, WA-545-P & NT/P84.
Shell Australia Pty Ltd	Titleholder and operator in Bonaparte, Browse & Northern Carnarvon Basins. Exploration Permits WA-1-P, WA-28-P, WA-205-P, WA-253-P, WA-275-P, WA-371-P, WA-374-P, WA-392-P, WA-444-P, WA-

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
	534-P, AC/P41, AC/P64. Production Licence WA-1-L, WA-2-L, WA-3-L, WA-4-L, WA-5-L, WA-6-L, WA-9-L, WA-11-L, WA-16-L, WA-23-L, WA-24-L, WA-30-L, WA-37-L, WA-38-L, WA-44-L, WA-53-L, WA-56-L, WA-57-L, WA-58-L, AC/L10. Retention Leases WA-5-R, WA-7-R, WA-9-R, WA-10-R, WA-14-R, WA-15-R, WA-19-R, WA-20-R, WA-21-R, WA-22-R, WA-23-R, WA-24-R, WA-28-R, WA-29-R, WA-30-R, WA-31-R, WA-32-R, WA-39-R, WA-51-R, WA-52-L, WA-73-R, WA-76-R, WA-77-R, WA-82-R, WA-87-R, AC/RL16. Infrastructure Licence WA-2-IL. Greenhouse Gas Assessment Permit G-10-AP.
TGS - NOPEC Geophysical Company Pty Ltd	Titleholder and operator in Browse Basin. Access Authority WA-105-AA. Special Prospecting Authority WA-45-SPA.
Woodside Energy Limited	Titleholder of nearby petroleum permits WA-522-P & WA-279-P.
3D Oil Limited	Titleholder and operator in WA-527-P.
Tourism operators	
Relevant if planned aspects of the activity interfere with fishing activities, or if an unplanned activity (e.g., oil spill) results in loss of business.	
Adventure Wild Kimberley Tours	Fully guided Kimberley land-based adventure covering all areas between Broome & Kununurra including views of waterfalls and aboriginal rock art.
Anglers Choice Fishing Safaris	Charter operator operating out of Dundee Beach NT.
APT Touring	Cruise provider in the coastal waters and inlets of the Kimberley area between Broome & Darwin.
Arafura Bluewater Charters	Charter operator out of Cullen Bay Darwin.
Cannon Charters	Charter operator out of Cullen Bay Darwin.
Clearwater Island Lodge	Charter operator based out of Darwin.
Coral Expeditions	Operate three Australian expedition ships in the coastal waters of the Kimberley between Broome and Darwin from March to September each year offering different voyage options.
Cygnet Bay Pearl Farm	Operational pearl farm on the Dampier Peninsula that also offer tours and accommodation of the farm.
Darwin Harbour Fishing Charters	Charter operator based out of Stokes Hill Wharf Darwin.
Dundee Beach Fishing Charters	Charter operator based out of Dundee Beach.
Eco Abrolhos	Charter and cruise provider in the coastal waters and inlets of the Kimberley area between Broome & Wyndham.
Equinox Fishing Charters	Charter operator based out of Cullen Bay Darwin.
Fish Darwin	Charter operator out of Stokes Hill Wharf Darwin.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Kimberley Boat Cruises	Cruise provider in the coastal waters and inlets of the Kimberley area between Broome and Darwin.
Kimberley Expeditions	Cruise and adventure tour provider in the coastal waters & inlets of the Kimberley area between Broome & Darwin.
Kimberley Pearl Charters	Cruise provider in the Kimberley area.
Kimberley Quest	Cruise & fishing expedition provider in the coastal waters and inlets of the Kimberley area between Broome & Darwin.
Lady M Luxury Cruises	Cruise provider in the Kimberley area.
Marine Tourism WA (MTWA)	MTWA is an association made up of charter industry owners and operators who understand the many and varied pressures affecting the industry. MTWA represents the charter sector to all relevant government departments.
Ocean Dream Charters	Cruise provider in the Kimberley area.
Odyssey Expeditions	Cruise provider in the Kimberley area.
Offshore Boats Fishing Charters	Charter operator based out of Darwin.
Oolin Sunday Island Cultural Tours	Cultural tour from the Dampier Peninsula retracing the ocean journey from Bardi Country on the mainland through the network of islands and tidal passages that make up Jawi Country. The tour passes through the whirlpools and eddies between Jooloom and Jayirru through some of the world's biggest tidal waters that are used by the Jawi people to hunt, fish and trade.
Ponant	Cruise provider in the Kimberley area (Broome to Darwin cruises and Australia to Indonesia).
Red Devil Fishing Charters	Charter operator based out of Cullen Bay Darwin.
The Great Escape Charter Company	Cruise and fishing cruise provider in the Kimberley area.
Tipperary Group of Stations	Owners of Litchfield Station. The station's western boundary is the coastline of the Joseph Bonaparte Gulf.
Tiwi Island Adventures	Charter operator based out of the Tiwi Islands.
Yknot Fishing Charters	Charter operator based out of Cullen Bay Darwin & Dundee Beach.
Other	
Fisheries Research and Development Corporation (FRDC)	Statutory corporation under the PIRD Act investing in research, development and extension activities to increase economic, social and environmental benefits for Australian fishing and aquaculture.

Category 4 - Person, Organisation, Industry Group or Association (Reg 25(1)(d))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Australian Agricultural Company (AACo)	Owners of La Belle Downs Station. The station's western boundary is the coastline of the Joseph Bonaparte Gulf. Relevant if an oil spill from the activity reaches their land.
Darwin Ports Corporation	Privately owned, responsible for management of Darwin Port. Relevant if an oil spill from the activity impacts their operations through increased use of the port by vessels involved in oil spill response.
Seafarms Group Limited	Developer of the land-based prawn aquaculture project (Sea Dragon) in the NT reliant on ongoing sea water quality for infrastructure / facilities adjacent to coast in NT. Relevant if an oil spill from the activity reaches their sea water intake area and results in temporary closure of the aquaculture operations.
WA Cambridge Gulf Limited	International supply chain link for the resources and agricultural industry, headquarters in Kununurra. Relevant if an oil spill from the activity reaches their land.

Category 5 - Other Relevant Persons (Reg 25(1)(e))	
Relevant Person	**Functions, interests and activities & relevancy to activity**
Conservation groups	
Relevant because they have interests in marine conservation.	
Australian Wildlife Conservancy (AWC)	Private (not for profit) owner and/or manager of land for conservation in Australia whose mission is the effective conservation of all Australian native animal species and the habitats in which they live. Involved in a number of projects in the Kimberley Region.
Conservation Council WA (CCWA)	WA peak body not-for-profit, non-government conservation and environment organisation who are active in conservation and climate action and focused on fossil fuels, uranium, biodiversity, citizen science and green economic futures.
Territory Natural Resource Management	Independent not for profit, membership-based organisation who works with landholders, community groups, industry and government to ensure sustainable management of water, land, soils and biodiversity in the NT.
The Wilderness Society (TWS)	Public company that works to support the living world. They take on transnational corporations, rogue operators, and the armies of lobbyists and politicians who defend them in relation to projects that could affect the environment. They have been active in WA and the NT.
Environmental groups	
Relevant because they have interests in marine conservation.	
Environs Kimberley	Environmental non-government organisation for the Kimberley region, including protecting the Kimberley Coast and North Kimberley Marine Park jointly managed with groups such as Balanggara Aboriginal Corporation & MG Corp.
Environment Centre NT	Peak community sector environment organisation in the NT that work closely with communities across the NT to stop environmentally destructive projects, hold government and industry to account and improve environmental regulation and governance.
Other	
ASCO - Darwin Supply Base	Specific purpose intermodal freight facility for storage and freight consolidation, loading and unloading of vessels servicing the offshore oil and gas industry. Relevant if an oil spill from the activity impacts their operations through increased use of the port by vessels involved in oil spill response.
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Australia's national science research organisation. Relevant if the activity results in oil spill impacts to sacred sites.

Appendix 4
Consultation: List of Relevant Persons – Named Individual Fishing License Holders

Provided to NOPSEMA separately as 'sensitive information' under Regulation 26(8) of the OPGGS(E)

Appendix 5
Consultation: Newspaper Advertisements

Newspaper Advertisements

Newspaper	Details
NT News, Buy-Search-Sell	Publication date: 28 February Advertisement copy for NT News and Buy-Search-Sell listing; advertisement tear sheet provided by publication
The Australian	Publication date: 28 February Advertisement copy for The Australian; advertisement tear sheet provided by publication
The Kimberley Echo	Publication date: 29 February Advertisement copy for The Kimberley Echo; advertisement tear sheet provided by publication
The West Australian	Publication date: 28 February Advertisement copy for The West Australian; advertisement tear sheet provided by publication
Koori Mail	Publication date: 28 February Advertisement copy for the Koori Mail; advertisement tear sheet provided by publication

NT News, Buy-Search-Sell, 28th February 2024

eog resources

PUBLIC NOTICE

BEEHIVE GEOTECHNICAL ASSESSMENT
EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to undertake geotechnical investigations in Commonwealth marine waters within permit area WA-488-P. The geotechnical investigations will take place in the Joseph Bonaparte Gulf, within a 50 km2 area off the Western Australian coastline and are in relation to the Beehive-1 exploration drilling project and the Beehive multi-well drilling (both described below).

The geotechnical activity is planned to take place over a 2-week period between January 2024 and no later than December 2025. An Environment Plan (EP) for the activity was approved by NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) on January 29, 2024, with activity timing contingent on equipment availability.

BEEHIVE -1 EXPLORATION DRILLING
EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to drill an exploration well known as Beehive-1 in Commonwealth marine waters in permit area WA-488-P. Beehive-1 is located in the Joseph Bonaparte Gulf, approximately 83 km's off the Western Australian coastline and approximately 294 km's southwest of Darwin.

Drilling of the single Beehive-1 exploration well, is planned to take place over a 55 to 100 day period between January 2024 and no later than December 2025. An EP for the activity is currently under assessment with NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) with activity timing contingent on the receipt of EP acceptance, rig and equipment availability.

BEEHIVE MULTI-WELL DRILLING
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https://www.eogresources.com/australia or QR Code

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Geotechnical Assessment:
https://info.nopsema.gov.au/environment_plans/605/show
Beehive-1 Exploration Drilling:
https://info.nopsema.gov.au/environment_plans/643/show
Beehive Multi-Well Drilling:
To be provided when draft is available.

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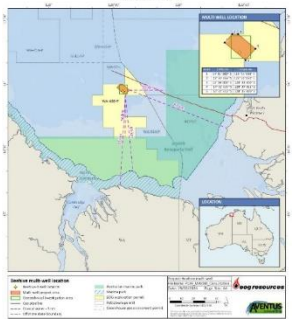
Email: australia@eogresources.com
Local Consultant Representative Phone: 0472 519 027



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EOG RESOURCES, INC. - PUBLIC NOTICE

PUBLIC NOTICE

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https://info.nopsema.gov.au/environment_plans/605/show public

Beehive-1 Exploration Drilling:
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Beehive Multi-Well Drilling: To be provided when draft is available.

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Email: australia@eogresources.com

Local Consultant Representative Phone: 0472 519 027

Darwin NT, Australia

Map

Notices

Public Notices

eog resources

PUBLIC NOTICE

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https://info.nopsema.gov.au/environment_plans/805/show
Beehive-1 Exploration Drilling:
https://info.nopsema.gov.au/environment_plans/643/show
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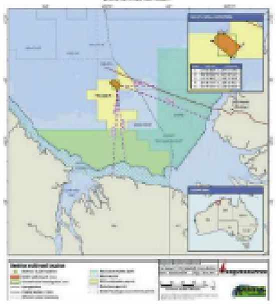


Mining Notices

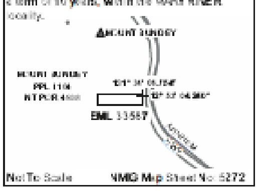
NOTICE OF PROPOSED GRANT OF EXTRACTIVE MINERAL LEASE

MINERAL TITLES ACT 2010 SECTION 71
NATIVE TITLE ACT 1993 (CTH) SECTION 29

The Honourable Mark Monaghan MLA, the Northern Territory Minister for Mining and the Chief Executive Officer, Department of Industry, Tourism and Trade, GPO Box 4550 DARWIN, NT 0801, hereby give notice in accordance with section 29 of the *Native Title Act 1993* (Commonwealth) and section 71 of the *Mineral Titles Act 2010* respectively, of the intent to do an act, namely to grant the following extractive mineral lease application.

Applications to which this notice applies:

Extractive Mineral Lease 33587 sought by OSTOJIC GROUP PTY LTD, ACN 079 629 805 over an area of 16 Hectares depicted below for a term of 10 years, within the MARY RIVER locality.



Nature of act(s): The grant of an extractive mineral lease under the *Mineral Titles Act 2010* authorises the holder to extract or remove (whether by quarrying or other means) from, on or below the natural surface of the land, extractive mineral(s) for a term not exceeding 10 years and to seek renewal(s). The term for which it is intended to grant the extractive mineral lease(s) referred to in this notice commences from the date of grant. Further information about the act may be obtained from the Department of Industry, Tourism and Trade, GPO Box 4550, Darwin NT 0801 or Centrepoint Building 48-50 Smith St, Darwin, telephone (08) 8999 5322.

Native Title Parties: Any person who is, or becomes a "native title party" within the meaning of the *Native Title Act 1993* is entitled to the negotiation and/or procedural rights provided in Part 2, Division 3, Subdivision P of the *Native Title Act 1993*. Under section 30 of the *Native Title Act 1993*, persons have until 3 months after the notification day to take certain steps to become native title parties in relation to this notice. Enquiries concerning becoming a native title party should be directed to the National Native Title Tribunal, GPO Box 9973, Brisbane QLD 4001, or telephone (07) 3307 5000.

Objection or Submission, Section 71 of the *Mineral Titles Act 2010*: The landowner(s) of land in respect of which the following application is made may lodge an objection to the grant of the application; any other persons may lodge a submission. Objections and submissions must be lodged in writing with the Department of Industry, Tourism and Trade at the above mentioned address or emailed to titles.info@nt.gov.au, within 30 days from the relevant Notification Date, which is set out below.

Notification Day: 28 February 2024

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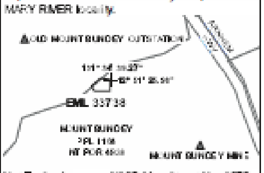
Applications to which this notice applies:

Extractive Mineral Lease 33738 sought by MOUSELLIS & SONS PTY. LTD., ACN 009 554 791 over an area of 4 Hectares depicted below for a term of 10 years, within the MARY RIVER locality.



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The Australian, 28th February 2024

PUBLIC NOTICE

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Geotechnical Investigations:
https://info.nopsema.gov.au/environment_plans/605/show_publi
Drilling:
https://info.nopsema.gov.au/environment_plans/643/show_public

Beehive Multi-Well Drilling: To be provided when draft is available.

eog resources

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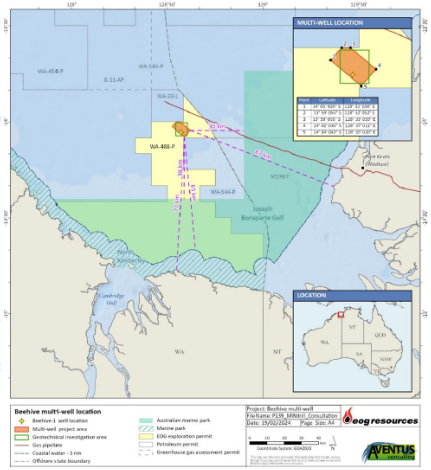

New chair for ANZ's Kiwi arm as Key departs

DAVID ROSS

ANZ has announced a shake-up of its New Zealand Bank, with former prime minister Sir John Key to resign as chair, replaced by the former boss of First NZ Capital, now known as investment bank Jarden.

In a market update on Tuesday, ANZ confirmed Sir John, who was prime minister of New Zealand for eight years, would leave all bank boards on March 14. Sir John, who joined ANZ's board in February 2018, has sat as a member of the bank's ethics, environment, social and governance committee, risk committee, digital business and technology committee and nomination and board operations committee.

He also chairs ANZ Bank New Zealand, the country's largest bank and a significant contributor to the group's operations.

Sir John will be replaced by Scott St John as chair of ANZ Bank New Zealand.

Mr St John is already a director at ANZ Bank New Zealand, having taken a position on the bank's board in 2021.

The former boss of First NZ Capital, now known as Jarden, holds a number of directorships but announced in December last year he would resign as director of milk processing group Fonterra from March 31.

He is expected to take on the chair role at ANZ Bank New Zealand from March 25.

Mr St John also recently stepped into the role of chair of listed Kiwi energy operation Mercury NZ Limited.

ANZ chair Paul O'Sullivan said Sir John had made an enormous contribution to ANZ "with his unparalleled international business and political experience playing a critical role in our ongoing success".

Mr O'Sullivan also paid tribute to Mr St John, noting he would be an "ideal replacement" for Sir John. "He has served admirably on the ANZ New Zealand board since 2021, and we look forward to welcoming him to the group board next month," Mr O'Sullivan said.

Sir John said he was "proud to have played my part in making ANZ a better company for our customers, shareholders and employees over the past six years".

"While it's the right time for me to step back on my commitments, I know ANZ is in a strong position and that Scott St John will be an outstanding chair of ANZ New Zealand and director of ANZ Group," he said.

The leadership transition comes as ANZ moves towards an expansion of its Australian banking operations, after gaining approval from the Australian Competition Tribunal for its $4.9bn bid for Suncorp Bank. This will see ANZ leapfrog rival National Australia Bank in the retail market and comes as ANZ seeks to roll out a new digital banking platform across its Australian operations.

ANZ's New Zealand operation is among the most efficient operations in the group, with the bank noting in November it boasted a 16 per cent return on equity, exceeding the institutional and Australian retail operations.

At the first quarter results, the bank noted the New Zealand operations had $108bn in deposits.

ANZ Bank New Zealand has almost 1.7 million digitally active customers and is among the lowest cost to income operations within the banking group.

ANZ shares rose 14c to $28.51 on Tuesday.

Emirates unveils high-flyer lounge

ROBYN IRONSIDE

Is this Australia's best airport lounge?

The newly reopened Emirates lounge at Brisbane Airport has something no other gateway can offer – direct access to the upper deck of the airline's flagship A380.

It means first and business class passengers don't even have to glimpse the economy cabin as they board the superjumbo, taking the premium experience to lofty new heights.

It's a feature the airline and Brisbane Airport are very proud of, and means travellers are quite particular about booking flights on the A380 rather than the Boeing 777 that operates the gateway's second daily flight to Dubai.

From October 1, that problem will be no more, with both services being flown by A380s, adding an extra 1900 seats a week between Brisbane and Dubai.

In addition to the top deck airbridge, there are Italian leather seats and marble floors, gleaming shower suites and Rolex wall clocks, plus three champagne stations and a rotating menu of international cuisines.

Emirates regional sales manager Leonie Brennan said first and business class passengers and eligible Skywards members were welcome in the 180-seat lounge, and there was also an option for other ticket holders to pay for access.

Despite the hefty fee of $1252.35 ($360) a person for four hours, Emirates revealed at least a few passengers a day were shelling out for a taste of lounge life before their flight to Dubai.

Point Hacks editor Daniel Sciberras said he would find it hard to go past the Qantas First Lounge in Sydney and Melbourne, which had set the standard for airport lounges in Australia.

He also nominated the pay-as-you-go lounge The House by Aspire at Melbourne Airport, for its catering and excellent view of the tarmac.

Although business class customers of Etihad and Virgin Australia could access The House with their airline ticket, others were invited to book online for $80 or pay $90 at the door.

Adele Eliseo of the Champagne Mile said the Qantas First Lounge was the only truly "first class lounge" in the country, and therefore was widely considered the best. "It's one of the reasons those double status points promotions that Qantas does are so popular," said Ms Eliseo.

"People are prepared to spend thousands of dollars on airfare for a chance to chow down on some salt and pepper squid in the Qantas First Lounge." She said Air New Zealand also had some great offerings in Australia, and Singapore Airlines had just reopened its new SilverKris lounge in Perth.

"Internationally I'd have to say Singapore Airlines' VIP lounge, which is within the first class lounge within the business lounge at Changi Airport, is in a class of its own," Ms Eliseo said.

Ms Brennan said the lounge experience was an important part of the journey for customers.

The revamped Emirates Lounge at Brisbane International Airport

LIAM KIDSTON

Tyro bets on banking, health as profit jumps

PAULINA DURAN

Tyro Payments expects subdued activity in retail shops, restaurants and hotels to continue in coming months but foresees a pick-up towards the end of the year, and says its expansion into banking services and non-discretionary industries such as healthcare should support profitability.

The payments company reported a 10 per cent increase in gross profit to $106m for its first half ending in December, despite sluggish activity in its core retail and hospitality sectors. Higher fees, a shrinking staff base and better-managed margins helped the result.

Sharp increases in interest rates have hit transaction volumes in retail, its second-largest client sector, which were down 2.5 per cent to $5.4bn. Transaction volumes in hospitality, its largest sector, grew 1.8 per cent to $9.53m, despite a 4 per cent decline in merchant customer numbers.

Shares fell as much as 16.5 per cent to $1.002 before recovering partially to close at $1.08.

Chief executive Jon Davey said that in the context of a challenging operating environment, the results had been "strong", driven by an ongoing focus on margins, cost management, and growth from non-discretionary health and services verticals.

Asked what had disappointed investors, Mr Davey said: "We will be meeting with investors over the coming days ... so we'll get direct feedback I'm sure."

Net profit after tax of $5.1m for the six months to December surged more than four times, year on year, and exceeded the expectations of analysts polled by Visible Alpha ($4.7m). But earnings before interest, tax, depreciation and amortisation were slightly below expectations at $37m, while full-year guidance for overall transaction volumes was downgraded to between $40bn and $44bn for the full year.

Tyro Health saw a record 31 per cent increase in customers and a 24 per cent increase in transaction value to $1.1bn, thanks to the non-discretionary nature of payments in that industry.

Overall, transaction value rose 2 per cent to $27m during the half, on track to book between $43m and $44bn for the full year ending in June, it said.

Tyro also said it expected to post gross profit of between $208m and $215m for the full 2024 financial year.

No dividends were declared.

Mr Davey said the company would expand "at least one" new vertical this calendar year. Tyro's vertical offering – across four industry sectors – includes payment terminal solutions, deposit products and cash flow lending.

Mr Davey said the company was facing intense competition, with pressure from the big four banks – particularly CBA and NAB in healthcare – and local fintech firms and global tech companies such as Square in the retail sector.

"We are seeing higher levels of competition ... but the other factor that is certainly coming into that is discretionary spend by consumers, which we have seen moderate.

"We would hope and expect that we will see some pick-up in the second half of this calendar year, but as we all know there's a number of factors that will come into that."

Power struggle: nuclear won't work in Australia, says Woodside chief

Continued from Page 13

amid concerns about the company paying too much for its smaller rival, but Ms O'Neill has said the company remains interested in other assets – at the right price.

Woodside's expansion plans have placed it in the crosshairs of environmentalists. Ms O'Neill insists the gas the company produces will allow countries sufficient time to develop zero emission sources while simultaneously weaning them off higher emissions alternatives such as coal and oil.

But in a nod to activist pressure, Woodside on Tuesday announced that it would commit to so-called new energy projects capable of reducing CO_2 emissions by five million tonnes per year by 2030.

The pledge will complement Woodside's existing target to invest $1.25bn in green energy projects by 2030.

Environmentalists and activist shareholders, however, rejected the Woodside target as insufficient.

Alex Hillman, lead analyst at the Australasian Centre for Corporate Responsibility (ACCR), said Woodside's announcement was too little, too late.

"Unsurprisingly given the groundswell of persistent investor concern over the last four years, Woodside has today come to the table saying it is listening and responding to shareholders on climate risk management. However, the small tweaks and change of tone are not what matters; it is the core substance of the company's strategy that investors care about," Mr Hillman said.

The ACCR said as a result it would oppose the re-election of Woodside chair Richard Goyder.

"It is hard to see how chair Richard Goyder will appease frustrated investors with this climate plan, a high-risk choice for a chair facing re-election at the 2024 AGM," Mr Hillman said.

Woodside shares rose 29c, or 0.9 per cent, to $30.28.

NOTICES

www.theaustralian.com.au

Congratulations to the winners of the Shannons Milwaukee® Competition

L GLASGOW, QLD
K ELLIOTT, QLD
L RYAN, WA
D WRAGG, QLD
D FORSTER, VIC

Notice to Creditors
ASIC Corporations (Wholly-owned Companies) Instrument 2016/785

The following companies:

[illegible] (together, the Companies) give the notice set out below to their creditors.

The Companies are parties to a Deed of Cross Guarantee dated 21 May 2020, varied by Assumption Deed dated 25 November 2022, entered into for the purpose of obtaining a accounting relief to wholly-owned subsidiaries pursuant to the ASIC Corporations (Wholly-owned Companies) Instrument 2016/785.

On 20 February 2024 a Revocation Deed revoking the Deed of Cross Guarantee in respect of [illegible] Australia Pty Ltd ACN [illegible] and Utility Locating Pty Ltd ACN [illegible] was lodged with ASIC.

The operation of the Revocation Deed is conditional upon there being no winding up under section 459A or paragraph 461(1)(a) or (h) of the Corporations Act 2001 (Cth) or a "creditors' voluntary winding up" under Division 3 of Part 5.5 of the Corporations Act of any Group Entity being either:

a) a winding up within six months after the original of the Revocation Deed was lodged with ASIC; or
b) a winding up the commencement of which occurs within six months after the original of the Revocation Deed was lodged with ASIC.

If this condition is satisfied, the Revocation Deed becomes operative on the day following the expiration of the six month period referred to above.

PUBLIC NOTICE TO BORROWERS OF AUSWIDE BANK LTD.
ABN 40 087 652 060 & Australian Credit Licence 239686

Effective from 29 February 2024, the reference rates for the following products will change to:

Home Loans & Lines of Credit (Owner Occupied)	
Home Loan Plus Standard Variable (Owner Occupied)	8.75% p.a.
Line of Credit Standard Variable	10.76% p.a.

Home Loans & Lines of Credit (Investment)	
Basic Home Loan – Investment ([illegible])	8.26% p.a.
Home Loan Plus Standard Variable – Investment ([illegible])	10.24% p.a.
Line of Credit Standard Variable – Investment	11.29% p.a.

Business Loans, Lines of Credit and Overdrafts	Residential Security	Commercial or Other Security
Business Term Loan	9.40% p.a.	8.79% p.a.
Business Line of Credit	10.38% p.a.	[illegible]
Business Overdraft	10.97% p.a.	[illegible]

Overdrafts	
Everyday Access Account Overdraft	[illegible]

Effective from 3rd March 2024, the reference rate of for the following products will change to:

Credit Cards	
Low Rate Visa – Purchase Rate	[illegible]
Low Rate Visa – Cash Advance Rate	[illegible]

For Principal & Interest loans, new monthly payments are effective from 24th March 2024. The new reference rates also apply to any variable annual percentage rate applicable after the expiry of any current fixed rate term for these products. Customers should review their loan contracts to ascertain the annual percentage rate applicable to their loan after considering any discount (if applicable).
Any enquiries regarding the above should be directed to Auswide Bank on 13 00 138 831.

AUSWIDE BANK

PUBLIC NOTICE

BEEHIVE GEOTECHNICAL ASSESSMENT
EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to undertake geotechnical investigations in Commonwealth marine waters within permit area WA-488-P. The geotechnical investigations will take place in the Joseph Bonaparte Gulf, within a 50 km2 area off the Western Australian coastline and are in relation to the Beehive-1 exploration drilling project and the Beehive multi-well drilling (both described below).

The geotechnical activity is planned to take place over a 3-week period between January 2024 and no later than December 2025. An Environment Plan (EP) for the activity was approved by NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) on January 30, 2024, with activity timing contingent on equipment availability.

BEEHIVE-1 EXPLORATION DRILLING
EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to drill an exploration well known as Beehive-1 in Commonwealth marine waters in permit area WA-488-P. Beehive-1 is located in the Joseph Bonaparte Gulf, approximately 80 km's off the Western Australian coastline and approximately 298 km's southwest of Darwin.

Drilling of the single Beehive-1 exploration well, is planned to take place over a 55 to 100 day period between January 2024 and no later than December 2025. An EP for the activity is currently under assessment with NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) with activity timing contingent on the receipt of EP acceptance, rig and equipment availability.

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The activity is currently expected to take place between January 2025 and December 2029 across one or more drilling campaigns. Each well is expected to take 55 to 100 days to drill. A draft EP is currently being developed. We will provide a link to such EP when it is available to allow you to provide your feedback.

Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under the Beehive-1 Exploration Drilling environmental plan or the Beehive Multi-Well Drilling environmental plan, depending on project timing and objectives at that time.

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[illegible] or QR Code

A version can also be found on the NOPSEMA website here:

Geotechnical investigations:
[illegible]
Drilling:
[illegible]

Beehive Multi-Well Drilling: To be provided when draft is available.

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eog resources

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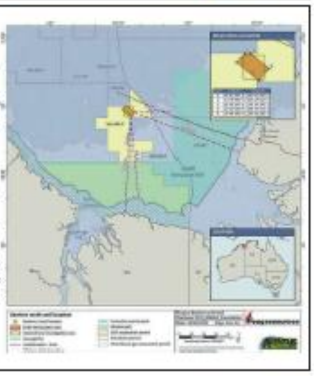
Local Consultant Representative Phone: 0472 519 027



The Kimberley Echo, 29th February 2024

PUBLIC NOTICE

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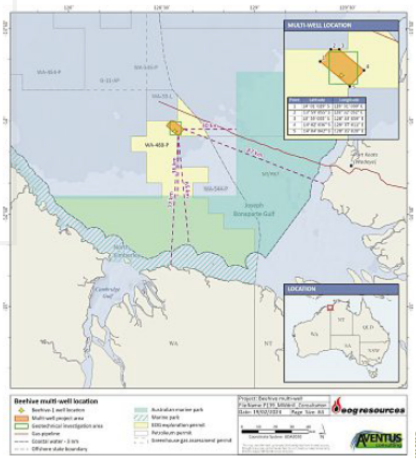

For further information, please contact us at:
Email: australia@eogresources.com
Local Consultant Representative Phone:
0472 519 027

https://www.eogresources.com/australia
or QR Code

eog resources

Classifieds

Phone: 9482 2300 Place an ad: regionalclassifieds@wanews.com.au or go to kimberleyecho.com.au

PUBLIC NOTICES

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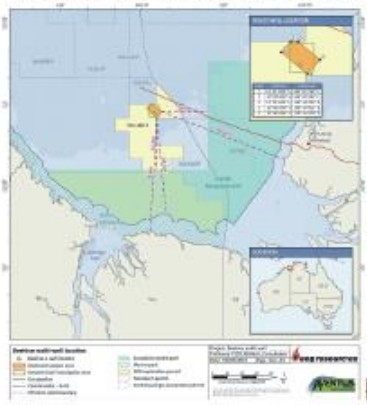
Local Consultant Representative Phone: ***0472 519 027***



https://www.eogresources.com/australia
or QR Code

eog resources

KIMBERLEY PORTS AUTHORITY

Community Consultation Committee Nominations Port of Wyndham

The Port of Wyndham supports the agricultural industry, small cruise vessels, iron ore and nickel industries and is the fuel receival point for the East Kimberley.

In accordance with section 14A of the Port Authorities Act 1999 Kimberley Ports Authority is seeking nominations to fill community representative positions on the Port of Wyndham Community Consultation Committee (**Committee**).

The Committee Charter outlines the membership and objectives of the Committee and can be found on the website, Port of Wyndham Community Consultation Committee Charter or contact the Governance Manager Rosemary Braybrook at rosemary.braybrook@kimberleyports.wa.gov.au on 9194 5100 for a copy.

Nominees are to provide a copy of their (brief) CV, and/or in less than 200 words outline how they will contribute to the Committee.

Nominations should be emailed to the Governance Manager by 4.30pm Friday 15 March 2024.

EMPLOYMENT

kimberley community legal services

WE ARE HIRING

Community Liaison & Education Officer

Generous Salary + Super. Salary packaging and relocation assistance available.

We are searching for the right person to develop, lead and deliver community education regionally. The Community Liaison & Education Officer takes the lead in community engagement and event coordination for KCLS.

The role can be based either in Kununurra or Broome. Local people are encouraged to apply.

For more information contact Sophie Robinson at hr@kcls.org.au

Applications close 10th March 2024

Government of Western Australia
North Regional TAFE

Lecturer Business

Kununurra (Permanent)

Level/Salary: Grade 1–8, $85,555 – $108,501 pa + District & Country Incentive Allowance

We are looking for an inspirational lecturer who is passionate about passing their vocation onto the workforce of the future. This position will be delivering BSB 30120 Certificate III in Business.

Lecturing staff employed in 2024 are eligible to receive a Temporary Regional Incentive of $15,000 (pa, gross – to be adjusted pro rata for FTE). Eligible staff will receive a percentage of this payment on commencement at NRTAFE, with the remainder paid on the anniversary of start date. Staff must remain employed in the location for 12 months to be eligible to receive the second payment.

To Access Detailed Information: Go to www.jobs.wa.gov.au and key in the Web Search No **300008:24**. Applicants are required to apply online.

For Specific Inquiries: Please contact Craig Hutchinson, Training Manager Kununurra on (08) 9168 0840

Closing Date: Friday 8 March 2024, at 4.00pm (WST).

Late applications will not be accepted.

NRTA 2023

KING'S CHURCH KUNUNURRA

A Christian Pentecostal Church

SUNDAYS at 10.00AM

ARGYLE ROOM @THE KIMBERLEY GRANDE RESORT VICTORIA H'WY KUNUNURRA

Sunday school class for 3-11 yo
Enquiries Ph 0407 937 507
Pastors Bruce & Terri Connell

inc international network of churches

King's Church is a member of the INC - International Network of Churches (formerly called Christian Outreach Centre) worldwide. Miracles, healings, changed lives and restored relationships are a part of the way God works through this church.

'TO KNOW GOD AND MAKE HIM KNOWN'

STORAGE

BULL RUN SELF STORAGE UNITS
Various sizes secure storage. From office space to big boat. Ph: Mick Bowles 0429 916 866

ROCKVIEW STORAGE
Ph 0408 928 104
Sml/Lge Storage Units

Share it with Classifieds

The West Australian, 28th February 2024

PUBLIC NOTICE

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https://www.eogresources.com/australia
or QR Code

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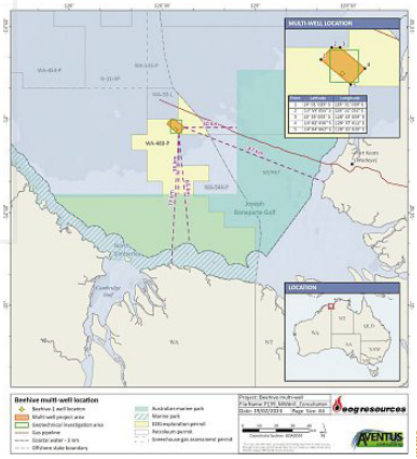

For further information, please contact us at:
Email: australia@eogresources.com
Local Consultant Representative Phone:
0472 519 027

eog resources

480087

PUBLIC NOTICES

Government of **Western Australia**
Department of **Planning, Lands and Heritage**

EXTRACTS FROM ORDERS FOR TAKING LAND
LAND ADMINISTRATION ACT 1997
(Section 177(5)(a))

The land/interests in land in the schedule below has/have been taken by order of the Minister for Lands in accordance with sections 177 and 178 of the *Land Administration Act 1997*. The order(s) has/have been registered by the Registrar of Titles, with registration number(s) stated in the schedule. Extract(s) of order(s) follow:

Location of Land	Designation	Description of Land/Interests Taken	Registration Number of Order	Job Number / Reference
The Land is located at the south-west corner of Lot 2 Adelaide Street in Hazelmere adjacent the north-eastern side of the intersection of Stirling Crescent and Adelaide Street in Hazelmere, within the City of Swan.	Construction of, and dedication as, a road.	That part of Lot 2 on Diagram 19492 now comprised in Lot 500 on Deposited Plan 424378 Part Volume 1301 Folio 113 Area: 0.0844 hectares (Land)	P867929	2201780 / 00203-2022

Copy(s) of the order(s) can be obtained from Landgate, 1 Midland Square, Midland, WA or www.landgate.wa.gov.au.

For other queries, contact Keenan Ross, Manager, Land Management Metropolitan & South Department of Planning, Lands and Heritage, Locked Bag 2506 Perth WA 6001 or Level 2, 140 William Street, Perth Tel (08) 6551 9122.

Dated this 15th day of January 2024.

DIRECTOR GENERAL
DEPARTMENT OF PLANNING, LANDS AND HERITAGE

REAL ESTATE

Country Towns & Properties

BUSSELTON

BUSSELTON [illegible]

To Let

NNN

NORTHBRIDGE [illegible]

Accommodation General

ROOMS AND FLATS

ROOMS TO LET North Perth [illegible]

FOR SALE

Pets and Livestock

PETS

SHIH TZU X MALTESE Puppies [illegible]

EMPLOYMENT

General Positions

RURAL EMPLOYMENT

SHEARERS WANTED [illegible]

Hospitality and Tourism

Bar Manager & Bar Person

Yard Person

[illegible]

Trades and Technical

EMPLOYMENT WANTED

Government of
Western Australia
Department of **Communities**

Child Protection Worker/ Field Worker

Community Services

Web Search No: COM8024

Level/Salary: SCL evel 1 and level 2/4, $70,432 - $100,805, pa + Super - PSCSAA 2022 evel 3, $79,158 - $84,977 pa pro rata + Super - PSCSAA 2022

Child Protection Workers/Field Workers have responsibilities covering all aspects of child protection work. They respond to concerns regarding the safety and wellbeing of children, taking legal action where necessary, and maintain positive links and strong working relationships with other government and non-government agencies.

To Access Detailed Information: Visit www.jobs.wa.gov.au and key in the Web Search No.

For specific Inquiries: Please contact **Elaine Roche Assistant District Director,** on **(08) 6215 1224** or email **elaine.roche@communities.wa.gov.au.**

Location: Kalgoorlie

Closing Date: 22 March 2024 at 4:00pm (WST)

PUBLIC NOTICE

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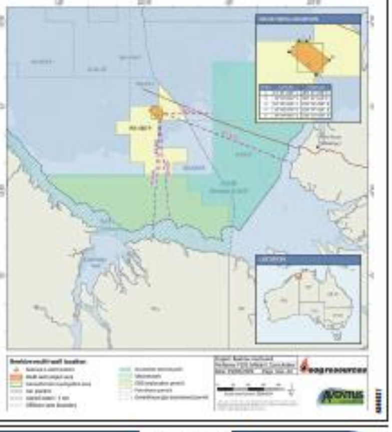

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0472 519 027

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Koori Mail, 28th February 2024

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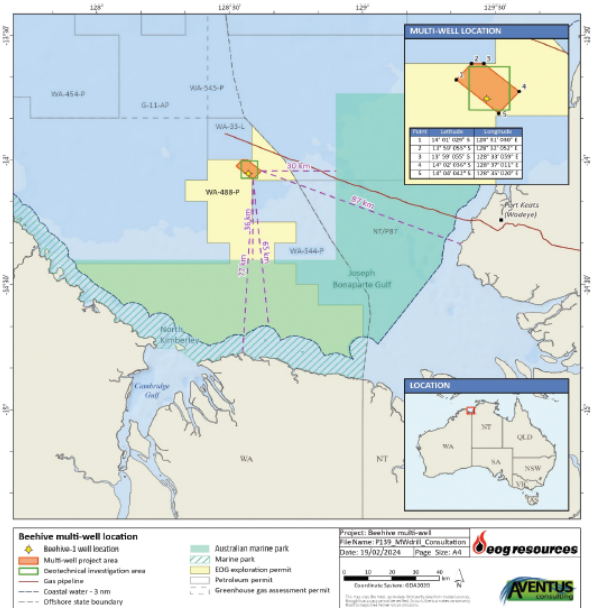
Beehive-1 Exploration Drilling: https://info.nopsema.gov.au/environment_plans/643/show_public
Beehive Multi-Well Drilling: To be provided when draft is available.

EOG is looking to gather information about the social, economic and cultural features near the EOG project area and requests feedback on the functions, activities, and interests in or around the project area that may be affected by our proposed activities. We will assess the merits of any objections or claims made and provide a response outlining our assessment of merit and any actions taken to mitigate the impact.

For further information, please contact us at:

Email: australia@eogresources.com
Local Consultant Representative Phone: **0472 519 027**



Notice of a non-claimant application for determination of native title in New South Wales

National Native Title Tribunal

Notification day: 13 March 2024

A 'non-claimant' application has been made to the Federal Court of Australia (Federal Court) seeking a determination that native title does not exist in the area described below. The Applicant has a non-native title interest in the area, which is set out in their application and summarised below.

Under the *Native Title Act 1993* (Cth), there can be only one determination of native title for an area. Unless there is a relevant native title claim, as defined in section 24FE, over the area described below on or before **12 June 2024**, the area may be subject to protection under section 24FA and **acts may be done which extinguish or otherwise affect native title**.

A person who claims to hold native title rights and interests in this area may wish to file a native title claimant application or become a party to this non-claimant application. These may be the only opportunities to have those rights and interests taken into account in the Federal Court's determination. Any other person may also wish to become a party.

If you want to become a party to this application, you must file a Form 5 (Notice of Intention to become a Party) with the Federal Court, **on or before 12 June 2024**. Further information regarding how to file a Form 5 is available from www.fedcourt.gov.au. After **12 June 2024**, you will need to seek leave from the Federal Court to become a party.

Applicant's name: Awabakal Local Aboriginal Land Council
Federal Court File No: NSD1505/2023
Non-native title interest: The applicant holds an estate in fee simple in relation to the areas comprising the application area but, pursuant to section 36(9) of the *Aboriginal Land Rights Act 1983* (NSW), the applicant's interest is subject to any native title rights and interests which existed in relation to the land immediately prior to its transfer to the applicant
Order sought by Applicant: The applicant seeks a determination that native title does not exist

Relevant LGAs: Cessnock and Newcastle City Councils
Description: The application area covers a combined area of about 0.45 ha over Lots 100 on DP1189336, 2414 on DP755247 and 7301 on DP1154500 and is located in the Hunter Region about 3.5 km, 7 km and 29 km respectively, west of Newcastle

For assistance and further information about this application, call Megan Harris on 07 3052 4921 or visit www.nntt.gov.au.

PUBLIC NOTICE

BEEHIVE GEOTECHNICAL ASSESSMENT

EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to undertake geotechnical investigations in Commonwealth marine waters within permit area WA-488-P. The geotechnical investigations will take place in the Joseph Bonaparte Gulf, within a 50 km2 area off the Western Australian coastline and are in relation to the Beehive-1 exploration drilling project and the Beehive multi-well drilling (both described below).

The geotechnical activity is planned to take place over a 2-week period between January 2024 and no later than December 2025. An Environment Plan (EP) for the activity was approved by NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) on January 29, 2024, with activity timing contingent on equipment availability.

BEEHIVE -1 EXPLORATION DRILLING

EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to drill an exploration well known as Beehive-1 in Commonwealth marine waters in permit area WA-488-P. Beehive-1 is located in the Joseph Bonaparte Gulf, approximately 83 km's off the Western Australian coastline and approximately 294 km's southwest of Darwin.

Drilling of the single Beehive-1 exploration well, is planned to take place over a 55 to 100 day period between January 2024 and no later than December 2025. An EP for the activity is currently under assessment with NOPSEMA (National Offshore Petroleum Safety and Environmental Management Authority) with activity timing contingent on the receipt of EP acceptance, rig and equipment availability.

BEEHIVE MULTI-WELL DRILLING

EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to drill up to three exploratory wells in Commonwealth marine waters in permit area WA-488-P, with each subsequent well after the first depending on finding sufficient hydrocarbons. The Multi-Well drilling activity is located in the Joseph Bonaparte Gulf, a minimum of 77 kms off the Western Australian coastline and around 300 kms southwest of Darwin.

The activity is currently expected to take place between January 2025 and December 2029 across one or more drilling campaigns. Each well is expected to take 55 to 150 days to drill. A draft EP is currently being developed. We will provide a link to such EP when it is available to allow you to provide your feedback.

Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under the Beehive-1 Exploration Drilling environmental plan or the Beehive Multi-Well Drilling environmental plan, depending on project timing and objectives at the time.

To assist you in making your assessment, the current EPs can be found via EOG's website. EOG is committed to continued open engagement to keep our stakeholders informed. You can access the website with the link below for the most up to date project information at any time.

https://www.eogresources.com/australia or QR Code

eog resources

A version can also be found on the NOPSEMA website here:

Geotechnical Assessment: https://info.nopsema.gov.au/environment_plans/805/show_public
Beehive-1 Exploration Drilling: https://info.nopsema.gov.au/environment_plans/643/show_public
Beehive Multi-Well Drilling: To be provided when draft is available.

EOG is looking to gather information about the social, economic and cultural features near the EOG project area and requests feedback on the functions, activities, and interests in or around the project area that may be affected by our proposed activities. We will assess the merits of any objections or claims made and provide a response outlining our assessment of merit and any actions taken to mitigate the impact.

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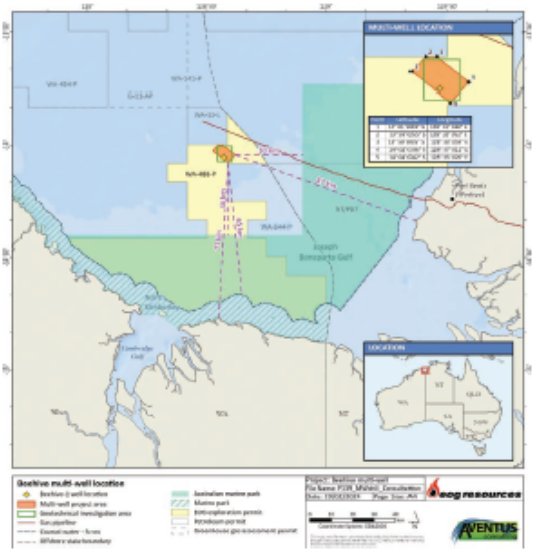
Local Consultant Representative Phone: **0472 519 027**



Appendix 6
Consultation: Project Information Flyers

Beehive-1 Exploration Well

Information Flyer #1

17 September 2021

EOG Resources Inc (EOG) is planning to drill the Beehive-1 exploration well ('the project') in Exploration Permit WA-488-P in the Joseph Bonaparte Gulf in Western Australia (WA) (Figure 1, over page).

Why We're Consulting You

EOG has identified you, your group, organisation or company as a 'relevant person', defined under the Offshore Petroleum and Greenhouse Gas (Environment) Regulations 2009 as someone whose *functions* (power, duty, authority or responsibility), *activities* (things you do or have done) or *interests* (your rights, advantages, duties and liabilities, or concerns) may be affected by the project. Relevant persons typically include Commonwealth, State and Territory government agencies, commercial and recreational fisheries, asset owners and environment groups.

This information flyer aims to introduce you to EOG and provide information about the project and invites you to submit questions or concerns about the project. This process will assist to inform the preparation of the project's Environment Plans (EPs), which are currently in preparation for regulatory submission.

Who is EOG?

EOG is one of the largest independent crude oil and natural gas exploration and production companies in the United States of America (USA).

EOG is in the process of acquiring the WA-488-P exploration permit from Finniss Offshore Exploration Pty Ltd, which is expected to complete in September or October 2021. EOG has operated offshore since 1992, with a history of nearly 30 years in Trinidad & Tobago, the UK North Sea and the USA Gulf of Mexico.

In the past 10 years, EOG has drilled nearly 40 offshore wells, with an excellent safety and environment record.

The Project

EOG aims to explore a known hydrocarbon prospect in WA-488-P located in the Bonaparte Basin. The project is divided into two phases; geophysical and geotechnical (G&G) investigations, followed by drilling.

This information flyer is focused on the first phase of work, the G&G investigations. Additional information flyers will be issued as the project progresses.

Geophysical and Geotechnical Investigations

The G&G investigations are planned to commence any time between the start of February and end of June 2022 (contingent on the receipt of EP acceptance, vessel and equipment availability). They will be undertaken within a 440 km^2 envelope, which is located 163 km from the nearest WA shoreline and 73 km from the nearest Northern Territory (NT) shoreline. Water depths in the project area range from 40 m to 50 m.

The G&G investigations (Figure 2) collect seabed and shallow geological information to inform the safe location of a jack-up drilling rig. The G&G investigations are divided into two phases, as outlined here.

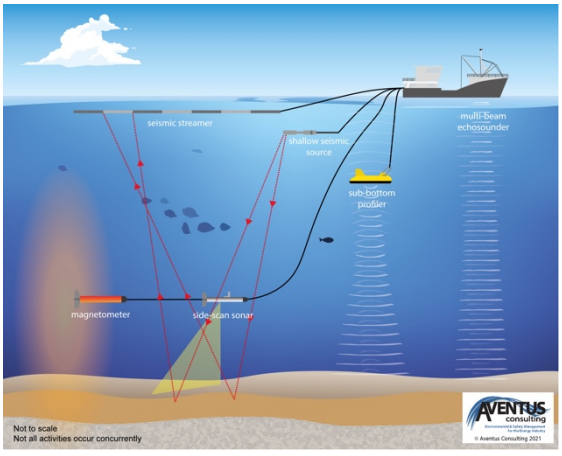


Figure 2. Geophysical investigations

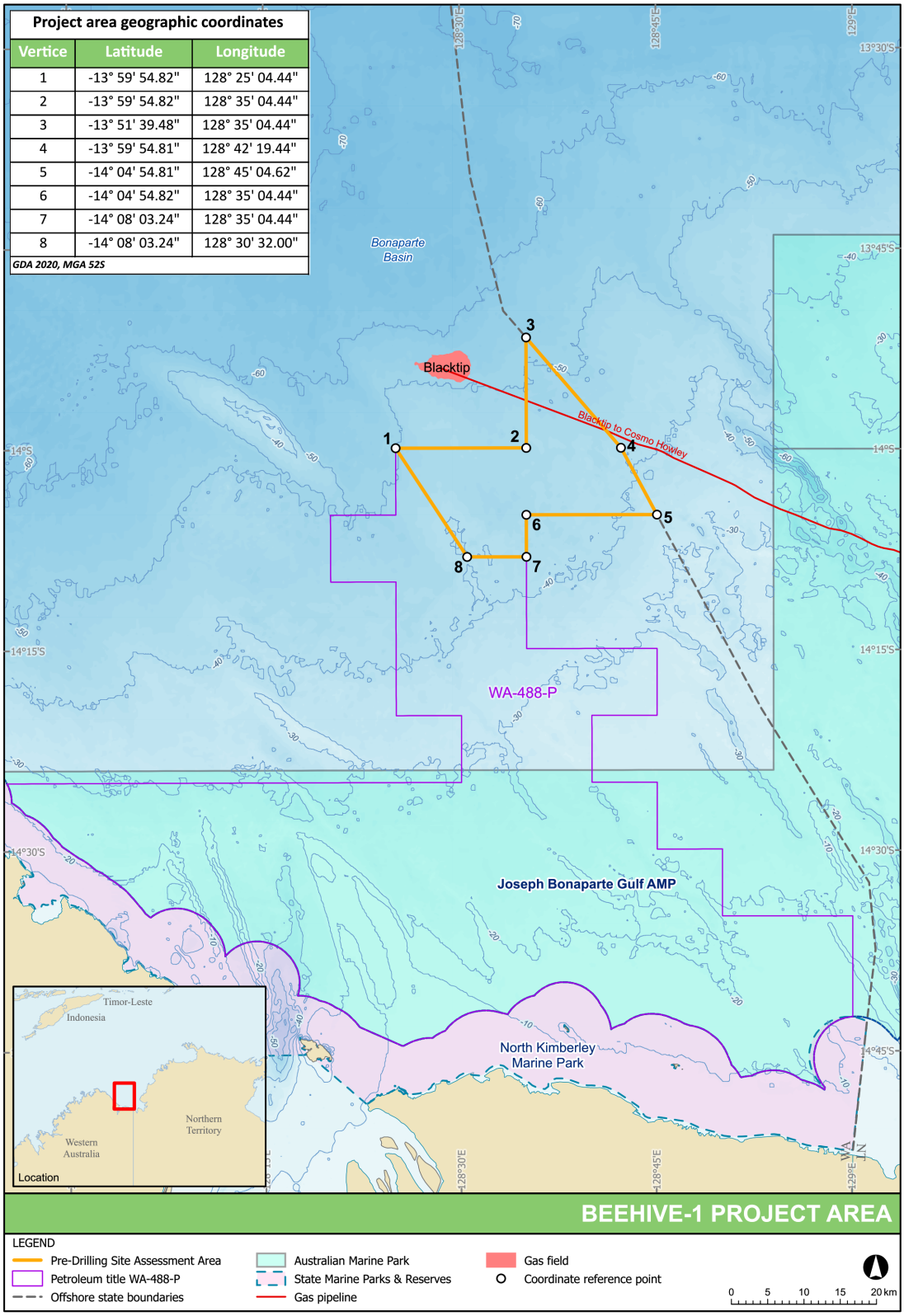


Figure 1. Beehive-1 project area

Geophysical investigations involve the following suite of tests:

- Assess water depths (bathymetry) – using a multi-beam echo sounder (MBES).
- Detect seabed hazards such as pipelines, shipwrecks, reefs and anchors – using a side scan sonar (SSS).
- Map the structure and thickness of uppermost seabed sediments (shallow geology) – using a sub-bottom profiler (SBP).
- Detect metallic objects on or below the seabed, such as cables, anchors, chains, buried pipelines – using a magnetometer.
- Map the near-surface geological hazards, such as shallow gas pockets – using a mini-airgun or sparker system.

The geophysical activities are likely to be conducted using a small, locally-based vessel (as depicted in Figure 2) and is likely to take up to two weeks to complete.

Geotechnical investigations acquire physical measurements and samples of the local shallow geology at and around the potential drill location, using the following techniques:

- Geological analysis of unconsolidated seabed sediments – using grab sampling.
- Geological analysis of formations below the seabed – using coring.
- Determine seabed strength – using piezo cone penetrometer testing (PCPT) and borehole sampling.

The geotechnical investigations are undertaken using a specialised medium-sized vessel, as depicted in Figure 3, and is likely to take up to two weeks to complete. This may be the same vessel as that used to undertake the geophysical investigations.

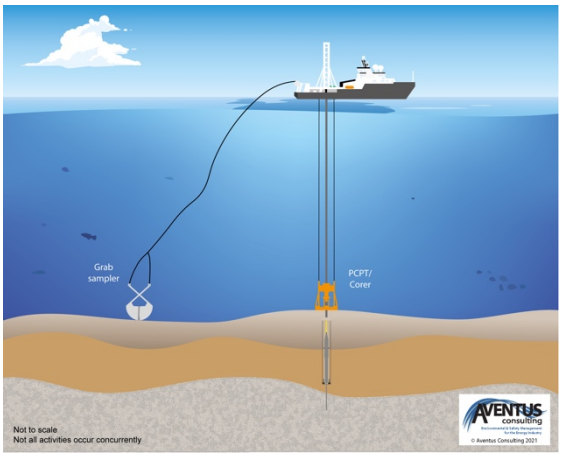


Figure 3. Geotechnical investigations

Drilling

Planning for the drilling campaign is underway. The Beehive-1 well is targeting the Sunbird Formation and anticipates the presence of a light oil or gas condensate.

A jack-up drill rig will drill the well vertically to a depth of about 5,000 m using a water-based mud system, which will take 40-50 days. In the event that hydrocarbons are discovered, well testing (that involves flaring) may take place.

It is anticipated that drilling may commence as early as Q3 2022 (contingent on the receipt of EP acceptance, vessel and equipment availability), but ideally no later than Q2 2023. Further details about the drilling campaign will be provided in future information flyers as planning progresses.

Environment Plans

Preparation of a G&G Investigations EP and a Drilling EP are underway. These will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

The full EPs will be made available on NOPSEMA's website for public exhibition prior to formal assessment by NOPSEMA.

An EP is a comprehensive document that describes the project, outlines stakeholder feedback, details the existing marine and socio-economic environment, describes and assesses impacts and risks and outlines the

control measures to avoid, minimise and mitigate environmental impacts and risks to be acceptable and ALARP (As Low As Reasonably Practicable).

The project will be subject to industry best practice standards and undertaken in accordance with all relevant environmental and safety legislation and regulations.

Features of the Project Area

Features in the project area include:

- Dominated by the Indonesian Throughflow current and strong tides.
- A seabed dominated by flat featureless plains comprising sand and gravel, with localised reefs and outcrops supporting sponge gardens. The G&G investigations will provide more detail about the type of seabed in the project area. The plains contain diverse infaunal communities (e.g., crustaceans and polychaete worms).
- Seasonal presence or likely presence of threatened migratory species including turtles, sharks, sawfish, whales, dolphins and seabirds.
- Low-intensity commercial fishing by the Commonwealth-managed Northern Prawn Fishery (the project area has a 0.06% overlap with the fishery).
- Some commercial fishing by the WA-managed Northern Demersal Scalefish Managed Fishery (mostly goldband snapper and red emperor) and Mackeral Managed Fishery.
- An absence of NT-managed commercial fisheries.
- An absence of known shipwrecks.
- Low commercial shipping traffic.
- An overlap by the Department of Defence North Australian Exercise Area.

Distances from the project area to the following features are:

- The Carbonate bank and terrace system of the Sahul Shelf Key Ecological Feature (KEF) – 13 km.
- The Blacktip unmanned wellhead platform – 13 km.
- Joseph Bonaparte Australian Marine Park (AMP) – 16 km.
- WA North Kimberley Marine Park – 50 km.

A summary of key impacts and risks of the G&G investigations is presented in the following pages.

How to Provide Feedback

EOG encourages you to ask questions or provide feedback on the project using the following contact details:

Email: australia@eogresources.com

Phone: 0409 772 170

EOG will respond to feedback in a timely fashion.

Background project information (and this information flyer) is also available on the EOG website at:
https://www.eogresources.com/australia

Ongoing Consultation

Consultation with relevant persons will be ongoing throughout the project planning phase, with additional information flyers to be distributed at various milestones.

Preliminary environmental impact and risk assessment for the Beehive-1 geophysical and geotechnical investigations (WA-488-P)

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures
Planned events		
Generation of underwater sound from G&G investigations and vessels	Temporary disruption to migration, feeding or breeding patterns for sound-sensitive fauna, such as cetaceans (whales and dolphins).	• In accordance with the EPBC Act Policy Statement 3.1, a 500-m shutdown zone will be maintained during operation of the geophysical equipment to minimise impacts on cetaceans. • Vessel engines and thrusters will be maintained in accordance with planned maintenance system to ensure they are operating efficiently.
	Damage to the Blacktip gas pipeline from sound pulses.	• Shallow gas investigations, using a mini-airgun or sparker system, will not be undertaken over the pipeline.
Seabed disturbance from geotechnical activities	Temporary and localised seabed turbidity. Smothering of seabed habitat by disturbed sediments.	• The vessel will not anchor during geotechnical investigations (it will remain on location using dynamic positioning). • Very low volumes of cuttings and drilling fluids will be discharged during borehole sampling. • Seabed grab sampling and coring activities are extremely localised. • Cored holes are very narrow and will collapse in on themselves and small surface 'craters' will quickly fill in with sediments and recolonise with benthic fauna. • Large bulky items will be securely fastened or stored on the vessel deck to prevent loss to sea. • Any dropped objects will be recovered (where safe to do so).
Routine vessel discharges and emissions		
Atmospheric emissions	Temporary reduction in air quality in the local air shed.	• Vessels >400 gross tonnes will have in place a current International Air Pollution Prevention (IAPP) certificate and Ship Energy Efficiency Management Plan (SEEMP). • Only marine-grade low sulphur diesel (no greater than 0.5% m/m) will be used. • Waste incineration will not take place. • All fuel-burning equipment will be maintained in accordance with planned maintenance systems.
Light glow	Attractant to fauna, temporary increase in predation rates on fauna attracted to lights.	• Vessel lighting will be kept to the minimum required but in accordance with navigational standards and personnel safety requirements for night-time work.

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures
Discharge of treated sewage and grey water	Temporary and localised reduction in water quality.	• Sewage and grey water will be treated in a MARPOL Annex IV-compliant sewage treatment plant prior to discharge (or taken back to port for disposal). • Vessels >400 gross tonnes will have in place a current International Sewage Pollution Prevention (ISPP) certificate. • In the event of a sewage treatment plant malfunction, untreated sewage will only be discharged when > 12 nm from shore or will be offloaded onshore for treatment.
Discharge of cooling water and reverse osmosis (brine)	Temporary and localised elevation in surface water temperature and salinity levels.	• Low impact biocides (chlorine) are used in optimised concentrations in the cooling system. • Engines and associated equipment that require cooling by water will be maintained in accordance with the planned maintenance system so that they are operating within accepted parameters. • Only low-toxicity chemicals (ONCS 'Gold'/'Silver' (CHARM) or 'D'/'E' (non-CHARM)-rated) chemicals are used in the cooling and brine water systems.
Discharge of putrescible waste	Temporary and localised increase in nutrient content of surface and near-surface water quality. Temporary increase in scavenging behaviour of pelagic fish and seabirds.	• Putrescible waste will be macerated to <25 mm prior to discharge (or taken back to shore for disposal). • In the event of macerator malfunction, un-macerated putrescible waste will take place will be discharged when >12 nm of land or returned to shore. • Non-putrescible galley waste will be returned to shore for disposal.
Discharge of bilge water and deck drainage	Temporary and localised reduction in water quality.	• Vessels >400 gross tonnes will have in place a MARPOL Annex I-compliant oily water separator set to limit oil-in-water content to <15 ppm prior to discharge. • Vessels >400 gross tonnes will have a current International Oil Pollution Prevention (IOPP) certificate. • No whole residual bilge oil is discharged overboard (residual oil from the oily water separator is pumped to tanks and disposed of onshore). • Chemical storage areas will be bunded and drain to the bilge tank. • Portable bunds and/or drip trays are used to collect spills or leaks from equipment that is not contained within a permanently bunded area (non-process areas). • Deck cleaning detergents will be biodegradable. • Spills to decks will be cleaned immediately using Shipboard Marine Pollution Emergency Plan (SMPEP) kits.
Unplanned events		
Accidental overboard release of hazardous	Marine pollution (litter and a temporary and localised reduction in	• Vessels >100 gross tonnes or certified to carry more than 15 people will have in place and implement a vessel-specific Garbage Management Plan. • Vessel crew and visitors will be inducted into the waste

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures
and/or non-hazardous waste from the vessels	water quality). Injury and entanglement of individual animals (such as seabirds and turtles) and smothering or pollution of benthic habitats.	management procedures. • A waste manifest will be maintained. • Only small volumes of chemicals will be kept on board and will be stored in secured drums in bunded areas away from open drains. • Bunded areas will drain through a closed system, processed through the oily water separator. • Safety Data Sheets (SDS) will be available in appropriate locations. • SMPEP kits will be available on board for rapid deck clean-up response.
Introduction of invasive marine species from the vessel hulls and/or ballast water	Reduction in native marine species diversity and abundance. Displacement of native marine species. Socio-economic impacts on commercial fisheries. Reduction of conservation values of protected areas.	• Vessels will carry a low risk of invasive marine species introduction (as determined through a vessel contractor pre-qualification report). • Vessels >400 gross tonnes will carry a current International Anti-fouling System (IAFS) Certificate and comply with Marine Order Part 98 (Anti-fouling Systems). • The vessel/s will comply with the: ○ Australian Ballast Water Management Requirements (DAWR, 2020); and ○ National Biofouling Guidance for the Petroleum Production & Exploration Industry (AQIS, 2009). • Towed/submersible equipment will be cleaned (e.g., fouling is removed) prior to initial use in the project area.
Damage to Blacktip subsea gas pipeline (e.g., dropped objects, anchoring)	Loss of pipeline integrity and lost field production.	• Vessel anchoring will not be permitted. • EOG will consult with ENI Australia (pipeline operator) to understand the implications of operating over the pipeline. • The geophysical investigations will be undertaken prior to geotechnical investigations in order to accurately locate the pipeline and put in place geotechnical exclusion buffer around it. • EOG will ensure that the geotechnical vessel contractor has the coordinates of the Blacktip pipeline marked in its navigation system (confirmed during the geophysical survey) to ensure that no geotechnical work is conducted within a nominated buffer around the pipeline.
Vessel strike or entanglement with megafauna (e.g., whales, dolphins, turtles)	Injury or death of individual animals.	• The Australian Guidelines for Whale and Dolphin Watching (DEWHA, 2005) for sea-faring activities will be implemented, which includes caution and no-approach zones around whales and dolphins. • Vessel strike causing injury to or death of a cetacean is reported via the online National Ship Strike Database within 72 hours of the incident. • Entanglement of megafauna in towed equipment is reported to the NT Marine Wildwatch on 1800 453 941 (or WA's Wildcare on 08-9474 9055) as soon as possible. No attempts to disentangle megafauna will be made by project personnel unless instructed

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures
		by Wildwatch or Wildcare. • Vessel crew will complete an environmental induction covering the above-listed requirements.
Displacement of or interference with third-party vessels	Temporary loss of fishing grounds around the vessel safety zone. Trawling gear snagging on towed or submerged equipment.	• The project area is located in an area with low levels of shipping traffic and low fishing effort. • A 'Notice to Mariners' will be issued. • Standard maritime safety precautions will be in place, including: ○ Radar and other anti-collision monitoring equipment to detect other vessels. ○ Display of lights and day shapes. ○ The ability to quickly move off location to avoid other vessels. ○ Warnings issued (radio, flares, lights and horns) to avoid collisions. ○ The Vessel Master will be qualified in accordance with AMSA Marine Orders Part 3 (Seagoing qualifications) (e.g., International Convention of Standards of Watchkeeping for Seafarers, STCW95, GMDSS Proficiency). • The tail buoy on the shallow seismic streamer will have flashing lights and radar reflectors so it is visible to other marine users. • The vessel master will sound the general alarm, manoeuvre the vessel to minimise the effects of the collision and implement all other measures as outlined in the vessel collision procedure. • Vessel collisions will be reported to AMSA if that collision has or is likely to affect the safety, operation or seaworthiness of the vessel or involves serious injury to personnel.
Diesel release due to a vessel-to-vessel collision	Temporary and localised reduction in water quality. Tainting of commercial fisheries species. Injury and/or death of marine fauna and seabirds. Pathological effects on fish larvae and plankton.	• *As per 'displacement of or interference with third-party vessels', plus:* • No refuelling will take place on location. • Vessel crew will be trained in spill response techniques in accordance with the SMPEP and vessel training matrix. • Diesel spill trajectory modelling indicates a very small area of ecological impact in the event of the loss of a whole tank of fuel. • An Oil Pollution Emergency Plan (OPEP) will be developed based on the spill modelling results. • Vessel-specific SMPEP and project-specific OPEP will be implemented in the event of a large spill. • EOG will report the spill to regulatory authorities within 2 hours of becoming aware of the spill.

Beehive-1 Exploration Well

Information Flyer #2

01 December 2021

Update on the Pre-Drill Seabed Assessment

EOG Resources, Inc. (EOG) advises that the Beehive Pre-Drill Seabed Assessment (PDSA) Environment Plan (EP) is now available on the National Offshore Petroleum Safety and Environmental Management Authority's (NOPSEMA) website for public exhibition and comment at https://info.nopsema.gov.au/home/open_for_comment

The following updates have occurred since Information Flyer #1 was issued:

- EOG Resources Australia Block WA-488 Pty Ltd, a subsidiary of EOG, is now the sole titleholder of the WA-488-P Exploration Permit;
- The activity window has been amended and is now April to August 2022 (exact timing dependent on the receipt of EP acceptance, weather, and vessel/equipment availability), rather than February to June 2022 as previously stated; and
- The PDSA activity area has been reduced by 100 km^2 from 440 km^2 to an area of 340 km^2.

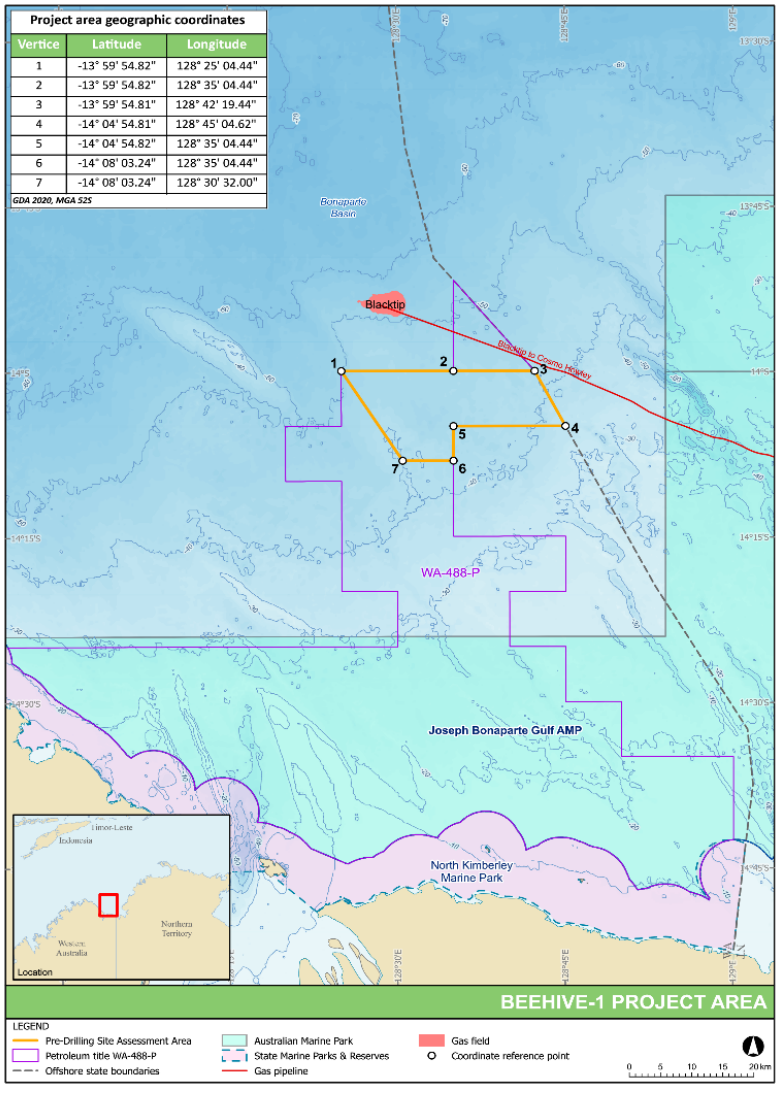


Figure 1. Updated Beehive PDSA location

How to Provide Feedback

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Email: australia@eogresources.com

Phone: 0409 772 170

EOG will respond to feedback in a timely fashion.

Background project information (and this information flyer) is also available on the EOG website at: **https://www.eogresources.com/australia**

Ongoing Consultation

Consultation with relevant persons will be ongoing throughout the project planning and during preparation of the Beehive-1 Drilling EP.

Beehive-1 Exploration Well

Information Flyer #3

28 February 2022

EOG Resources Australia Block WA-488 Pty Ltd, a subsidiary of EOG Resources, Inc. (together 'EOG') is the Titleholder of Exploration Permit WA-488-P in the Joseph Bonaparte Gulf in Western Australia (WA).

EOG is planning to drill the Beehive-1 exploration well ('the project') (Figure 1, over page). The Beehive-1 well is targeting the Sunbird Formation and anticipates the presence of a light crude oil.

Why We're Consulting You

EOG has identified you, your group, organisation or company as a 'relevant person', defined under the Offshore Petroleum and Greenhouse Gas (Environment) Regulations 2009 as someone whose *functions* (power, duty, authority or responsibility), *activities* (things you do or have done) or *interests* (your rights, advantages, duties and liabilities, or concerns) may be affected by the project. Relevant persons typically include Commonwealth, State and Territory government agencies, commercial and recreational fisheries, asset owners and environment groups.

This information flyer aims to introduce you to EOG and provide information about the project and invites you to submit questions or concerns about the project. This process will assist to inform the preparation of the project's drilling Environment Plan (EP), which is currently in preparation for regulatory submission and acceptance.

Who is EOG?

EOG is the one of the largest independent crude oil and natural gas exploration and production companies in the United States of America (USA). EOG acquired the WA-488-P exploration permit from Finniss Offshore Exploration Pty Ltd in November 2021 with the aim of exploring known hydrocarbon prospects in the Bonaparte Basin.

EOG has operated offshore since 1992, a history of 30 years with assets in Trinidad and Tobago, UK North Sea, and the US Gulf of Mexico. In the past 10 years, EOG has drilled nearly 40 offshore wells with an excellent safety and environmental record.

The Project

The Beehive-1 exploration well is situated within Commonwealth marine waters 83 kilometres (km) off the WA coastline and 300 km southwest of Darwin in a water depth of 40 m. Drilling of the Beehive-1 exploration well is the second phase of work following the geophysical and geotechnical (G&G) investigations that are planned to occur over 4-6 weeks between April and August 2022.

This information flyer is focused on the proposed drilling activities. Additional information flyers will be issued as the project progresses.

Drilling Activities

Drilling is planned to occur between Q4 2022 and Q3 2023 (contingent on the receipt of EP acceptance, including drill rig and equipment availability).

Drilling activities are estimated to take approximately 50 to 90 days. The duration of drilling may be subject to change based on geological conditions and potential for operational challenges (e.g., sea state). Operations will be conducted 24 hours per day, seven days per week.

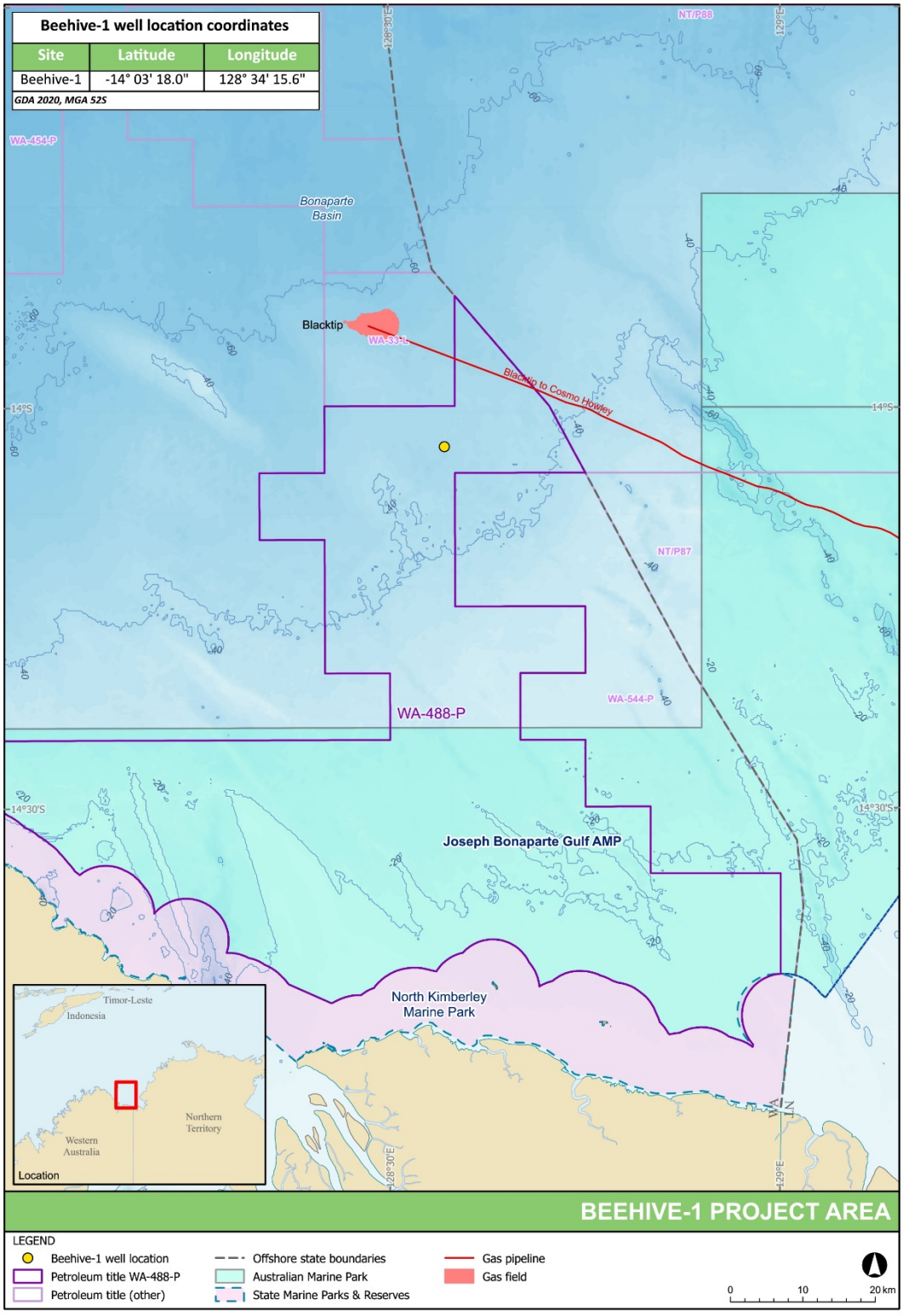


Figure 1. Beehive-1 Location map

Approach and Equipment

EOG proposes to undertake the activity using a jack-up mobile offshore drilling unit (MODU) with a 500 m exclusion zone. There will also be auxiliary activities including the use of support vessels and helicopters.

EOG is currently evaluating the availability of drill rigs for this activity. Further information on the nominated drill rig will be made available as part of EOG's ongoing consultation.

The approach to and setup of the jack-up MODU on location is summarised in Figure 2, over page.

Drilling Program

The following phases describe the planned drilling activity:

- Move the MODU to location, position MODU, pre-load and jack-up to operational elevation.
- Drill conductor hole and run conductor pipe.
- Drill surface hole section.
- Run and cement surface casing.
- Install the surface wellhead and blowout preventor (BOP).
- Perform a pressure test.
- Drill intermediate hole section(s).
- Run and cement intermediate pipe (casing) strings.
- Drill remaining sections to well total depth (TD).
- Run well evaluation program (wireline logging, sidewall cores, vertical seismic profiling [VSP] and possibly a drill stem test).
- Plug and abandon (P&A) or temporarily suspend the well.
- Demobilise the MODU and tow it away.

Environment Plan

Preparation of a Drilling EP is underway. This will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

The full EP will be made available on NOPSEMA's website for public exhibition prior to formal assessment by NOPSEMA.

The EP is a comprehensive document that describes the project, outlines stakeholder feedback, details the existing marine and socio-economic environment, describes and assesses impacts and risks (see Table 1) and outlines the control measures to avoid, minimise and mitigate environmental impacts and risks to be acceptable and ALARP (As Low as Reasonably Practicable).

The project will be subject to industry best practice standards and undertaken in accordance with all relevant environmental and safety legislation and regulations.

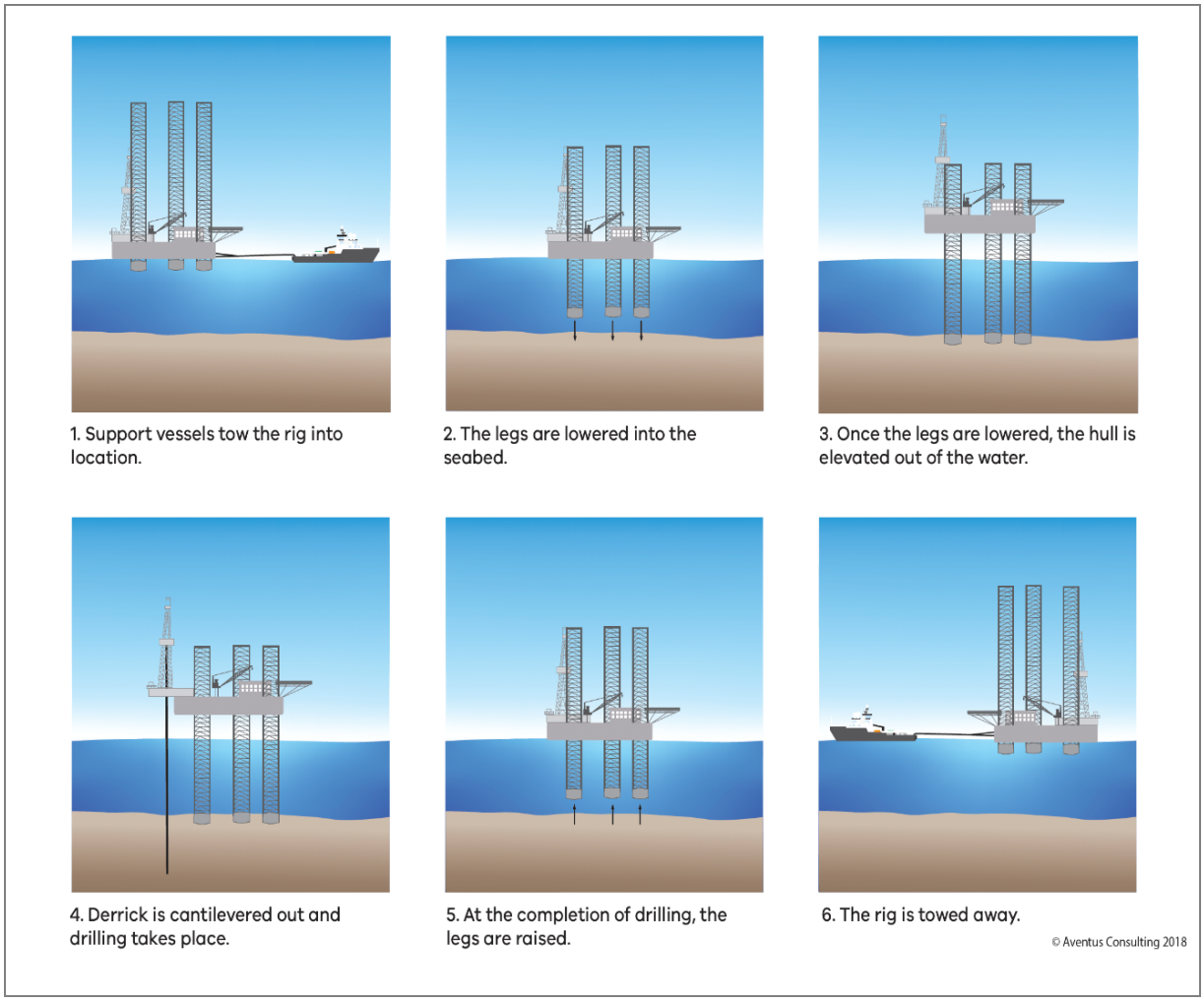


Figure 2. Overview of the jack-up MODU setup

Ongoing Consultation

Consultation with relevant persons will be ongoing throughout the project planning phase, with additional information flyers to be distributed at various milestones.

How to Provide Feedback

EOG encourages you to provide feedback on the project using the following contact details:

Email: australia@eogresources.com

Phone: 0409 772 170

EOG will respond to feedback in a timely fashion.

Additional background project information (and this information flyer) is available on the EOG website at:
https://www.eogresources.com/australia

Table 1. Preliminary environmental impact and risk assessment for Beehive-1 exploration well drilling

Hazard	Potential impacts & risks	Preliminary avoidance, mitigation & management strategies
Planned Events		
Physical presence		
Seabed disturbance	• Physical removal or disturbance of seabed sediments. • Increase in turbidity of the water column near the seabed.	• Seabed disturbance will be kept to the minimum area necessary for safe operations. • Procedures will be in place to avoid objects being dropped overboard. • If large objects are dropped overboard, they will be retrieved wherever possible.
Displacement of other marine users	• Diversion from a planned travel route and additional time to re-join the planned route. • Increased fuel use (and cost) as a result of this diversion. • Temporary exclusion from fishing grounds.	• The exclusion zone will be reduced to the lowest area possible for safe operations. • The required area of displacement for the duration of the activity will be communicated to commercial fisheries and authorities.
Routine emissions and discharges		
Light	• Light glow may act as an attractant to light-sensitive species, in turn affecting predator-prey dynamics (due to attraction to or disorientation from light). • Continuous lighting may result in localised alterations to normal marine fauna behaviours.	• MODU and support vessel external lighting will be kept to levels required for navigation and safety of deck operations. • Blinds on portholes and windows will be lowered on support vessels at night. • Lighting will be directed to working areas only (i.e., not overboard, unless in an emergency). • The duration of flaring will be kept to the minimum time necessary.
Air	• Localised and temporary decrease in air quality due to emissions from diesel combustion. • Addition of greenhouse gas (GHG) to the atmosphere (influencing climate change).	• Only low sulphur (<0.5% m/m) marine diesel oil will be used. • A planned maintenance system (PMS) will be implemented for combustion equipment. • International Air Pollution Prevention (IAPP) certification will be maintained. • A Ship Energy Efficiency Management Plan (SEEMP) will be in place and implemented. • An Ozone Depleting Substances (ODS) procedure will be in place and implemented. • Waste incineration will be managed in accordance with MARPOL and Marine Orders. • The duration of flaring will be kept to the minimum time necessary. • Fuel use will be monitored for abnormal consumption.

Hazard	Potential impacts & risks	Preliminary avoidance, mitigation & management strategies
Noise	• Behavioural effects to sound-sensitive species (e.g., whales). • Temporary or permanent threshold shift in sound-sensitive species (e.g., whales).	• EPBC Policy Statement 2.1 – Part A (Standard management procedures) will be implemented during VSP activities. • Environmental awareness induction will be provided for all crew. • Vessels and helicopters will comply with EPBC Regulations 2000. • Vessel engines and thrusters will be well maintained.
Drill cuttings and muds	• Localised and temporary increase in total suspended solids in the water column. • Smothering of benthic habitat and fauna. • Alteration of benthic substrate. • Potential toxicity impacts to fauna. • Reduction of visual amenity from turbidity plumes.	• Water-based mud (WBM) will be used for drilling (rather than synthetic- or oil-based muds). • Only low-toxicity additives will be added to the WBM system. • Mud operations will be managed to minimise discharge volumes. For example, shaker screens are used to maximise mud separation prior to overboard discharge.
Cement	• Localised and temporary increased turbidity of the water column. • Smothering of benthic habitat and fauna. • Alteration of benthic substrate. • Potential toxicity impacts to fauna.	• Cement operations will be managed to minimise discharge volumes. For example, once good returns are noted at the seabed, the mixing and pumping of cement will cease and displacement of the string with drilling fluid will begin. • Only low-toxicity additives will be added to the cement system.
Putrescible waste	• Temporary and localised increase in the nutrient content of waters surrounding the discharge point. • An associated increase in scavenging behaviour of marine fauna and seabirds (at the sea surface or within the water column).	• A Garbage Management Plan will be in place and implemented. • Putrescible waste will be treated as per MARPOL Annex V requirements prior to discharge. • Environmental awareness induction will be provided for all crew.
Sewage and grey water	• Increase in the nutrient content of surface waters around the MODU and support vessels. • An associated increase in scavenging behaviour of marine fauna and seabirds (at the sea surface or within the water column).	• Treatment will be via a MARPOL-compliant sewage treatment plant prior to overboard discharge. • The sewage treatment plant will be maintained in accordance with the PMS.
Cooling and brine water	• Increase in sea water temperature, causing thermal stress to marine biota.	• Engines and associated equipment that require cooling by water will be maintained in accordance with the PMS so they are operating within accepted parameters.

Hazard	Potential impacts & risks	Preliminary avoidance, mitigation & management strategies
	• Increase in sea surface salinity, potentially causing harm to fauna unable to tolerate higher salinity. • Potential toxicity impacts to marine fauna from the ingestion of residual biocide and scale inhibitors.	• Only low-toxicity biocide will be used.
Bilge water and deck drainage	• Temporary and localised reduction of surface water quality around the discharge point. • Acute toxicity to marine fauna through ingestion of contaminated water in a small mixing zone.	• All bilge water passes through a MARPOL-compliant oily water system set to limit oily-in-water to <15 ppm prior to overboard discharge. • The oily water system is maintained in accordance with the PMS. • Bunding of hydrocarbons and chemical storage areas. • Shipboard Marine Pollution Emergency Plan (SMPEP) is in place. • Use of non-toxic, biodegradable deck cleaning products. • Spill kits are availability on deck and crew are trained in spill response.
Unplanned Events		
Accidental discharge of waste to the ocean	• Marine pollution. • Acute toxicity to marine fauna through ingestion or absorption. • Injury and entanglement of individual animals (such as seabirds and seals). • Smothering or pollution of benthic habitats.	• Waste is managed in accordance with the Garbage Management Plan. • Recover accidentally discharged wastes or lost equipment. • Chemical lockers are in place and used. • Follow established handling and storage procedures. • All crew are inducted in waste management procedures.
Vessel collision with megafauna	• Injury or death of marine megafauna (e.g., whales, dolphins, turtles).	• Australian National Guidelines for Whale and Dolphin Watching (2017) are implemented by the support vessels. • All vessel crew are inducted in the guidelines. • Incident reporting procedure will be in place.
Introduction and establishment of invasive marine species (IMS)	• Reduction in native marine species diversity and abundance. • Depletion of commercial fish stocks (and associated socio-economic effects). • Changes to conservation values of protected areas.	• A MODU and support vessels already in Australia are likely to be used (reducing the risk of introducing IMS). • An IMS risk assessment will be undertaken. • The International Anti-fouling System (IAFS) Certification will be maintained. • Implement a Biofouling Management Plan and Biofouling Record Book. • Implement a Ballast Water Management Plan. • Incident reporting procedure will be in place.

Hazard	Potential impacts & risks	Preliminary avoidance, mitigation & management strategies
Interference with other marine users	• Damage to third-party vessels in the case of collision. • Damage to or loss of fishing equipment and/or loss of commercial fish catches.	• An Exclusion (Safety) zone will be designated around the MODU. • Navigation equipment and associated procedures will be used, including constant bridge watch. • Crew will be appropriately qualified. • Stakeholder notification process will be in place.

Marine diesel oil spill	• Temporary and localised reduction in water quality.
	• Injury or death of exposed marine fauna and seabirds.
	• Habitat damage where the spill reaches shorelines.
	• Changes to the functions, interests or activities of other users (e.g., commercial fisheries).
		• As per '*Interference with other marine users*.'
		• A bunkering procedure for any at-sea refuelling will be used.
		• Crews will be trained in spill prevention and response.
		• The following plans will be implemented in the event of a spill:
		  ○ SMPEP.
		  ○ Project-specific Oil Pollution Emergency Plan (OPEP).
		  ○ Project-specific Operational and Scientific Monitoring Program (OSMP).

Loss of well containment	• Temporary but potentially widespread reduction in water quality. • Tainting of commercial fisheries species. • Injury and death of species such as seabirds. • Pathological effects on fish larvae and plankton. • Pollution of shoreline habitats such as sandy beaches, mudflats and mangroves.	• Well design (including casing) will be based on geotechnical data and previously drilled wells in the area (i.e., review of offset well data). • Continuous monitoring of mud weight and other mud flow parameters will occur to ensure primary well control barrier is operating as designed. • Blow out preventer (BOP) will be tested and installed before entering the hydrocarbon zone. • Well casing will be pressure tested after drilling prior to drilling ahead. • Well control exercises will be undertaken. • An approved Well Operations Management Plan (WOMP) and Safety Case Revision will be in place. • A blowout contingency plan will be in place. • EOG will be a member of the Australian Marine Oil Spill Centre (AMOSC), who would be called upon to assist in spill response.
Hydrocarbon spill response activities	• Routine and non-routine impacts and risks associated with vessel operations. • Noise disturbance to marine fauna and shoreline species by aircraft and vessels.	• Maintain access to spill response capabilities (including capable personnel and equipment) and implement as required. • An appropriate distance will be maintained from marine fauna during spill response activities.

Beehive-1 Exploration Well

Information Flyer #4

11 May 2022

EOG Resources Australia Block WA-488 Pty Ltd, a subsidiary of EOG Resources, Inc. (together 'EOG') is the Titleholder of Exploration Permit WA-488-P in the Joseph Bonaparte Gulf in Western Australia (WA).

EOG is planning to drill the Beehive-1 exploration well ('the project') (see attached map). The Beehive-1 well is targeting the Sunbird Formation and anticipates the presence of a light crude oil.

Why We're Consulting You

EOG has previously consulted with you, your group, organisation or company as a 'relevant person', defined under the Offshore Petroleum and Greenhouse Gas (Environment) Regulations 2009 as someone whose *functions* (power, duty, authority or responsibility), *activities* (things you do or have done) or *interests* (your rights, advantages, duties and liabilities, or concerns) may be affected by the project. Relevant persons typically include Commonwealth, State and Territory government agencies, commercial and recreational fisheries, asset owners and environment groups.

This information flyer provides an update on project planning.

Who is EOG?

EOG is the one of the largest independent crude oil and natural gas exploration and production companies in the United States of America (USA). EOG acquired the WA-488-P exploration permit from Finniss Offshore Exploration Pty Ltd in November 2021 with the aim of exploring known hydrocarbon prospects in the Bonaparte Basin.

EOG has operated offshore since 1992, a history of 30 years with assets in Trinidad and Tobago, UK North Sea, and the US Gulf of Mexico. In the past 10 years, EOG has drilled nearly 40 offshore wells with an excellent safety and environmental record.

The Project

The Beehive-1 exploration well is situated within Commonwealth marine waters 83 kilometres (km) off the WA coastline and 300 km southwest of Darwin in a water depth of approximately 40 metres (m).

Drilling of the Beehive-1 exploration well is the second phase of work following the pre-drilling seabed assessment (PDSA) (also known as geophysical and geotechnical investigations) that are planned to occur between June and August 2022.

Geophysical Investigations

The G&G Environment Plan (EP) was accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) in March 2022 (see this link).

The geophysical survey is scheduled to commence in early June 2022. EOG has contracted Fugro to undertake the survey, using the vessel *MV Outer Limit*. The survey is scheduled to take place from 1st June to 1st July 2022 in the area shown in Figure 1.

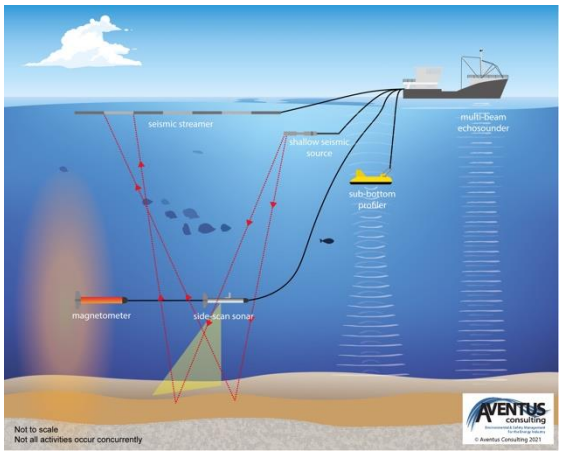
EOG has issued advice about the survey to the Australian Hydrographic Office to enable the Notice to Mariners to include the survey details. The vessel will be towing equipment approximately 100 m behind the vessel and EOG kindly requests other vessels to maintain a 500 m separation from the *MV Outer Limit* while it is undertaking survey operations.

The MV Outer Limit

The *MV Outer Limit* is a 35 m long vessel and its contact details are as follows:

- Call sign – VJN3640
- Communications – using VHF Channel 16, displaying flags India over Romeo during survey operations.

A simplified representation of the geophysical survey techniques is shown in the diagram below.



Geophysical survey techniques

Geotechnical Investigations Update

The geotechnical investigation work will soon be awarded and is scheduled to commence in August 2022. Further information on this phase of work will be provided once the choice of contractor and vessel is confirmed.

Drilling Update

Drilling is planned to occur between Q1 and Q3 2023 (contingent on the receipt of EP acceptance, including drill rig and equipment availability).

Drilling activities are estimated to take approximately 50 to 90 days.

The drilling EP is now available on NOPSEMA's website for public exhibition for 30 days, until 8th June 2022. The EP can be accessed at this link. After this time, the EP will then be submitted to NOPSEMA for assessment.

The EP is a comprehensive document that describes the project, outlines feedback from relevant persons, details the existing marine and socio-economic environment, describes and assesses impacts and risks and outlines the control measures to avoid, minimise and mitigate environmental impacts and risks to be acceptable and ALARP (As Low as Reasonably Practicable).

Ongoing Consultation

Consultation with relevant persons will be ongoing throughout the project planning phase, with additional information flyers to be distributed at various milestones.

How to Provide Feedback

EOG encourages you to provide feedback on the project using the following contact details:

General Inquiries:
australia@eogresources.com

PDSA Specific Inquiries:
australia_pdsa@eogresources.com

Phone: 0409 772 170

EOG will respond to feedback in a timely fashion.

Additional background project information (and this information flyer) is available on the EOG website at:
https://www.eogresources.com/australia

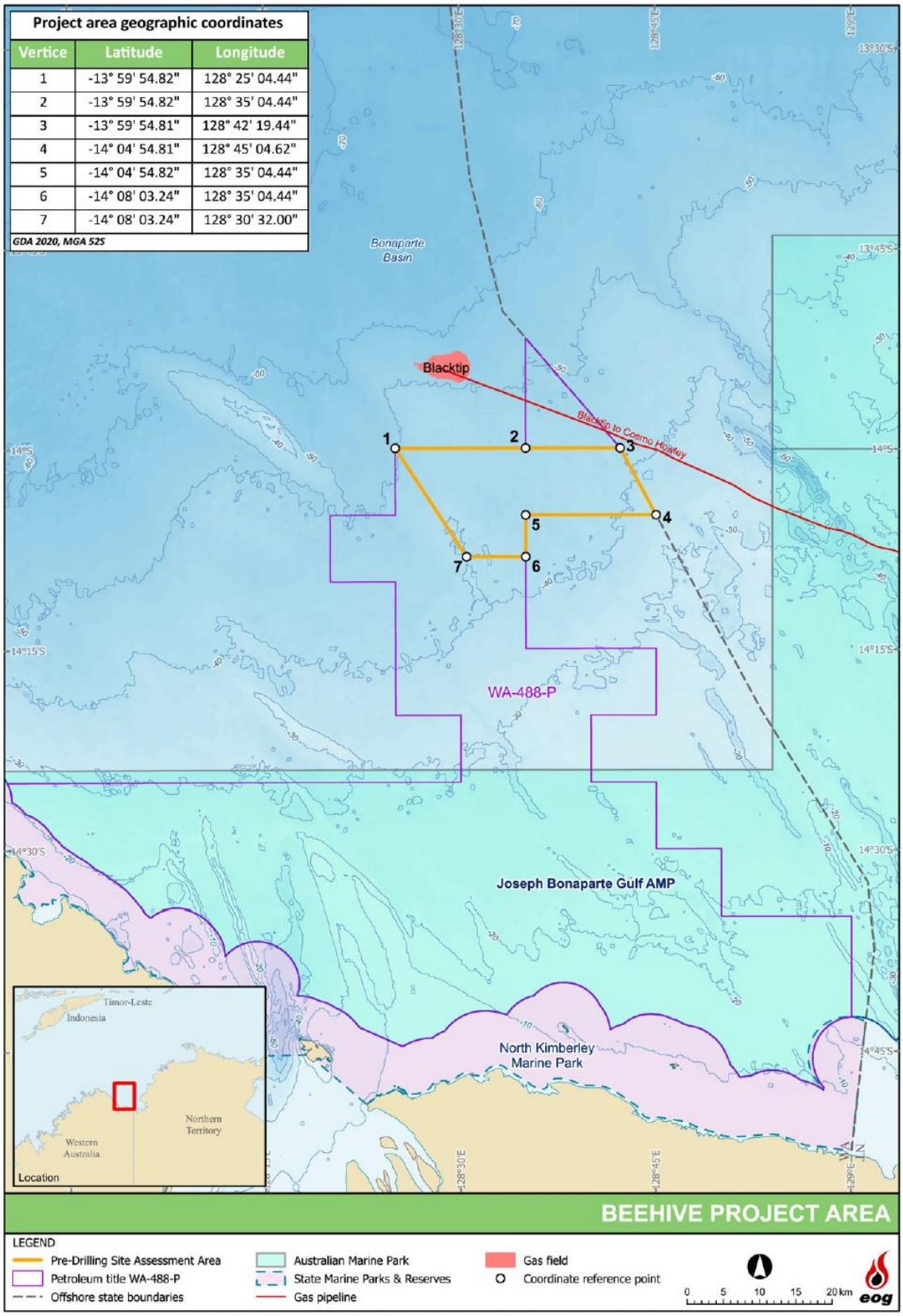


Figure 1. The Beehive-1 Project Area

Beehive-1 Exploration Well

Information Flyer #5

27 June 2022

EOG Resources Australia Block WA-488 Pty Ltd, a subsidiary of EOG Resources, Inc. (together 'EOG') as the Titleholder of Exploration Permit WA-488-P is planning to drill the Beehive-1 exploration well ('the project') in the Joseph Bonaparte Gulf in Western Australia (WA) (Figure 1, over page).

Why We're Consulting You

EOG has previously consulted with you, your group, organisation or company as a 'relevant person', defined under the Offshore Petroleum and Greenhouse Gas (Environment) Regulations 2009 as someone whose functions (power, duty, authority or responsibility), activities (things you do or have done) or interests (your rights, advantages, duties and liabilities, or concerns) may be affected by the project. Relevant persons typically include Commonwealth, State and Territory government agencies, commercial and recreational fisheries, and asset owners.

This information flyer provides an update on the project.

Who is EOG?

EOG is one of the largest independent crude oil and natural gas exploration and production companies in the United States of America (USA). EOG acquired the WA-488-P exploration permit from Finniss Offshore Exploration Pty Ltd in November 2021 with the aim of exploring known hydrocarbon prospects in the Bonaparte Basin.

EOG has operated offshore since 1992, with a history of nearly 30 years in Trinidad & Tobago, the UK North Sea and the USA Gulf of Mexico. In the past 10 years, EOG has drilled nearly 40 offshore wells, with an excellent safety and environment record.

The Project

EOG aims to explore a known hydrocarbon prospect in WA-488-P located in the Bonaparte Basin. The project includes geophysical and geotechnical investigations to characterise the seabed (collectively known as Pre-Drill Seabed Assessment or PDSA), prior to drilling an exploration well.

The *Beehive PDSA Environment Plan* (EP) for the geophysical and geotechnical investigations was accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) on 2 March 2022 (link) and is approved for activities up till August 2022. The geophysical investigations are currently underway and are expected to be completed soon.

The geotechnical investigations are now expected to commence by Q2 2023, therefore EOG will prepare and submit a new EP for submission to NOPSEMA.

This information flyer is focused on the new EP for the geotechnical investigations. Additional information flyers will be issued as the project progresses.

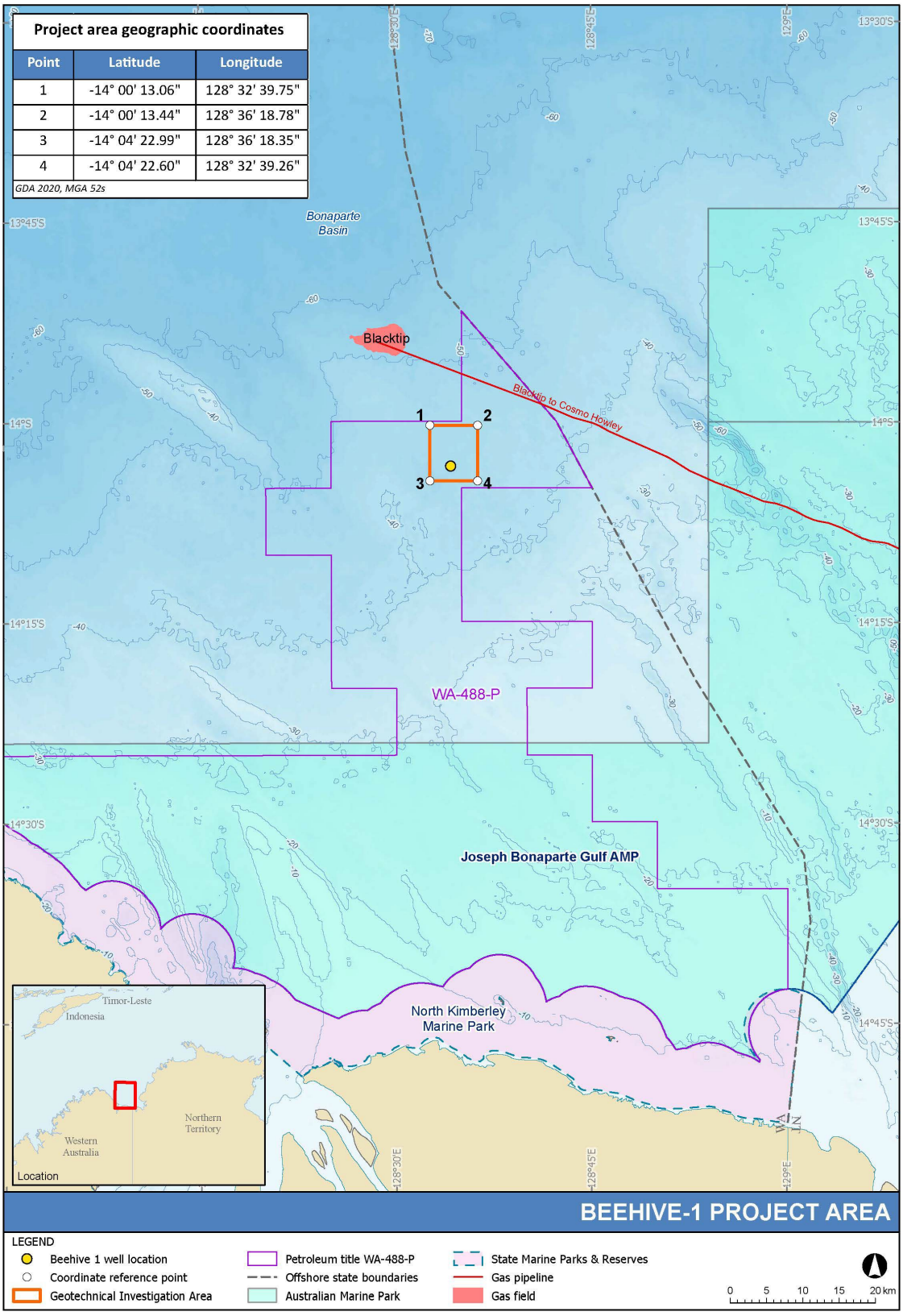


Figure 1. Beehive-1 project area

Geotechnical Investigation

The geotechnical investigations are planned to commence any time prior to Q2 2023 (contingent on the receipt of EP acceptance, vessel and equipment availability). They will be undertaken within a small area (approximately 50 km^2) located 77 km from the nearest WA shoreline and 87 km from the nearest Northern Territory (NT) shoreline. Water depths in the project area range from 40 m to 50 m.

The geotechnical investigations acquire physical measurements and samples of the local shallow geology at and around the potential drill location, using the following techniques (Figure 2):

- Geological analysis of unconsolidated seabed sediments – using grab sampling.
- Geological analysis of formations below the seabed – using coring.
- Determine seabed strength – using piezo cone penetrometer testing (PCPT) and borehole sampling.

The geotechnical investigations are undertaken using a specialised medium-sized vessel and are likely to take up to two weeks to complete.

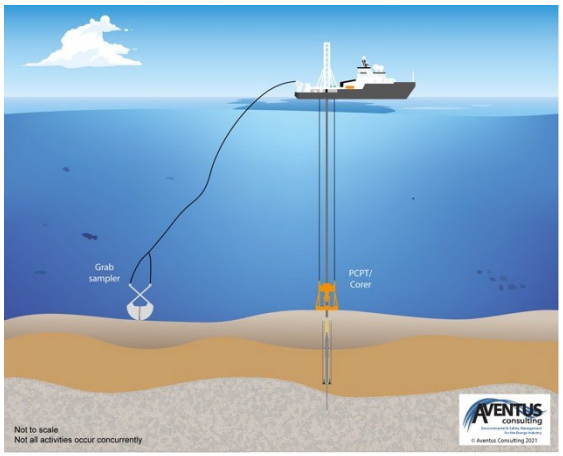


Figure 2. Geotechnical investigations

Drilling

Planning for the drilling campaign is underway. The Beehive-1 well is targeting the Sunbird Formation and anticipates the presence of a light oil or gas condensate.

A jack-up drill rig will drill the well vertically to a depth of about 5,000 m using a water-based mud system, which will take 40-50 days. In the event that hydrocarbons are discovered, well testing (that involves flaring) may take place.

It is anticipated that drilling will commence by Q3 2023 (contingent on the receipt of EP acceptance, vessel and equipment availability). Further details about the drilling campaign will be provided in future information flyers as planning progresses.

Environment Plans

As noted above, the *Beehive PDSA EP* was accepted by NOPSEMA on 2 March 2022. The EPs for the *Geotechnical Investigations* and for *Exploration Drilling* are currently being prepared. These will be submitted to the NOPSEMA for assessment. The *Exploration Drilling EP* has previously been made available on NOPSEMA's website for public exhibition prior to formal assessment by NOPSEMA.

An EP is a comprehensive document that describes the project, outlines stakeholder feedback, details the existing marine and socio-economic environment. It describes and assesses impacts and risks and outlines the control measures to avoid, minimise and mitigate environmental impacts and risks to be acceptable and ALARP (As Low As Reasonably Practicable).

The project will be subject to industry best practice standards and undertaken in accordance with all relevant environmental and safety legislation and regulations.

Features of the Project Area

Features in the project area include:

- Dominated by the Indonesian Throughflow current and strong tides.
- A seabed dominated by flat featureless plains comprising sand and gravel, with localised reefs and outcrops supporting sponge gardens. The plains contain diverse infaunal communities (e.g., crustaceans and polychaete worms).
- Seasonal presence or likely presence of threatened migratory species including turtles, sharks, sawfish, whales, dolphins and seabirds.
- Low-intensity commercial fishing by the Commonwealth managed Northern Prawn Fishery (the project area has a 0.006% overlap with the fishery).
- Some commercial fishing by the WA managed fisheries, including the Northern Demersal Scalefish Managed Fishery and the Mackeral Managed Fishery.
- An absence of NT managed commercial fisheries.
- An absence of known shipwrecks.
- Low commercial shipping traffic.
- An overlap by the Department of Defence North Australian Exercise Area.

Distances from the project area to the following features are:

- The Carbonate bank and terrace system of the Sahul Shelf Key Ecological Feature (KEF) – 13 km.
- The Blacktip unmanned wellhead platform – 13 km.
- Joseph Bonaparte Australian Marine Park (AMP) – 31 km.
- WA North Kimberley Marine Park – 64km.

The geotechnical investigations will provide more detail about the type of seabed in the project area. A summary of key impacts and risks from the geotechnical investigations is presented in the following pages.

How to Provide Feedback

EOG encourages you to ask questions or provide feedback on the project using the following contact details:

General Inquiries:
australia@eogresources.com

PDSA Specific Inquires:
australia_pdsa@eogresources.com

Phone: 0409 772 170

EOG will respond to feedback in a timely fashion.
Additional background project information (and this information flyer) is also available on the EOG website at:
https://www.eogresources.com/australia

Ongoing Consultation

Consultation with relevant persons will be ongoing throughout the project, with additional information flyers to be distributed at various milestones, and in response to any potential changes in the project

Preliminary environmental impact and risk assessment for the Beehive-1 geotechnical investigations (WA-488-P)

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures
Planned events		
Generation of underwater sound from the geotechnical investigations and vessels	Minor, temporary and localised disruption to migration, feeding or breeding patterns for sound-sensitive fauna, such as cetaceans (whales and dolphins).	• Vessel engines and thrusters will be maintained in accordance with planned maintenance system to ensure they are operating efficiently. • Geotechnical activities produce negligible underwater noise. • The activity is expected to take no more than 2 weeks.
Seabed disturbance from geotechnical activities	Temporary and localised seabed turbidity. Smothering of seabed habitat by disturbed sediments.	• The vessel will not anchor during geotechnical investigations (it will remain on location using dynamic positioning). • Very low volumes of cuttings and drilling fluids will be discharged during borehole sampling. • Seabed grab sampling and coring activities are extremely localised. • Cored holes are very narrow and will collapse in on themselves and small surface 'craters' will quickly fill in with sediments and recolonise with benthic fauna. • Large bulky items will be securely fastened or stored on the vessel deck to prevent loss to sea. • Any dropped objects will be recovered (where safe to do so).
Routine vessel discharges and emissions		
Atmospheric emissions	Temporary reduction in air quality in the local air shed.	• Vessels >400 gross tonnes will have in place a current International Air Pollution Prevention (IAPP) certificate and Ship Energy Efficiency Management Plan (SEEMP). • Only marine-grade low sulphur diesel (no greater than 0.5% m/m) will be used. • Waste incineration will not take place. • All fuel-burning equipment will be maintained in accordance with planned maintenance systems.
Light glow	Attractant to fauna, temporary increase in predation rates on fauna attracted to lights.	• Vessel lighting will be kept to the minimum required but in accordance with navigational standards and personnel safety requirements for night-time work.

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures
Discharge of treated sewage and grey water	Temporary and localised reduction in water quality.	• Sewage and grey water will be treated in a MARPOL Annex IV compliant sewage treatment plant prior to discharge (or taken back to port for disposal). • Vessels >400 gross tonnes will have in place a current International Sewage Pollution Prevention (ISPP) certificate. • In the event of a sewage treatment plant malfunction, untreated sewage will only be discharged when > 12 nm from shore or will be offloaded onshore for treatment.
Discharge of cooling water and reverse osmosis (brine)	Temporary and localised elevation in surface water temperature and salinity levels.	• Low impact biocides (chlorine) are used in optimised concentrations in the cooling system. • Engines and associated equipment that require cooling by water will be maintained in accordance with the planned maintenance system so that they are operating within accepted parameters. • Only low-toxicity chemicals (ONCS 'Gold'/'Silver' (CHARM) or 'D'/'E' (non-CHARM)-rated) chemicals are used in the cooling and brine water systems.
Discharge of putrescible waste	Temporary and localised increase in nutrient content of surface and near surface water quality. Temporary increase in scavenging behaviour of pelagic fish and seabirds.	• Putrescible waste will be macerated to <25 mm prior to discharge (or taken back to shore for disposal). • In the event of macerator malfunction, un-macerated putrescible waste will take place will be discharged when >12 nm of land or returned to shore. • Non-putrescible galley waste will be returned to shore for disposal.
Discharge of bilge water and deck drainage	Temporary and localised reduction in water quality.	• Vessels >400 gross tonnes will have in place a MARPOL Annex I compliant oily water separator set to limit oil-in-water content to <15 ppm prior to discharge. • Vessels >400 gross tonnes will have a current International Oil Pollution Prevention (IOPP) certificate. • No whole residual bilge oil is discharged overboard (residual oil from the oily water separator is pumped to tanks and disposed of onshore). • Chemical storage areas will be bunded and drain to the bilge tank. • Portable bunds and/or drip trays are used to collect spills or leaks from equipment that is not contained within a permanently bunded area (non-process areas). • Deck cleaning detergents will be biodegradable. • Spills to decks will be cleaned immediately using Shipboard Marine Pollution Emergency Plan (SMPEP) kits.

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures
Unplanned events		
Accidental overboard release of hazardous and/or nonhazardous waste from the vessels	Marine pollution (litter and a temporary and localised reduction in water quality). Injury and entanglement of individual animals (such as seabirds and turtles) and smothering or pollution of benthic habitats.	• Vessels >100 gross tonnes or certified to carry more than 15 people will have in place and implement a vessel-specific Garbage Management Plan. • Vessel crew and visitors will be inducted into the waste management procedures. • A waste manifest will be maintained. • Only small volumes of chemicals will be kept on board and will be stored in secured drums in bunded areas away from open drains. • Bunded areas will drain through a closed system, processed through the oily water separator. • Safety Data Sheets (SDS) will be available in appropriate locations. • SMPEP kits will be available on board for rapid deck clean-up response.
Introduction of invasive marine species from the vessel hulls and/or ballast water	Reduction in native marine species diversity and abundance. Displacement of native marine species. Socio-economic impacts on commercial fisheries. Reduction of conservation values of protected areas.	• Vessels will carry a low risk of invasive marine species introduction (as determined through a vessel contractor prequalification report). • Vessels >400 gross tonnes will carry a current International Antifouling System (IAFS) Certificate and comply with Marine Order Part 98 (Anti-fouling Systems). • The vessel/s will comply with the: o Australian Ballast Water Management Requirements (DAWR, 2020); and o National Biofouling Guidance for the Petroleum Production & Exploration Industry (AQIS, 2009). • Towed/submersible equipment will be cleaned (e.g., fouling is removed) prior to initial use in the project area.
Vessel strike with megafauna (e.g., whales, dolphins, turtles)	Injury or death of individual animals.	• The Australian Guidelines for Whale and Dolphin Watching (DEWHA, 2005) for sea-faring activities will be implemented, which includes caution and no-approach zones around whales and dolphins. • Vessel strike causing injury to or death of a cetacean is reported via the online National Ship Strike Database within 72 hours of the incident. Vessel strikes of megafauna in NT or WA waters is reported to the NT Marine Wildwatch on 1800 453 941 (or WA's Wildcare on 08-9474 9055) as soon as possible. • Vessel crew will complete an environmental induction covering the above-listed requirements.

Hazard	Potential impacts & risks	Avoidance, management and mitigation measures

Displacement of or interference with third party vessels	Temporary loss of fishing grounds around the vessel safety zone.	• The project area is located in an area with low levels of shipping traffic and low fishing effort.
		• A 'Notice to Mariners' will be issued.
		• Standard maritime safety precautions will be in place, including:
		  ○ Radar and other anti-collision monitoring equipment to detect other vessels.
		  ○ Display of lights and day shapes.
		  ○ The ability to quickly move off location to avoid other vessels.
		  ○ Warnings issued (radio, flares, lights and horns) to avoid collisions.
		  ○ The Vessel Master will be qualified in accordance with AMSA Marine Orders Part 3 (Seagoing qualifications) (e.g., International Convention of Standards of Watchkeeping for Seafarers, STCW95, GMDSS Proficiency).
		• The vessel master will sound the general alarm, manoeuvre the vessel to minimise the effects of the collision and implement all other measures as outlined in the vessel collision procedure.
		• Vessel collisions will be reported to AMSA if that collision has or is likely to affect the safety, operation or seaworthiness of the vessel or involves serious injury to personnel.

Diesel release due to a vessel-to vessel collision	Temporary and localised reduction in water quality. Tainting of commercial fisheries species. Injury and/or death of marine fauna and seabirds. Pathological effects on fish larvae and plankton.	• *As per 'displacement of or interference with third-party vessels', plus:* • No refuelling will take place on location. • Vessel crew will be trained in spill response techniques in accordance with the SMPEP and vessel training matrix. • Diesel spill trajectory modelling indicates a very small area of ecological impact in the event of the loss of a whole tank of fuel. • An Oil Pollution Emergency Plan (OPEP) will be developed based on the spill modelling results. • Vessel-specific SMPEP and project-specific OPEP will be implemented in the event of a large spill. • EOG will report the spill to regulatory authorities within 2 hours of becoming aware of the spill.

Beehive Project

WA-488-P

May 2023 Flyer

Beehive Project *Updated Timelines*

Geophysical Survey

- **Completed in June 2022**
- Examined the seabed features and potential hazards
- Obtained shallow gas mapping for mobile offshore drilling unit placement

Environment Plan: ***approved and completed***

Geotechnical Assessment

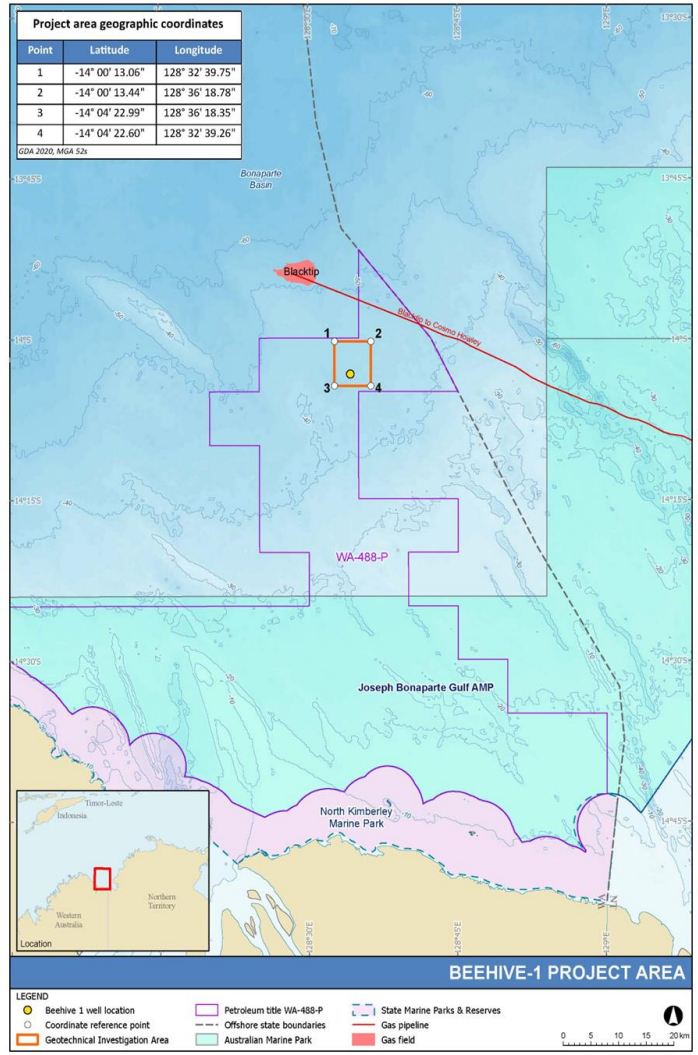
- **Plan to conduct a Geotechnical Assessment over a 14-day period between *October 2023 and December 2025***
- Undertaken using a medium-sized vessel
- Located approximately 77 km off the Western Australia coastline and 87 km from the Northern Territory coastline
- The activity area covers an area of approximately 50 km^2 in water depths ranging from 35 m to 50 m

Environment Plan: ***in-process and seeking input***

Exploration Drilling

- **Plan to drill a single exploratory well over a 55- to 100-day period between *January 2024 and December 2025***
- Undertaken using a jack-up mobile offshore drilling unit
- Located approximately 80 km off the Western Australia coastline and 300 km southwest of Darwin in the Northern Territory
- Drilled vertically to a depth of about 5,090 m using water-based mud in a water depth of approximately 40 m

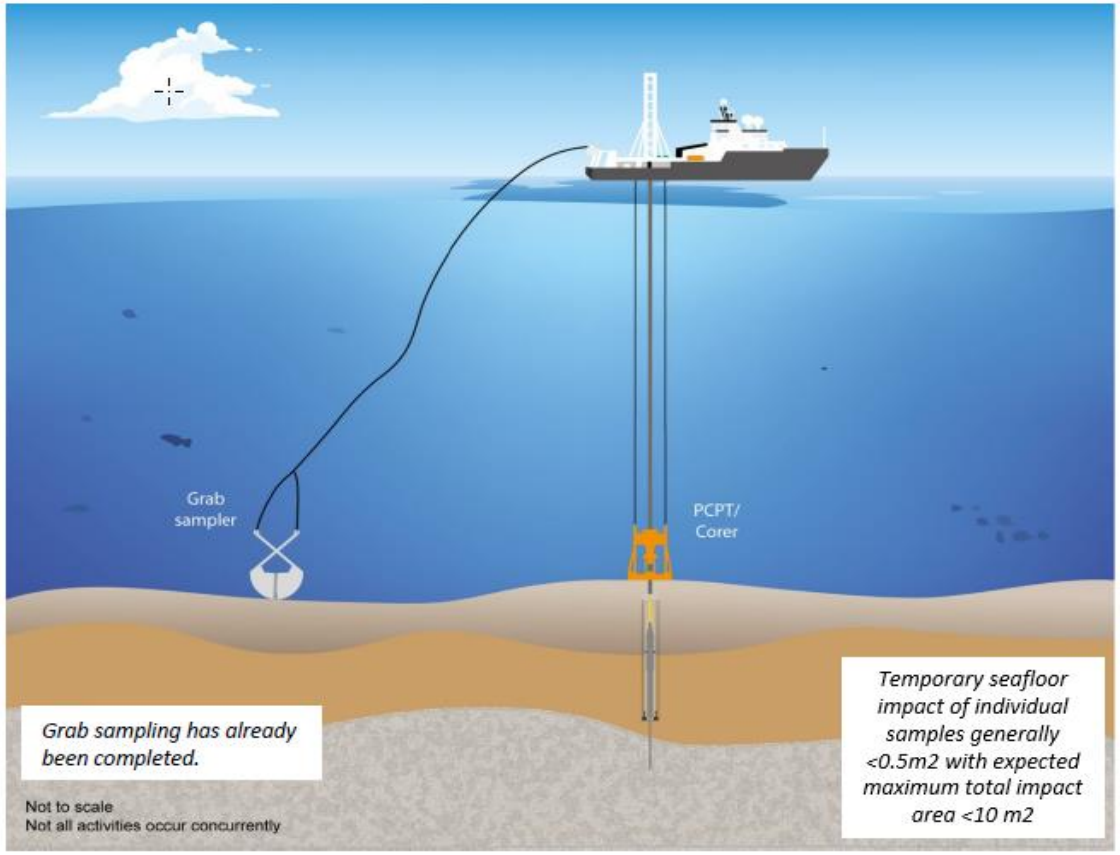
Environment Plan: ***in-process and seeking input***



Beehive-1 well location and Geotechnical Assessment area

Beehive Geotechnical Assessment Activity Overview

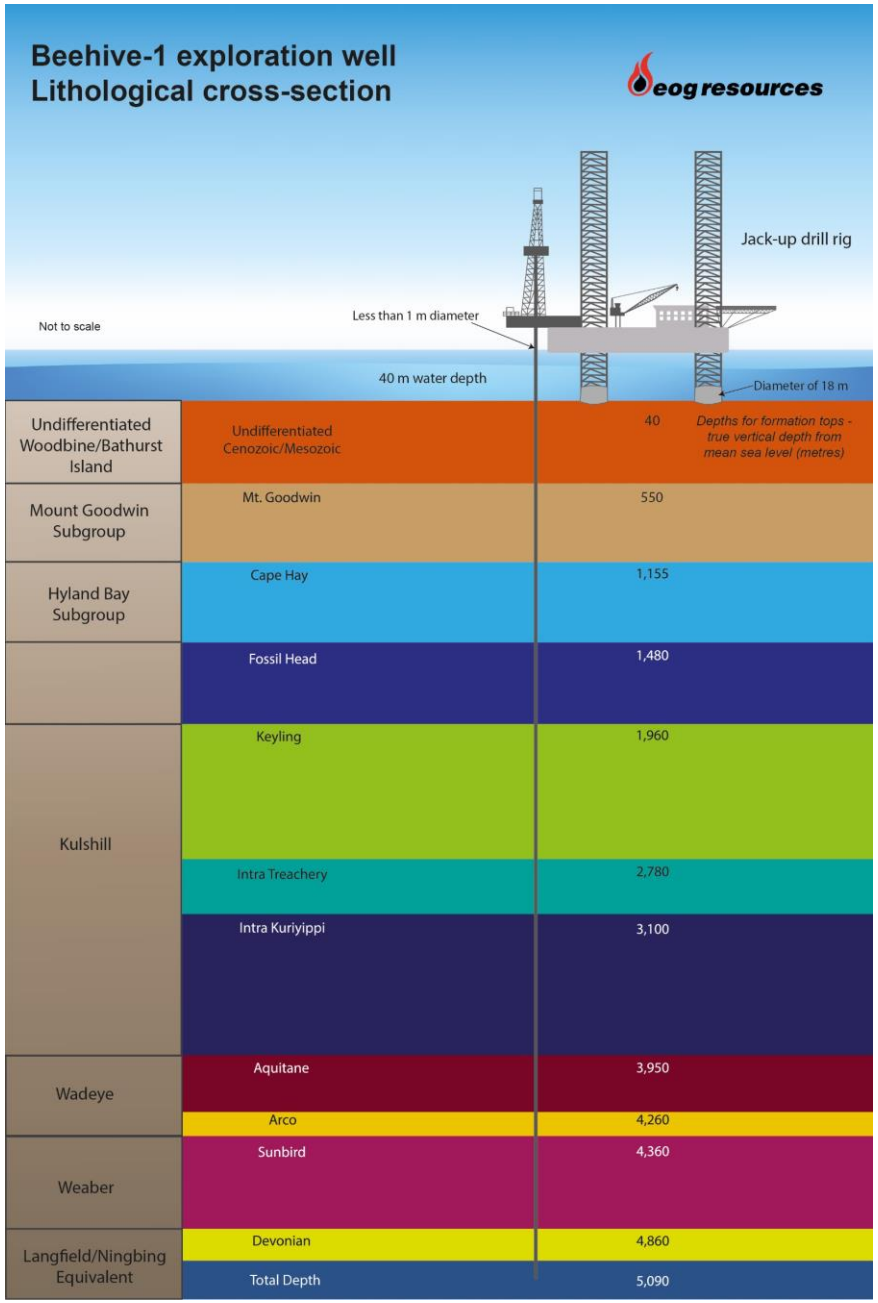
- Purpose: assess the physical properties of the seabed, such as soil types and rock formations, to support the safe placement of the mobile offshore drilling unit (MODU)
- Objective: acquire physical measurements and samples of local shallow geology within a relatively small area near potential MODU locations
- Equipment and Techniques:
    - *A specialised medium-sized vessel*
    - *Borehole sampling to acquire high quality soils for laboratory testing to inform the detailed engineering design in the field; and*
    - *Piezo cone penetrometer testing to determine seabed strength and general ground stratigraphy*
- *Note: the Beehive Geotechnical Assessment activity must be completed prior to the Beehive-1 Exploration Drilling and is the subject of a separate Environment Plan and associated consultation process.*



Simplified representation of Geotechnical Assessment techniques

Beehive-1 Exploration Drilling Activity Overview

- Description: Beehive-1 exploration well is a vertical well targeting the Sunbird formation with a planned total depth of 5,090 m
    - Water-based muds will be used to drill the well
- Location: situated in a water depth of approximately 40 m and located 80 km off the Western Australia coastline and 300 km southwest of Darwin in the Northern Territory
- Timing: drilling activity is expected to take 55 to 100 days to complete and will be conducted between January 2024 and December 2025
    - Exact timing is dependent on the receipt of environmental approvals and the availability of a mobile offshore drilling unit, or MODU
    - Operations will be conducted 24 hours per day, 7 days per week
- On Completion: if the well successfully finds hydrocarbon pay in the target formation, well evaluation will proceed, however, Beehive-1 will not be put on commercial production and will be plugged and abandoned with no equipment remaining on the seabed



Beehive-1 lithological cross section and jack-up type MODU
(depths are approximate)

How to Provide Feedback

Further information regarding EOG's Beehive activities or to provide feedback via our **Social Pinpoint Consultation Hub** please visit our website.

Contact Information:

Email: australia@eogresources.com

Website: https://www.eogresources.com/australia

Phone: +61 427 737 607

Note: you may request that information you provide during the consultation not be made publicly available. That information must still be included in the environment plan submitted to NOPSEMA as sensitive information but will be excluded from information published on NOPSEMA's website.

* *The Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (including the definitions, sections 9(8), and 11A(4)) indicate that, if requested, information that you or your organization provides, along with personal information, will be considered "sensitive information". Environment plans published by NOPSEMA on its website do not include any information deemed as sensitive.

Cautionary Notice Regarding Forward-Looking Statements:
This presentation may include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical facts, including, among others, statements and projections regarding EOG's future financial position, operations, performance, business strategy, goals, returns and rates of return, budgets, reserves, levels of production, capital expenditures, costs and asset sales, statements regarding future commodity prices and statements regarding the plans and objectives of EOG's management for future operations, are forward-looking statements. EOG typically uses words such as "expect," "anticipate," "estimate," "project," "strategy," "intend," "plan," "target," "aims," "ambition," "initiative," "goal," "may," "will," "focused on," "should" and "believe" or the negative of those terms or other variations or comparable terminology to identify its forward-looking statements. In particular, statements, express or implied, concerning EOG's future financial or operating results and returns or EOG's ability to replace or increase reserves, increase production, generate returns and rates of return, replace or increase drilling locations, reduce or otherwise control drilling, completion and operating costs and capital expenditures, generate cash flows, pay down or refinance indebtedness, achieve, reach or otherwise meet initiatives, plans, goals, ambitions or targets with respect to emissions, other environmental matters, safety matters or other ESG (environmental/social/governance) matters, or pay and/or increase dividends are forward-looking statements. Forward-looking statements are not guarantees of performance. Although EOG believes the expectations reflected in its forward-looking statements are reasonable and are based on reasonable assumptions, no assurance can be given that such assumptions are accurate or will prove to have been correct or that any of such expectations will be achieved (in full or at all) or will be achieved on the expected or anticipated timelines. Moreover, EOG's forward-looking statements may be affected by known, unknown or currently unforeseen risks, events or circumstances that may be outside EOG's control. Furthermore, this presentation may include or reference certain forward-looking, non-GAAP financial measures, such as free cash flow and cash flow from operations before changes in working capital, and certain related estimates regarding future performance, results and financial position. Because we provide these measures on a forward-looking basis, we cannot reliably or reasonably predict certain of the necessary components of the most directly comparable forward-looking GAAP measures, such as future changes in working capital. Accordingly, we are unable to present a quantitative reconciliation of such forward-looking, non-GAAP financial measures to the respective most directly comparable forward-looking GAAP financial measures. Management believes these forward-looking, non-GAAP measures may be a useful tool for the investment community in comparing EOG's forecasted financial performance to the forecasted financial performance of other companies in the industry. Any such forward-looking measures and estimates are intended to be illustrative only and are not intended to reflect the results that EOG will necessarily achieve for the period(s) presented; EOG's actual results may differ materially from such measures and estimates. Important factors that could cause EOG's actual results to differ materially from the expectations reflected in EOG's forward-looking statements include, among others:

- the timing, extent and duration of changes in prices for, supplies of, and demand for, crude oil and condensate, natural gas liquids (NGLs), natural gas and related commodities;
- the extent to which EOG is successful in its efforts to acquire or discover additional reserves;
- the extent to which EOG is successful in its efforts to (i) economically develop its acreage in, (ii) produce reserves and achieve anticipated production levels and rates of return from, (iii) decrease or otherwise control its drilling, completion and operating costs and capital expenditures related to, and (iv) maximize reserve recovery from, its existing and future crude oil and natural gas exploration and development projects and associated potential and existing drilling locations;
- the success of EOG's cost-mitigation initiatives and actions in offsetting the impact of inflationary pressures on EOG's operating costs and capital expenditures;
- the extent to which EOG is successful in its efforts to market its production of crude oil and condensate, NGLs and natural gas;
- security threats, including cybersecurity threats and disruptions to our business and operations from breaches of our information technology systems, physical breaches of our facilities and other infrastructure or breaches of the information technology systems, facilities and infrastructure of third parties with which we transact business;
- the availability, proximity and capacity of, and costs associated with, appropriate gathering, processing, compression, storage, transportation, refining, and export facilities;
- the availability, cost, terms and timing of issuance or execution of mineral licenses and leases and governmental and other permits and rights-of-way, and EOG's ability to retain mineral licenses and leases;
- the impact of, and changes in, government policies, laws and regulations, including climate change-related regulations, policies and initiatives (for example, with respect to air emissions); tax laws and regulations (including, but not limited to, carbon tax and emissions-related legislation); environmental, health and safety laws and regulations relating to disposal of produced water, drilling fluids and other wastes, hydraulic fracturing and access to and use of water; laws and regulations affecting the leasing of acreage and permitting for oil and gas drilling and the calculation of royalty payments in respect of oil and gas production; laws and regulations imposing additional permitting and disclosure requirements, additional operating restrictions and conditions or restrictions on drilling and completion operations and on the transportation of crude oil, NGLs and natural gas; laws and regulations with respect to financial derivatives and hedging activities; and laws and regulations with respect to the import and export of crude oil, natural gas and related commodities;
- the impact of climate change-related policies and initiatives at the corporate and/or investor community levels and other potential developments related to climate change, such as (but not limited to) changes in consumer and industrial/commercial behavior, preferences and attitudes with respect to the generation and consumption of energy; increased availability of, and increased consumer and industrial/commercial demand for, competing energy sources (including alternative energy sources); technological advances with respect to the generation, transmission, storage and consumption of energy; alternative fuel requirements; energy conservation measures and emissions-related legislation; decreased demand for, and availability of, services and facilities related to the exploration for, and production of, crude oil, NGLs and natural gas; and negative perceptions of the oil and gas industry and, in turn, reputational risks associated with the exploration for, and production of, crude oil, NGLs and natural gas;
- continuing political and social concerns relating to climate change and the greater potential for shareholder activism, governmental inquiries and enforcement actions and litigation and the resulting expenses and potential disruption to EOG's day-to-day operations;
- the extent to which EOG is able to successfully and economically develop, implement and carry out its emissions and other ESG-related initiatives and achieve its related targets and initiatives;
- EOG's ability to effectively integrate acquired crude oil and natural gas properties into its operations, identify and resolve existing and potential issues with respect to such properties and accurately estimate reserves, production, drilling, completion and operating costs and capital expenditures with respect to such properties;
- the extent to which EOG's third-party-operated crude oil and natural gas properties are operated successfully, economically and in compliance with applicable laws and regulations;
- competition in the oil and gas exploration and production industry for the acquisition of licenses, leases and properties;
- the availability and cost of, and competition in the oil and gas exploration and production industry for, employees, labor and other personnel, facilities, equipment, materials (such as water, sand, fuel and tubulars) and services;
- the accuracy of reserve estimates, which by their nature involve the exercise of professional judgment and may therefore be imprecise;
- weather, including its impact on crude oil and natural gas demand, and weather-related delays in drilling and in the installation and operation (by EOG or third parties) of production, gathering, processing, refining, compression, storage, transportation, and export facilities;
- the ability of EOG's customers and other contractual counterparties to satisfy their obligations to EOG and, related thereto, to access the credit and capital markets to obtain financing needed to satisfy their obligations to EOG;
- EOG's ability to access the commercial paper market and other credit and capital markets to obtain financing on terms it deems acceptable, if at all, and to otherwise satisfy its capital expenditure requirements;
- the extent to which EOG is successful in its completion of planned asset dispositions;
- the extent and effect of any hedging activities engaged in by EOG;
- the timing and extent of changes in foreign currency exchange rates, interest rates, inflation rates, global and domestic financial market conditions and global and domestic general economic conditions;
- the duration and economic and financial impact of epidemics, pandemics or other public health issues;
- geopolitical factors and political conditions and developments around the world (such as the imposition of tariffs or trade or other economic sanctions, political instability and armed conflict), including in the areas in which EOG operates;
- the extent to which EOG incurs uninsured losses and liabilities or losses and liabilities in excess of its insurance coverage;
- acts of war and terrorism and responses to these acts; and
- the other factors described under ITEM 1A, Risk Factors of EOG's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 and any updates to those factors set forth in EOG's subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K.

In light of these risks, uncertainties and assumptions, the events anticipated by EOG's forward-looking statements may not occur, and, if any of such events do, we may not have anticipated the timing of their occurrence or the duration or extent of their impact on our actual results. Accordingly, you should not place any undue reliance on any of EOG's forward-looking statements. EOG's forward-looking statements speak only as of the date made, and EOG undertakes no obligation, other than as required by applicable law, to update or revise its forward-looking statements, whether as a result of new information, subsequent events, anticipated or unanticipated circumstances or otherwise.

Oil and Gas Reserves; Non-GAAP Financial Measures:
The United States Securities and Exchange Commission (SEC) permits oil and gas companies, in their filings with the SEC, to disclose not only "proved" reserves (i.e., quantities of oil and gas that are estimated to be recoverable with a high degree of confidence), but also "probable" reserves (i.e., quantities of oil and gas that are as likely as not to be recovered) as well as "possible" reserves (i.e., additional quantities of oil and gas that might be recovered, but with a lower probability than probable reserves). Statements of reserves are only estimates and may not correspond to the ultimate quantities of oil and gas recovered. Any reserve or resource estimates provided in this presentation that are not specifically designated as being estimates of proved reserves may include "potential" reserves, "resource potential" and/or other estimated reserves or estimated resources not necessarily calculated in accordance with, or contemplated by, the SEC's latest reserve reporting guidelines. Investors are urged to consider closely the disclosure in EOG's Annual Report on Form 10-K for the fiscal year ended December 31, 2022, available from EOG at P.O. Box 4362, Houston, Texas 77210-4362 (Attn: Investor Relations). You can also obtain this report from the SEC by calling 1-800-SEC-0330 or from the SEC's website at www.sec.gov. In addition, reconciliation schedules and definitions for non-GAAP financial measures can be found on the EOG website at www.eogresources.com.

Beehive Project Update

WA-488-P

February 2024 Flyer

Beehive Project Summary

Geophysical Survey

Project Status
- Completed in June 2022

Purpose
- Examined the seabed features and potential hazards and obtained shallow gas mapping for mobile offshore drilling unit placement

Vessel Type
- Small vessel capable of towing light-weight equipment

Location
- Located approximately 163 kms offshore from nearest Western Australia coastline and 73 kms from the Northern Territory coastline
- The activity area covers an area of approximately 54 km^2 in water depths ranging from 35 m to 50 m

Environment Plan: ***approved and completed***

Geotechnical Assessment

Project Status
- Plan to conduct a Geotechnical Assessment over a 14-day period between *October 2023 and December 2025*

Purpose
- To assess and characterise the seabed and sub-seabed conditions to support any jack-up mobile offshore drilling unit

Vessel Type
- Medium-sized vessel

Location
- Located approximately 77 kms off the Western Australia coastline and 87 kms from the Northern Territory coastline
- The activity area covers an area of approximately 6 km^2
- Water depth between 35 m and 50 m

Environment Plan: ***approved and pending***

Beehive-1 Drilling

Project Status
- Plan to drill a single exploratory well over a 55- to 100-day period between *January 2024 and December 2025*

Purpose
- To evaluate hydrocarbon pay within the targeted formations

Rig Type
- Jack-up mobile offshore drilling unit

Location
- Located approximately 80 kms off the Western Australia coastline and 300 kms southwest of Darwin in the Northern Territory
- Water depth approximately 40 m

Well
- Drilled vertically to a depth of about 5,090 m using water-based mud

Environment Plan: ***in-process and seeking input***

Beehive Multi-Well Drilling

Project Status
- Plan to drill up to three exploratory or appraisal wells within a five-year window between *January 2025 and December 2029*. Each well is expected to take 55 to 150 days to drill

Purpose
- To evaluate hydrocarbon pay within the targeted formations

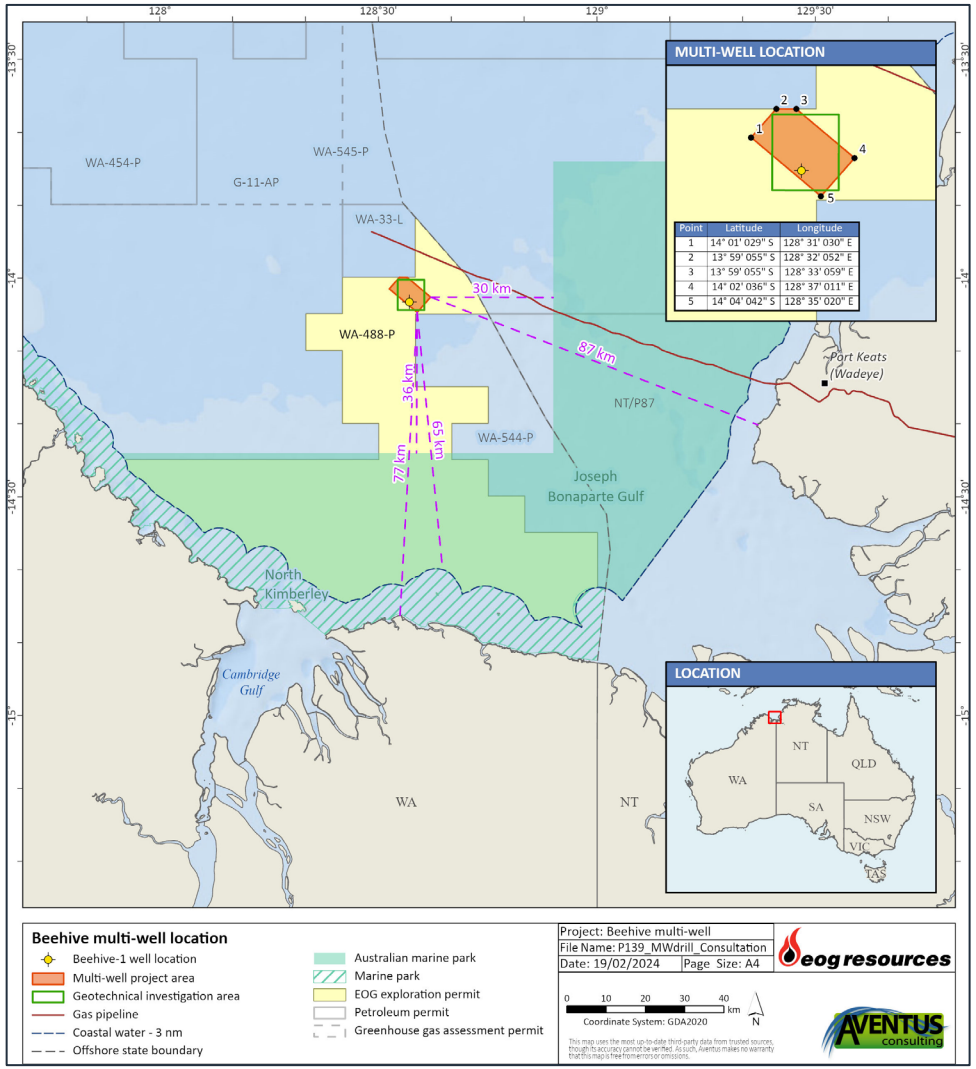
Rig Type
- Jack-up mobile offshore drilling unit

Location
- Located a minimum of 77 kms off the Western Australia coastline and 300 kms southwest of Darwin in the Northern Territory
- Water depth between 40 m and 50 m

Well
- Drilled directionally to a maximum depth of 6,000 m using water-based mud and low toxicity synthetic oil-based drilling fluids

Environment Plan: ***in-process and seeking input***

Beehive Project Location Map



Beehive-1 Project Location Map

Location Information

Geophysical Survey

- Located approximately 163 kms offshore from nearest Western Australia coastline and 73 kms from the Northern Territory coastline

Geotechnical Assessment

- Located approximately 77 km off the Western Australia coastline and 87 km from the Northern Territory coastline

Beehive-1 Drilling

- Located approximately 80 kms off the Western Australia coastline and 300 kms southwest of Darwin in the Northern Territory

Beehive Multi-Well Drilling

- Located a minimum of 77 kms off the Western Australia coastline and 300 kms southwest of Darwin in the Northern Territory

Beehive Geotechnical Assessment Activity

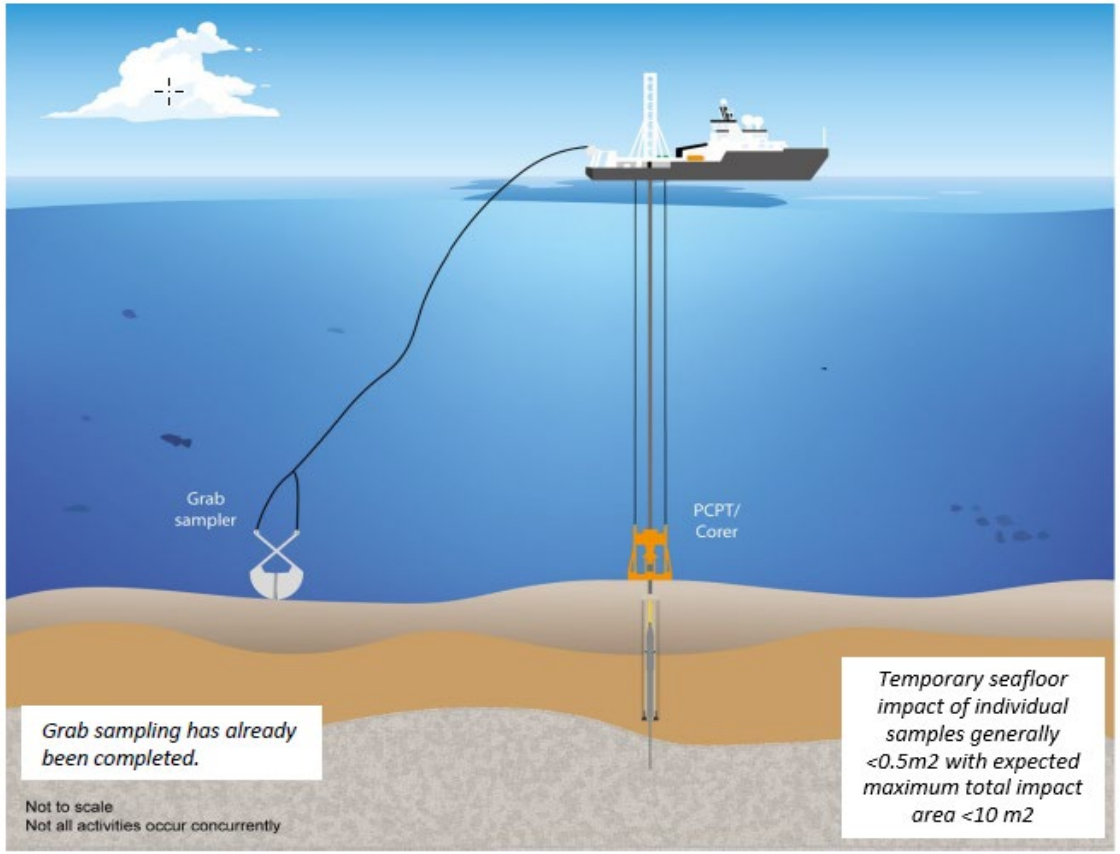
Purpose: to assess the physical properties of the seabed, such as soil types and rock formations, to support the safe placement of the jack-up mobile offshore drilling unit

Objective: to acquire physical measurements and samples of local shallow geology within a relatively small area near potential mobile offshore drilling unit locations

Equipment and Techniques:

- *A specialised medium-sized vessel*
- *Borehole sampling to acquire high quality soils for laboratory testing to inform the detailed engineering design in the field; and*
- *Piezo cone penetrometer testing to determine seabed strength and general ground stratigraphy*

Note: the Beehive Geotechnical Assessment activity must be completed prior to the Beehive-1 Exploration Drilling or the Beehive Multi-Well Drilling, which are subject of a separate Environment Plans and associated consultation processes



Simplified representation of Geotechnical Assessment techniques

Beehive-1 Exploration Drilling Activity

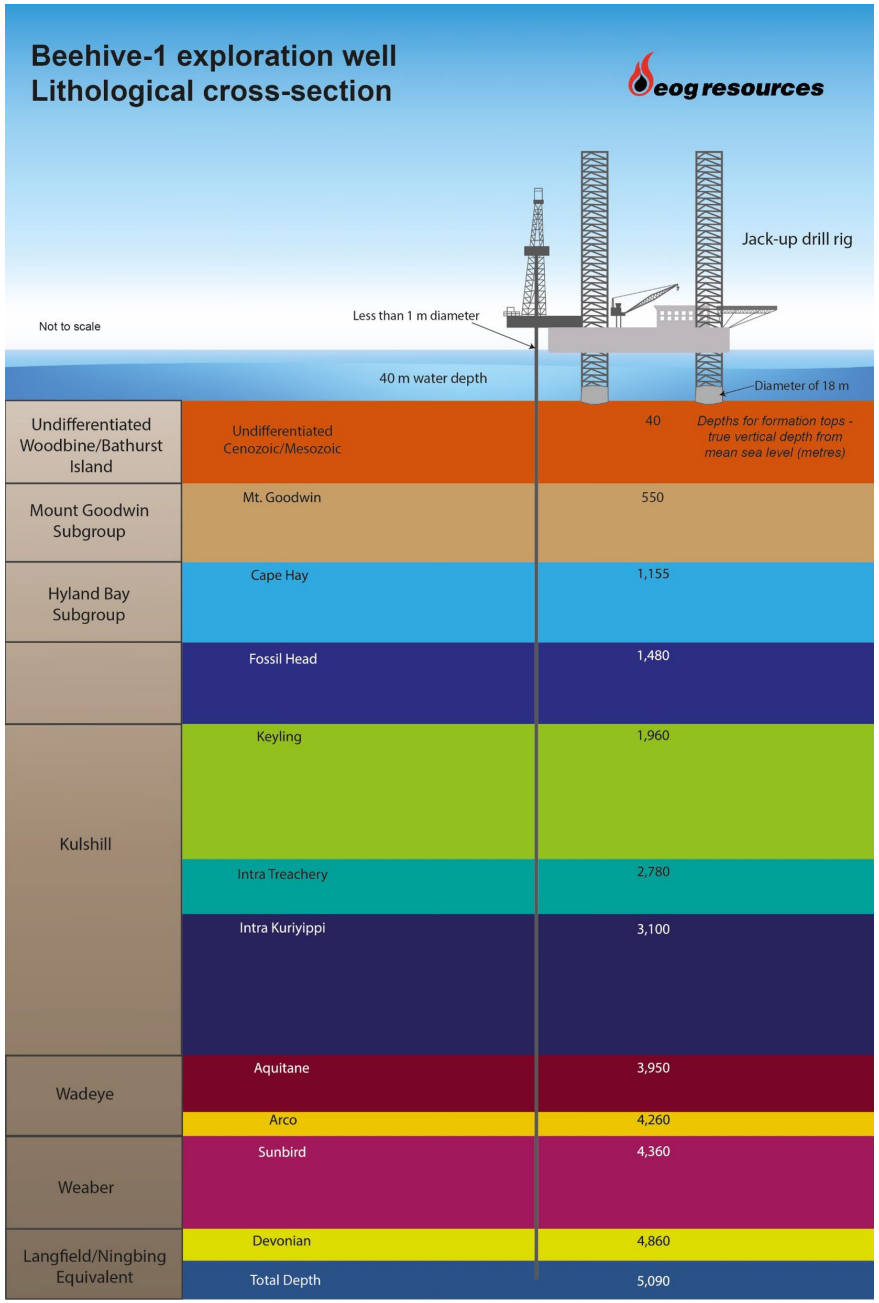
Description: Beehive-1 exploration well is a vertical well targeting the Sunbird formation with a planned total depth of 5,090 m using water-based muds

Location: situated in a water depth of approximately 40 m and located 80 kms off the Western Australia coastline and 300 kms southwest of Darwin in the Northern Territory

Timing: drilling activity is expected to take 55 to 100 days to complete and will be conducted between January 2024 and December 2025

- Exact timing is dependent on the receipt of environmental approvals and the availability of a MODU
- Operations will be conducted 24 hours per day, 7 days per week

On Completion: if the well successfully finds hydrocarbon pay in the target formation, well evaluation will proceed. However, Beehive-1 will not be put on commercial production and will be plugged and permanently abandoned with no equipment remaining on the seabed



Beehive-1 lithological cross section and jack-up type MODU
(depths are approximate)

Beehive Multi-Well Drilling Activity Overview

Description: a total of three exploration or appraisal wells will be directionally drilled targeting the Sunbird formation. The planned depth of each well will be 6,000 m. Water-based muds and low toxicity synthetic oil-based drilling fluids will be used to drill the well

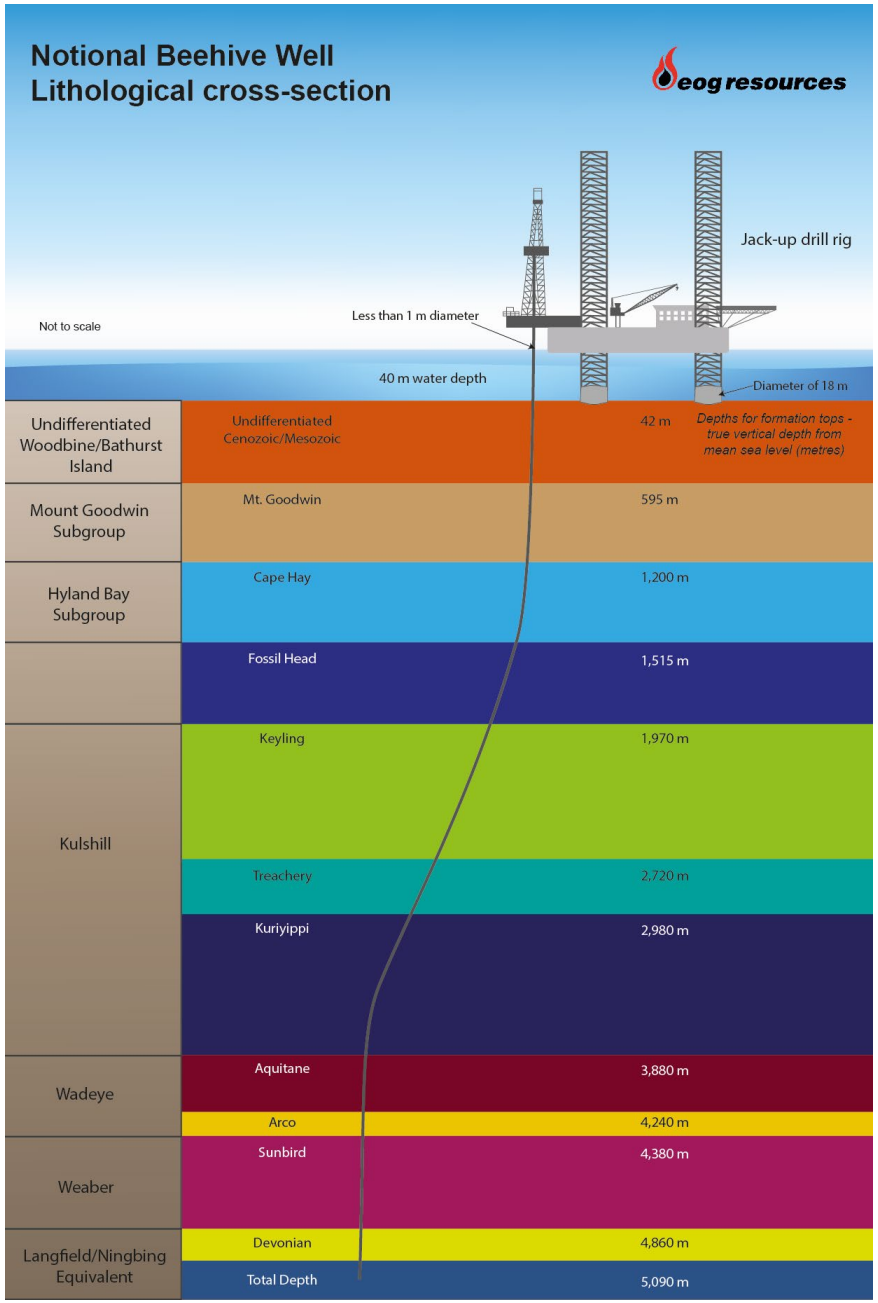
Location: situated in water depths of approximately 40 - 50 m and located a minimum of 77 kms off the Western Australia coastline and 300 kms southwest of Darwin in the Northern Territory

Timing: the drilling program is planned to occur anytime within a 5-year window commencing no earlier than January 2025 and will be completed no later than December 2029

- Each well is expected to take between 55 to 150 days to be drilled
- Exact timing is dependent on the receipt of environmental approvals and the availability of a jack-up mobile offshore drilling unit
- Operations will be conducted 24 hours per day, 7 days per week

On Completion: further activity on the well and any additional well(s) after the initial exploration well would depend on successfully finding hydrocarbons in sufficient quantities. The well could be temporarily or permanently abandoned depending on the results.

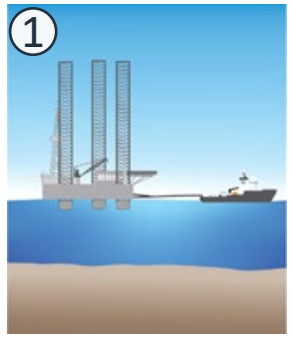
Note: the Beehive Multi-Well Drilling activity is different from the Beehive-1 Exploration Drilling, and is subject to a separate Environment Plan and associated consultation process



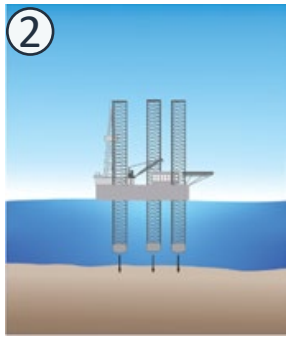
Beehive Multi-Well lithological cross section and jack-up type MODU *(depths are approximate)*

What is Offshore Exploration Drilling?

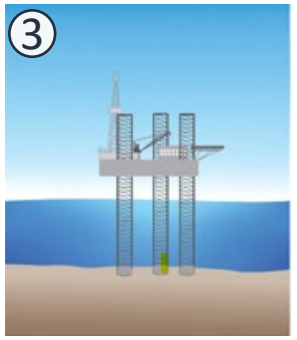
Offshore exploration drilling is the process of using specialized equipment, including a mobile offshore drilling unit (MODU), to investigate potential oil or gas deposits in formations beneath the ocean floor. MODU operations will be managed in accordance with safety plans that must be reviewed and accepted by NOPSEMA.



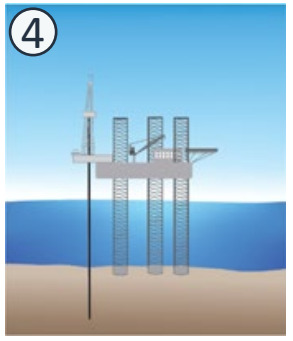
Support vessels tow the MODU into location



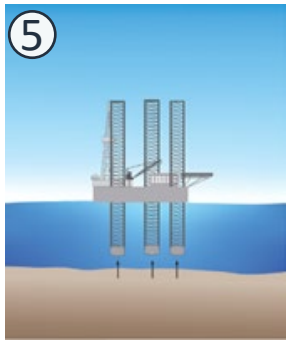
At the drilling location, the MODU legs are lowered to the seabed



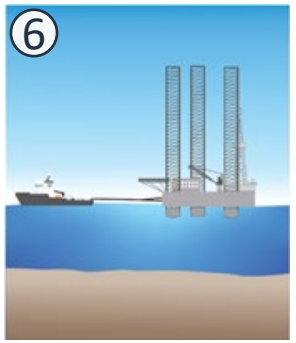
The hull is raised to approximately 20 m above the sea surface



The derrick is cantilevered out and drilling takes place



At completion of drilling, the hole is plugged with cement and the MODU legs are raised



The MODU is towed away from location using support vessels

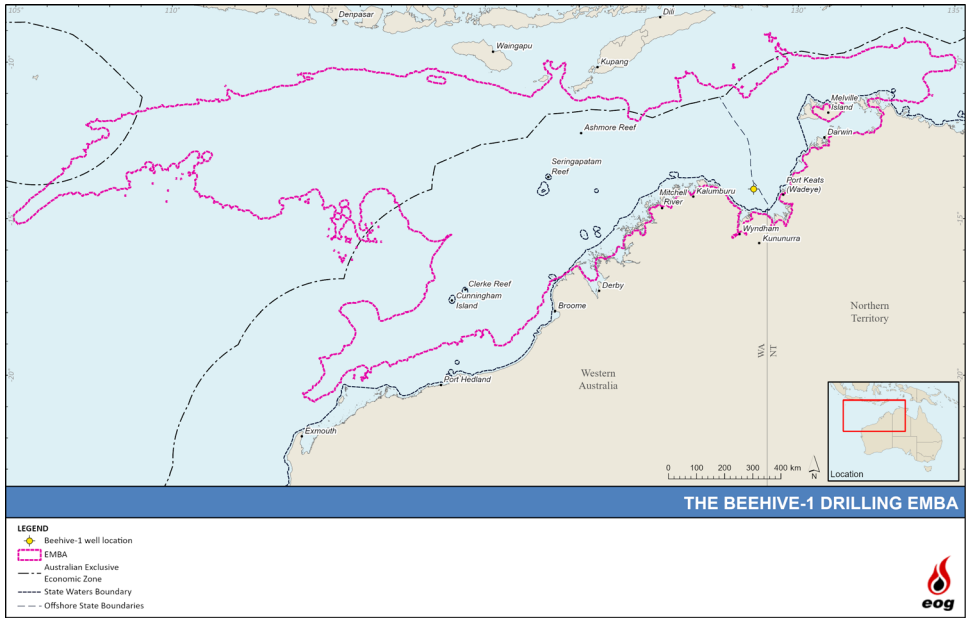
Simplified representation of the jack-up MODU positioning process

Oil Spill Risk – Modelling the EMBA

Response planning includes oil spill modelling for possible spill trajectories assuming all prevention measures fail, and no mitigating actions are taken other than plugging the well with a relief well.

- **Environment that May Be Affected ("EMBA") Model:** indicates where an oil spill could go but covers an area multiples larger than would be affected in the unlikely event of an actual spill.
  - Aggregates 300 Oil Spill Trajectories – based on different (and at times opposite) wind and currents.
  - Incorporates "Worst Case" Assumptions – all prevention measures fail and the only mitigating action is to plug the well with a relief well.
    - EOG spill response plans and procedures include mitigation efforts beyond those modelled.
- **Result**: even assuming the conservative EMBA modelling, less than 1% of spilled oil should have the potential to reach the shoreline, and more than 99% of oil should naturally evaporate, dissolve, degrade and entrain without human interference.
- **Regulatory Oversight:** the EP and OPEP submitted to NOPSEMA must be based on this EMBA.

Map showing the stochastic oil spill modelling for the Beehive-1 Spill EMBA



EOG's Spill Mitigation and Response Measures

EOG has comprehensive arrangements in place to immediately react to an oil spill event

Training, Competency & Resources

- Drilling Incident Management Team (DIMT) is trained to Australia's industry leading standards. The DIMT is comprised of personnel who are onsite (vessel/drilling rig), Perth-based, Houston-based and external services (third party contractors, industry support groups, and government support agencies)
- Readiness exercises to test the emergency response plans, as well as inspections and audits of the drilling rig, offshore vessels, and well control equipment are conducted at regular intervals
- Oil Spill Response Organisations are available 24/7 to provide the necessary trained personnel and equipment support

Operational and Response Plans*

- Oil Pollution Emergency Plan - a logistical response and monitoring plan supported by arrangements with external parties and plans
- Operational and Scientific Monitoring Plan - description of environmental monitoring to be implemented in case of an oil spill
- Source Control Emergency Response Plan - details on the implementation of source control strategies in the event of a loss of well control

Response Strategies

- EOG will have equipment out in the field within 3 days of an incident to begin ramping up monitoring and response capabilities. All known Relevant Persons will be notified as soon as reasonably practicable after an incident with updates as appropriate, including active engagement with potentially affected parties if post-incident, real-time modelling indicates shoreline contact within 7 days
- Response strategies include relief well, surface dispersant application (aerial), operational and scientific monitoring and waste management, surface dispersant application (vessel), containment and recovery, shoreline protection and deflection, shoreline clean-up and oiled wildlife response
- Tactical response plans will be developed to manage and execute operations in the event of an emergency

*Governing documents developed in conjunction with globally recognized expert support agencies and must be accepted by NOPSEMA

EOG is Committed to Safeguarding People and Protecting the Environment

Safety and Environmental matters are **integrated** into business planning, training, development and decision-making

Focused on **safe operations**

Robust environmental practices are essential to our **strong partnerships with regulators and the communities** where we live and work

Good environmental, health and safety performance is the **responsibility of every EOG employee and contractor**

We strive to **communicate openly** with all stakeholders including employees, local communities, regulators, contractors, and shareholders

How to Provide Feedback

Further information regarding EOG's Beehive activities or to provide feedback via our **Social Pinpoint Consultation Hub**, please visit our website.

Contact Information:

Email: australia@eogresources.com

Website: https://www.eogresources.com/australia

Phone: +61 472 519 207

Note: you may request that information you provide during the consultation not be made publicly available. That information must still be included in the environment plan submitted to NOPSEMA as sensitive information but will be excluded from information published on NOPSEMA's website.

* *The Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (including the definitions, sections 9(8), and 11A(4)) indicate that, if requested, information that you or your organization provides, along with personal information, will be considered "sensitive information". Environment plans published by NOPSEMA on its website do not include any information deemed as sensitive.

Cautionary Notice Regarding Forward-Looking Statements:
This presentation may include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical facts, including, among others, statements and projections regarding EOG's future financial position, operations, performance, business strategy, goals, returns and rates of return, budgets, reserves, levels of production, capital expenditures, costs and asset sales, statements regarding future commodity prices and statements regarding the plans and objectives of EOG's management for future operations, are forward-looking statements. EOG typically uses words such as "expect," "anticipate," "estimate," "project," "strategy," "intend," "plan," "target," "aims," "ambition," "initiative," "goal," "may," "will," "focused on," "should" and "believe" or the negative of those terms or other variations or comparable terminology to identify its forward-looking statements. In particular, statements, express or implied, concerning EOG's future financial or operating results and returns or EOG's ability to replace or increase reserves, increase production, generate returns and rates of return, replace or increase drilling locations, reduce or otherwise control drilling, completion and operating costs and capital expenditures, generate cash flows, pay down or refinance indebtedness, achieve, reach or otherwise meet initiatives, plans, goals, ambitions or targets with respect to emissions, other environmental matters, safety matters or other ESG (environmental/social/governance) matters, or pay and/or increase dividends are forward-looking statements. Forward-looking statements are not guarantees of performance. Although EOG believes the expectations reflected in its forward-looking statements are reasonable and are based on reasonable assumptions, no assurance can be given that such assumptions are accurate or will prove to have been correct or that any of such expectations will be achieved (in full or at all) or will be achieved on the expected or anticipated timelines. Moreover, EOG's forward-looking statements may be affected by known, unknown or currently unforeseen risks, events or circumstances that may be outside EOG's control. Furthermore, this presentation may include or reference certain forward-looking, non-GAAP financial measures, such as free cash flow and cash flow from operations before changes in working capital, and certain related estimates regarding future performance, results and financial position. Because we provide these measures on a forward-looking basis, we cannot reliably or reasonably predict certain of the necessary components of the most directly comparable forward-looking GAAP measures, such as future changes in working capital. Accordingly, we are unable to present a quantitative reconciliation of such forward-looking, non-GAAP financial measures to the respective most directly comparable forward-looking GAAP financial measures. Management believes these forward-looking, non-GAAP measures may be a useful tool for the investment community in comparing EOG's forecasted financial performance to the forecasted financial performance of other companies in the industry. Any such forward-looking measures and estimates are intended to be illustrative only and are not intended to reflect the results that EOG will necessarily achieve for the period(s) presented; EOG's actual results may differ materially from such measures and estimates. Important factors that could cause EOG's actual results to differ materially from the expectations reflected in EOG's forward-looking statements include, among others:

- the timing, extent and duration of changes in prices for, supplies of, and demand for, crude oil and condensate, natural gas liquids (NGLs), natural gas and related commodities;
- the extent to which EOG is successful in its efforts to acquire or discover additional reserves;
- the extent to which EOG is successful in its efforts to (i) economically develop its acreage in, (ii) produce reserves and achieve anticipated production levels and rates of return from, (iii) decrease or otherwise control its drilling, completion and operating costs and capital expenditures related to, and (iv) maximize reserve recovery from, its existing and future crude oil and natural gas exploration and development projects and associated potential and existing drilling locations;
- the success of EOG's cost-mitigation initiatives and actions in offsetting the impact of inflationary pressures on EOG's operating costs and capital expenditures;
- the extent to which EOG is successful in its efforts to market its production of crude oil and condensate, NGLs and natural gas;
- security threats, including cybersecurity threats and disruptions to our business and operations from breaches of our information technology systems, physical breaches of our facilities and other infrastructure or breaches of the information technology systems, facilities and infrastructure of third parties with which we transact business;
- the availability, proximity and capacity of, and costs associated with, appropriate gathering, processing, compression, storage, transportation, refining, and export facilities;
- the availability, cost, terms and timing of issuance or execution of mineral licenses and leases and governmental and other permits and rights-of-way, and EOG's ability to retain mineral licenses and leases;
- the impact of, and changes in, government policies, laws and regulations, including climate change-related regulations, policies and initiatives (for example, with respect to air emissions); tax laws and regulations (including, but not limited to, carbon tax and emissions-related legislation); environmental, health and safety laws and regulations relating to disposal of produced water, drilling fluids and other wastes, hydraulic fracturing and access to and use of water; laws and regulations affecting the leasing of acreage and permitting for oil and gas drilling and the calculation of royalty payments in respect of oil and gas production; laws and regulations imposing additional permitting and disclosure requirements, additional operating restrictions and conditions or restrictions on drilling and completion operations and on the transportation of crude oil, NGLs and natural gas; laws and regulations with respect to financial derivatives and hedging activities; and laws and regulations with respect to the import and export of crude oil, natural gas and related commodities;
- the impact of climate change-related policies and initiatives at the corporate and/or investor community levels and other potential developments related to climate change, such as (but not limited to) changes in consumer and industrial/commercial behavior, preferences and attitudes with respect to the generation and consumption of energy; increased availability of, and increased consumer and industrial/commercial demand for, competing energy sources (including alternative energy sources); technological advances with respect to the generation, transmission, storage and consumption of energy; alternative fuel requirements; energy conservation measures and emissions-related legislation; decreased demand for, and availability of, services and facilities related to the exploration for, and production of, crude oil, NGLs and natural gas; and negative perceptions of the oil and gas industry and, in turn, reputational risks associated with the exploration for, and production of, crude oil, NGLs and natural gas;
- continuing political and social concerns relating to climate change and the greater potential for shareholder activism, governmental inquiries and enforcement actions and litigation and the resulting expenses and potential disruption to EOG's day-to-day operations;
- the extent to which EOG is able to successfully and economically develop, implement and carry out its emissions and other ESG-related initiatives and achieve its related targets and initiatives;
- EOG's ability to effectively integrate acquired crude oil and natural gas properties into its operations, identify and resolve existing and potential issues with respect to such properties and accurately estimate reserves, production, drilling, completion and operating costs and capital expenditures with respect to such properties;
- the extent to which EOG's third-party-operated crude oil and natural gas properties are operated successfully, economically and in compliance with applicable laws and regulations;
- competition in the oil and gas exploration and production industry for the acquisition of licenses, leases and properties;
- the availability and cost of, and competition in the oil and gas exploration and production industry for, employees, labor and other personnel, facilities, equipment, materials (such as water, sand, fuel and tubulars) and services;
- the accuracy of reserve estimates, which by their nature involve the exercise of professional judgment and may therefore be imprecise;
- weather, including its impact on crude oil and natural gas demand, and weather-related delays in drilling and in the installation and operation (by EOG or third parties) of production, gathering, processing, refining, compression, storage, transportation, and export facilities;
- the ability of EOG's customers and other contractual counterparties to satisfy their obligations to EOG and, related thereto, to access the credit and capital markets to obtain financing needed to satisfy their obligations to EOG;
- EOG's ability to access the commercial paper market and other credit and capital markets to obtain financing on terms it deems acceptable, if at all, and to otherwise satisfy its capital expenditure requirements;
- the extent to which EOG is successful in its completion of planned asset dispositions;
- the extent and effect of any hedging activities engaged in by EOG;
- the timing and extent of changes in foreign currency exchange rates, interest rates, inflation rates, global and domestic financial market conditions and global and domestic general economic conditions;
- the duration and economic and financial impact of epidemics, pandemics or other public health issues;
- geopolitical factors and political conditions and developments around the world (such as the imposition of tariffs or trade or other economic sanctions, political instability and armed conflict), including in the areas in which EOG operates;
- the extent to which EOG incurs uninsured losses and liabilities or losses and liabilities in excess of its insurance coverage;
- acts of war and terrorism and responses to these acts; and
- the other factors described under ITEM 1A, Risk Factors of EOG's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 and any updates to those factors set forth in EOG's subsequent Quarterly Reports on Form 10-Q or Current Reports on Form 8-K.

In light of these risks, uncertainties and assumptions, the events anticipated by EOG's forward-looking statements may not occur, and, if any of such events do, we may not have anticipated the timing of their occurrence or the duration or extent of their impact on our actual results. Accordingly, you should not place any undue reliance on any of EOG's forward-looking statements. EOG's forward-looking statements speak only as of the date made, and EOG undertakes no obligation, other than as required by applicable law, to update or revise its forward-looking statements, whether as a result of new information, subsequent events, anticipated or unanticipated circumstances or otherwise.

Oil and Gas Reserves; Non-GAAP Financial Measures:
The United States Securities and Exchange Commission (SEC) permits oil and gas companies, in their filings with the SEC, to disclose not only "proved" reserves (i.e., quantities of oil and gas that are estimated to be recoverable with a high degree of confidence), but also "probable" reserves (i.e., quantities of oil and gas that are as likely as not to be recovered) as well as "possible" reserves (i.e., additional quantities of oil and gas that might be recovered, but with a lower probability than probable reserves). Statements of reserves are only estimates and may not correspond to the ultimate quantities of oil and gas recovered. Any reserve or resource estimates provided in this presentation that are not specifically designated as being estimates of proved reserves may include "potential" reserves, "resource potential" and/or other estimated reserves or estimated resources not necessarily calculated in accordance with, or contemplated by, the SEC's latest reserve reporting guidelines. Investors are urged to consider closely the disclosure in EOG's Annual Report on Form 10-K for the fiscal year ended December 31, 2022, available from EOG at P.O. Box 4362, Houston, Texas 77210-4362 (Attn: Investor Relations). You can also obtain this report from the SEC by calling 1-800-SEC-0330 or from the SEC's website at www.sec.gov. In addition, reconciliation schedules and definitions for non-GAAP financial measures can be found on the EOG website at www.eogresources.com.

Appendix 7
Consultation: Communications Records

Provided to NOPSEMA separately as ‘sensitive information’ under Regulation 26(8) of the OPGGS(E)

Appendix 8
Consultation: Stakeholder Communications Summary

Cat 1 Commonwealth Department or Agencies								
Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
Australian Communications & Media Authority	Administrator of submarine cable protection zones. Relevant when the activity may impact on subsea cables.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 16:51	21/02/2024 16:51	Inbound Email	BHMW-ACMA- 01 Xen	ACMA confirms their previous comments about the BHMW project and no additional consultation requirements.	ACMA confirms their previous comments about the BHMW project. Not aware of any submarine cables in the vicinity of the project. If EOG become aware, recommend engaging with cable owner/s. Recommendation to contact AHO. Website link provided and contact email for further information. Statement made regarding no requirement for additional consultation.	Response as per BHMW-ACMA- 02 Xen. Remove from communications list and discontinue consultation.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:45	27/02/2024 9:45	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver did not wish to provide feedback as they had not seen project information. Contact details left with organization for any feedback/comments once organization had reviewed project information.	N/A
		6/03/2024 3:01	6/03/2024 3:01	Outbound Email	BHMW-ACMA-02 Xen	Comments and feedback taken into consideration. Removal of relevant person from consultation.	Thank you for comment. Feedback will be taken into consideration. Acknowledge confirmation that organisation does not require additional consultation and will be removed from consultation list. Reiteration of EOG information website and contact details.	Remove from communications list and discontinue consultation.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australian Fisheries Management Authority (AFMA)	AFMA is the Australian Government agency responsible for the efficient management and sustainable use of Commonwealth fish resources on behalf of the Australian community. AFMA manages and monitors commerical Commonwealth fishing to ensure Australian fish stocks and the Australian fishing industry is viable now and in the future. Relevant when the activity has the potential to impact on fisheries resources in AFMA-managed fisheries.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:30	27/02/2024 9:30	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australian Hydrographic Office	AHO is part of the Department of Defence, responsible for providing Australia's national charting service under the terms of SOLAS and the Navigation Act 2012 (Cth). Role includes provision of nautical charting (including charts in electronic form) and associated services in support of maritime safety. Responsible for the publication and distribution of nautical charts and other information required for the safe shipping and navigation in Australian waters. Relevant when the activity may impact operational requirements and where nautical products and other maritime safety and information is required to be updated, including Notice to Mariners.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:53	27/02/2024 9:53	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unsure of the project. Requested an email with information surrounding the project be sent to email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		28/04/2024 16:26	28/04/2024 16:26	Inbound Email	BHMW-AHO-01 XEN	An acknowledgment that the email has been received from EOG and the data provided will be in the updated Navigational Charting products.	An acknowledgment that the email has been received from EOG and the data provided will be in the updated Navigational Charting products.	N/A
		29/04/2024 19:49	29/04/2024 19:49	Inbound Email	BHWM-AHO-02-Xen	No concerns with the current project. Request continued update on activities.	No concerns with the current project. Request continued update on activities.	N/A
Australian Institute of Marine Science (AIMS)	Applies science-based solutions to the key challenges facing those who live and work in the waters of northern Australia. AIMS' researchers understand large-scale, complex and emerging challenges in iconic marine habitats in Australia's vast and remote tropical waters.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 13:48	27/02/2024 13:48	Inbound Email	BHMW-AIMS-01 Xen	Organisation confirms project activities will not impact them.	Organisation confirms project activities will not impact them. Request to be updated if details change, particularly project location.	Response as per BHMW-AIMS-02 Xen.
		29/02/2024 11:24	29/02/2024 11:24	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that all relevant persons able to provide feedback/comments towards the project were unavailable at time of call. Caller left contact details with receiver for a return call when relevant persons available.	N/A
		6/03/2024 3:17	6/03/2024 3:17	Outbound Email	BHMW-AIMS-02 Xen	EOG thanking them for their response and will continue to update the organisation.	EOG thanking them for their response and will continue to update the organisation. Reiteration of EOGs website link and contact information.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Australian Marine Parks	Manages the Australian Marine Park (AMP) network. Relevant when activities undertaken outside an AMP may impact on the values within an AMP.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australian Maritime Safety Authority (AMSA)	AMSA is the statutory authority established under the Australian Maritime Safety Act 1990. Principal functions are promoting maritime safety and protection of the maritime environment, preventing and combating ship-sourced pollution in the marine environment, providing infrastructure to support safety of navigation in Australian waters, and providing national search and rescue service to the maritime and aviation sectors.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 8:42	21/02/2024 8:42	Inbound Email	BHMW-AMSA-01 Xen	Delivery has failed to these recipients or groups: <contact person email>	Delivery has failed to these recipients or groups: <contact person email>	Email was also sent to the Organisation's main email. Letter sent to Organisation. Removed Contact Person email from CM.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:50	27/02/2024 9:50	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that previous contact no longer works for organization, receiver passed on new contact mobile number. New contact did not answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:02	25/04/2024 18:02	Inbound Email	BHMW-AMSA-02 Xen	Delivery has failed to these recipients or groups: <contact person email>	Delivery has failed to these recipients or groups: <contact person email>	Email was also sent to the Organisation's main email. Letter sent to Organisation. Removed Contact Person email from CM.
Commonwealth Department of Agriculture, Fisheries & Forestry (DAFF)	Responsible for agricultural, fisheries and forestry industries by creating new and / or maintaining existing agricultural export opportunities for Australia as well as managing biosecurity risks to protect the Australian agricultural industries. Activities such as seismic surveys, drilling, exploration, geotechnical surveys, construction and installation of sub-sea infrastructure have the potential to affect commercially important fish species, their prey and habitats, and the business activities of commercial	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:17	27/02/2024 9:17	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver transferred call to an internal team. Internal did not answer - no option to leave a voicemail.	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Department of Defence - Property Management Branch	Responsible for Australian defence activities. Relevant when the activity encroaches on known training areas and/or restricted airspace.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:31	27/02/2024 11:31	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Department of Defence - Unexploded Ordinance	Australian Defence Force division responsible for unexploded ordanance. Relevant when the activity encroaches on known training areas and/or restricted airspace.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:38	27/02/2024 9:38	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Commonwealth Department of Foreign Affairs & Trade	Promotes and protects Australia's interests internationally. Manages relationships with countries neighbouring Australia's north, including Indonesia, Timor Leste and Papua New Guinea. Relevant when the activity may impact on waters outside Australia's maritime jurisdiction (such as an oil spill).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 8:50	21/02/2024 8:50	Inbound Email	BHMW-DFAT-01 Xen	Automated response.	Automated response.	N/A
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:19	27/02/2024 11:19	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Maritime Border Command	Key agency for border protection. Relevant when the activity may impact on border protection activities (e.g., vessel patrols).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:23	27/02/2024 9:23	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth National Native Title Tribunal	Responsible for administration of the Native Title Act 1993. Relevant when the activity may impact on Native Title.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:05	27/02/2024 11:05	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver informed that they had seen information regarding the project via email. They said that they would chase down which department it was sent through to and who could answer the questions best. Advised that they would call back once followed up.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Responsible for protecting Australia's natural environment and heritage sites by helping Australia to respond to climate change and carefully manage water and energy resources. The new department was established to deliver on the Government's climate change and energy agenda and protect Australia's environment and water resources.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 9:07	27/02/2024 9:07	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unsure of the project. Contact details left with organization for return call when the organization had reviewed project information.	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Indigenous Land & Sea Corporation (ILSC)	Corporate Commonwealth entity established under the Aboriginal and Torres Strait Islander Act 2005 (ATSI Act). The ILSC's long-term vision for meeting its ATSI Act mandate is for Aboriginal and Torres Strait Islander people to enjoy the rightful entitlements, opportunities and benefits that the return	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:10	27/02/2024 11:10	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unsure of the project. Contact details passed onto call receiver for return call when correct organization contact is found.	N/A

	of country and its management brings. The ILSC's primary grant program – Our Country Our Future – provides assistance for acquiring and managing rights and interests in land, salt water and fresh water country in order to achieve this vision.	30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Cat 2 State Department or Agencies

Northern Territory

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
City of Darwin Council	Northern Territory local government authority for Darwin City, Larrakeyah, The Gardens, Fannie Bay, East Point, Nightcliff, Rapid Creek, Brinkin, Tiwi, Lee Point & Buffalo Creek Communities that have access to Darwin Harbour & Beagle Gulf coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 8:31	21/02/2024 8:31	Inbound Email	BHMW-CODC-01 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Email also sent to Organisation's main email address. Letter posted to Organisation also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:36	27/02/2024 11:36	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that previous contact was no longer with organization. Call receiver requested that information flyer be resent via email.	Contact information to be updated in CM as requested.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:03	25/04/2024 18:03	Inbound Email	BHMW-CODC-02 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Second failed delivery noted. Email also sent to Organisation's main email address.
City of Palmerston Council	Northern Territory local government authority for Wishart & East Arm Communities that have access to Darwin Harbour coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:28	27/02/2024 11:28	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver unsure of who best contact was. Informed that council would call back once correct contact was found.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Litchfield Council	Northern Territory local government authority for Channel Island, Wickham, Micket Creek, Shoal Bay, Murrumujuk, Gunn Point, Glyde Point & Koolpinyah Communities that have access to Darwin Harbour, Beagle Gulf & Van Diemen Gulf coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:19	27/02/2024 11:19	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Council had received information via email. Call receiver advised that planning team responsible for reviewing information - planning team unavailable at time of call. Informed that council would call back once team is available.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:05	25/04/2024 18:05	Inbound Email	BHMW-LITC-01 Xen	Email account no longer in use.	Email account no longer in use. Alternative email provided.	Remove email address from CM.
NT Department of Environment, Parks & Water Security	Protect the environment and natural resources in the NT, including marine fauna management. Relevant when activities may impact on marine or coastal values.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 19:13	27/02/2024 19:13	Inbound Email	BHMW-DEPWS-01 Xen	The organisation thanks EOG for consulting them about the project. The project is outside of their jurisdiction.	The organisation thanks EOG for consulting them about the project. The project is outside of their jurisdiction and state they, and NT Environmental Protection Authority, are not relevant stakeholders. However, relevant to NT EPA if potential for significant impact to NT environment under Environment Protection Act 2019. Note: EPA cc'ed into email.	Response as per BHMW-DEPWS-02 Xen.

		28/02/2024 11:15	28/02/2024 11:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver confirmed that organization had seen previous emails from EOG and will reply with a response. Organization does not wish to provide feedback as the project does not impact them.	N/A
		6/03/2024 3:41	6/03/2024 3:41	Outbound Email	BHMW-DEPWS-02 Xen	EOG thanks organisation for their response and asks them to confirm that they can be removed from the stakeholder consultation list.	EOG thanks organisation for their response and asks them to confirm that they can be removed from the stakeholder consultation list. Note: response to contact person only.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NT Department of Industry, Tourism & Trade - Fisheries Branch	Responsible for managing NT fisheries and aquatic ecosystems. Relevant when the activity has the potential to impact on fisheries resources in DITT managed fisheries.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment. X 2 letters: sent to both NT DITT General Fisheries Branch and Demersal Fishery contact person.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 11:03	21/02/2024 11:03	Inbound Email	BHMW-NTDF-01 Xen	Contact person out of office automated response.	Contact person out of office automated response.	Organisation sent a letter also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment. Sent to both NT DITT General Fisheries Branch and Demersal Fishery contact person.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 9:52	28/02/2024 9:52	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call to NT DITT Demersal contact person.	Call receiver advised that they are retiring from the organization and requested information flyer be resent via email so they can forward onto the relevant person.	Contact information to be updated in CM as requested.
		28/02/2024 11:30	28/02/2024 11:30	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call to NT DITT General Fisheries Branch.	No answer - no option for voicemail.	N/A
		4/03/2024 9:40	4/03/2024 9:40	Inbound Phone Call	BHMW-NT-DITT-PH-01 Xen	Received mail outs. Provided information on other RPs that may be relevant.	Received 2 x mail outs, for NT Fisheries and for NT Demersal. Suggested we get in contact with Northern Territory Seafood Council (NTSC) who look after Timor Reed and Offshore Net and Line. Also suggested further peak bodies: Amateur Fishermen's Association of the Northern Territory (AFANT) and Northern Territory Guided Fishing Industry Association (NTGFIA).	Confirmed to RP that suggested peak bodies are on the distribution list.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NT Department of Industry, Tourism & Trade - Petroleum Operations	Manage NT commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DITT managed fisheries.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:10	28/02/2024 11:10	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NT Department of Infrastructure, Planning & Logistics - Marine Safety NT	NT Government Department responsible for administering commercial fishing and aquaculture, marine pests, biosecurity, indigenous fishing, recreational fishing, boat ramps, tides, boat rules and safety in the NT.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:37	27/02/2024 11:37	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver directed outbound call to another internal contact in department, who did not answer call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NT Department of Territory Families, Housing & Communities - Heritage Branch	Works with the community to conserve the unique and diverse heritage of the NT. Supports the Heritage Council, provides advice about heritage management, promotes heritage and encourages good conservation practice, oversees the NT Heritage Grants Program and the Rates Relief Program, and works with other government departments to conserve Government owned heritage assets.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 9:30	21/02/2024 9:30	Inbound Email	BHMW-TFHC-01 Xen	Automatic reply from organisation regarding end of year closure details.	Automatic reply from organisation regarding end of year closure details: query assignment, response times.	N/A
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:00	28/02/2024 11:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised they already provided feedback to the project in November 2023. They stated that the project is not based in the NT, therefore they do not wish to provide feedback on a project that does not impact them. If the project moves into NT, they request that they be consulted with again.	N/A
		25/04/2024 23:18	25/04/2024 23:18	Inbound Email	BHMW-TFHC-02 XEN	Asking if the proposed works have altered since October 2023	Request to advise if the area of the proposed works has altered since October 2023.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities.	N/A
		30/04/2024 12:08	30/04/2024 12:08	Outbound Email	BHMW-TFHC-03 XEN	Attachment of the February 2024 beehive project update	Thankyou for the enquiry regarding the area of proposed works. Please see attached February 2024 Beehive Project Update which identifies the area. Area in orange overlaps but is different from the Geotechnical investigation area and the Beehive-1 location	N/A

		1/05/2024 12:31	1/05/2024 12:31	Inbound Email	BHMW-TFHC-04 XEN	Providing two advisory comments if the works and impact did not extend into NT waters.	Heritage Branch provided advice 15/11/2023 stating two advisory comments as the works and impact did not extend into NT waters: 1. Northern Territory Heritage Act (2011) extends out to 3 nautical miles from NT land. Expansion of your project footprint into NT waters will require further consultation with Heritage branch and NTEPA. 2. NT Heritage Branch administer the Underwater Cultural heritage Act (Commonwealth) within NT waters. Advise EOG contact WA counterpart in relation to this project. Request to confirm the project has not expanded into NT waters.	N/A
		3/05/2024 13:34	3/05/2024 13:34	Outbound Email	BHMW-TFHC-05 XEN	Acknowledging the previous two advisory comments and asking them to confirm whether the organisation requires additional consultation	Acknowledgement of the previously provided comments and confirm that EOG's proposed project has not expanded into NT waters. Could you confirm whether your organisation does not require additional consultation in regards to this project and should be removed from the consultation stakeholder list.	N/A
		27/05/2024 18:37	27/05/2024 18:37	Inbound Email	BHMW-TFHC-06 Xen	They advise EOG they only need to be consulted if the works impact within the NT and NT waters.	The Heritage Branch would only need to be consulted if the works were to impact within the NT and NT waters.	N/A
		3/06/2024 12:01	3/06/2024 12:01	Inbound Post / Letter	BHMW-TFHC-07 XEN	Returned Letter	Returned Letter. "Return to Sender, no letter box" commented	N/A
NT Department of Transport - Marine Safety Branch	Manage oil pollution preparedness and response in NT waters. Relevant if the activity results in impacts to the NT waters or coastlines.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 21:49	27/02/2024 21:49	Inbound Email	BHMW-MSNT-01 Xen	Organisation comments the project is outside of their jurisdiction.	Organisation comments the project is in Commonwealth Waters, outside of their jurisdiction.	Response as per BHMW-MSNT-02 Xen.
		28/02/2024 11:25	28/02/2024 11:25	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Message was left with call receiver to pass onto correct contact with details for return call.	N/A
		6/03/2024 3:30	6/03/2024 3:30	Outbound Email	BHMW-MSNT-02 Xen	Follow up email seeking confirmation that the organisation does not require additional consultation and can be removed from the stakeholder list.	Follow up email seeking confirmation that the organisation does not require additional consultation and can be removed from the stakeholder list. Subject to response, organisation will remain on the stakeholder list. Reiteration of EOGs contact information.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NT Deptartment of Infrastructure, Planning & Logistics - Regional Harbourmaster	Responsible for the moorings in the Darwin Port.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:30	28/02/2024 11:30	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no voicemail option	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NT Environmental Protection Authority	Independent authority established under the Northern Territory Environment Protection Authority Act 2012 to prevent and respond to pollution. Relevant if the activity results in pollution to NT waters or coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 19:13	27/02/2024 19:13	Inbound Email	BHMW- NTEPA-01 Xen	The organisation thanks EOG for consulting them about the project. The project is outside of their jurisdiction.	The organisation thanks EOG for consulting them about the project. The project is outside of their jurisdiction and state they, and Department of Environment, Parks and Water Security , are not relevant stakeholders. However, relevant to NT EPA if potential for signifcant impact to NT environment under Environment Protection Act 2019. Note: DEPWS cc'ed into email.	Response as per BHMW- NTEPA-02 Xen.
		28/02/2024 11:45	28/02/2024 11:45	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be sent to alternate email.	Contact information to be updated in CM as requested.
		6/03/2024 3:41	6/03/2024 3:41	Outbound Email	BHMW-NT EPA- 02 Xen	EOG thanks organisation for their response and asks them to confirm that they can be removed from the stakeholder consultation list.	EOG thanks organisation for their response and asks them to confirm that they can be removed from the stakeholder consultation list. Note: response to contact person only.	N/A
		27/03/2024 9:42	27/03/2024 9:42	Outbound Email	BHMW-NTEPA-03 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	Undeliverable.
		27/03/2024 9:43	27/03/2024 9:43	Inbound Email	BHMW-NTEPA-04 Xen	BHMW-NTEPA-03 Xen Email could not be delivered. mi21.nt.gov.au rejected your message to the email address.	Your message couldn't be delivered because it's suspected of being spam.	Email Bounced back.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tiwi Islands Regional Council	Northern Territory local government authority for Bathurst & Melville Islands (Tiwi Island Group) that have access to Beagle Gulf & Van Diemen Gulf coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		27/02/2024 11:00	27/02/2024 11:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	invalid number	Contact information to be updated in CM as requested.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Wagait Shire Council	Northern Territory local government authority on the Cox Peninsula that has access to Beagle Gulf coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:16	27/02/2024 11:16	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that CO was out of office at time of call - requested that information flyer be resent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
West Arnhem Regional Council	Northern Territory local government authority for Kakadu, West Arnham & Coburg Communities that have access to Van Diemen Gulf coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:15	27/02/2024 11:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that all best contacts for council were in training - requested that information flyer be resent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
West Daly Regional Council	Northern Territory local government authority for the Wadeye, Peppimenarti, Council Homelands & Palumpa Communities and has a large section of the Joseph Bonaparte Gulf coastline.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:55	28/02/2024 10:55	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail was left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Western Australia								
Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
Kimberley Ports Authority	Responsible for the Ports of Broome, Wyndham, Derby & Yampi Sound under the Port Authorities Act 1999 (WA) to operate, maintain, control and preserve the ports and the assets. Relevant if activities impact the ports.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 14:00	27/02/2024 14:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call to Ports Authority received - call receiver passed on mobile number for relevant contact. Contact did not answer - voicemail left with contact details for return call.	Contact information to be updated in CM as requested.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Pilbara Ports Authority	Manage the Dampier Port under the Port Authorities Act 1999 (WA). Relevant if the activity results in impacts to port activities.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 14:58	27/02/2024 14:58	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be resent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		13/05/2024 14:47	13/05/2024 14:47	Inbound Email	BHMW-PPA-01 XEN	Reply to BHMW-EM-01-EOG Beehive EP 2 Request to Consult email	They note the project is >1000km away from their nearest port and have no feedback to offer in relation to the proposed activities.	N/A
Shire of Broome	Western Australian Local Government Authority with approx. 900km's of coastline within their authority area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 10:07	21/02/2024 10:07	Inbound Email	BHMW-SOB-01 Xen	Automatic message reply.	Automatic message. Email allocated to relevant officer.	N/A
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 14:04	27/02/2024 14:04	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be resent via email.	N/A
		10/03/2024 18:28	10/03/2024 18:28	Inbound Email	BHMW-SOB-02 Xen	The Shire of Broome is located to the west of your project area and therefore does not have comment to make on the proposal. The Shire would welcome any discussions about potential logistical support that may be required to support your operations.	The proposed activity is to the immediate north of the WA/NT boarder. The Shire of Broome is located to the west of your project area and therefore does not have comment to make on the proposal. The Shire's Corporate Business Plan and Economical Development Strategy (website link provided) advocates Broome as a logistic supply hub for industry. Shire of Broome welcome any discussions about potential logistical support that may be required to support your operations.	N/A
		12/03/2024 6:43	12/03/2024 6:43	Outbound Email	BHMW-SOB-03 Xen	Request to confirm if the organization determines that it does not require additional consultation and should be removed from our consultation stakeholder list.	Thank you for feedback and provision of information regarding the Shire's Corporate Business Plan and Economic Development Strategy. Due to location, request to confirm if the organization determines that it does not require additional consultation and should be removed from our consultation stakeholder list. Subject to response, will keep the organisation on the stakeholder list.	N/A
		25/04/2024 17:47	25/04/2024 17:47	Inbound Email	BHMW-SOB-04 Xen	Contact person update.	Contact person no longer works for Shire. Direct enquiries to Customer Service.	CP to be removed from CM.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		29/04/2024 18:06	29/04/2024 18:06	Inbound Email	BHMW-SOB-05 Xen	Request to remove from stakeholder consultation.	Request to remove from stakeholder consultation. If terrestrial or marine based changes that impact Shire, request to be notified.	Stakeholder to be removed in line with request.
Shire of Derby / West Kimberley	Western Australian Local Government Authority covering 118560 square kilometres of land in the North West Kimberley Region with an expansive coastline within their authority area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:52	27/02/2024 11:52	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that they would transfer call onto relevant department - call cut out.	N/A
		27/02/2024 17:16	27/02/2024 17:16	Inbound Email	BHMW-SDWK-01 Xen	Organisation thanks EOG for the information about the project. They have no concerns about the project. However, they want to be informed in the event of an oil spill.	Organisation thanks EOG for the information about the project. They have no concerns about the project. However, they want to be informed in the event of an oil spill.	Response as per BHMW-SDWK-02 Xen.
		6/03/2024 3:21	6/03/2024 3:21	Outbound Email	BHMW-SDWK- 02 Xen	EOG thanks organisation for their response and will keep them updated as the project progresses.	EOG thanks organisation for their response and will keep them updated as the project progresses. Reiteration of EOGs website link and contact information.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Shire of Wyndham / East Kimberley	Western Australian Local Government Authority covering 121000 square kilometres of land in the Kimberley Region with an expansive coastline within their authority area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 11:45	27/02/2024 11:45	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that the information flyer be resent via email.	N/A

		27/02/2024 19:09	27/02/2024 19:09	Inbound Email	BHMW-SWEK-01 Xen	The organisation has no in-principle objection to the work proposed by EOG.	The organisation has no in-principle objection to the work proposed by EOG subject to all relevant approvals/clearances from relevant agencies, and public consultation. Note: organisation has cc'd in the neighbouring Shire.	Response as per BHMW-SWEK-02 Xen.
		6/03/2024 3:49	6/03/2024 3:49	Outbound Email	BHMW-SWEK-02 Xen	EOG thanks organisation for their response to the project and will continue to update the organisation as the project progresses.	EOG thanks organisation for their response to the project and will continue to update the organisation as the project progresses. Reiteration of EOGs website link and contact information. Note: neighbouring Shire remains cc'd into this response.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
WA Department of Biodiversity, Conservation & Attractions	Manage State marine parks and reserves and protected marine fauna and flora. Relevant when activities undertaken outside a marine park may impact on the values within a marine park.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 14:51	27/02/2024 14:51	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be resent via email.	N/A
		5/03/2024 1:47	5/03/2024 1:47	Inbound Email	BHMW-DBCA-02 XEN	Thanks EOG for providing the attached information (informational flyer) in relation to the Beehive Project. They have undertaken a review of the documentation and provided comments relevant to the Conservation and Land Management Act 1984 and Biodiversity Conservation Act 2016 responsibilities.	DBCA review and comments relevant to Conservation and Land Management Act 1984 and Biodiversity Conservation Act 2016. Ecologically important areas including marine parks and island/coastal conservation reserves located within the area of the EMBA by the proposed activities, incl. North Kimberley, Lalang-gaddam, Mayala, and Bardi Jawi Gaaraa Marine Parks, Rowley Shoal, Scott Reef, and Browse Island Nature Reserves, Prince Regent National Park and Ord River Conservation Park. Potential for these areas to be affected if there is a hydrocarbon release and particular weather/other environmental conditions. Important that the baseline values and state of affected environment are understood and documented prior to any operations commencing. DBCA would like confidence appropriate baseline survey data on the current state of areas supporting important ecological values and any current contamination if present within the EMBA is established. Following a desktop review and risk assessment, collection of appropriate baseline abundance and distribution data for benthic habitat and marine fauna species, incl. information on the key habitats used by threatened and specially protected fauna for foraging/breeding/aggregating. If no baseline information, assess what baseline information is required commensurate with level of risk and identify suitable sources/methods to attain that information to ensure any impacts on ecological values and recovery of these values can be clearly identified/monitored/remediated. DBCA undertakes monitoring in marine parks/reserves and publishes monitoring reports available on the department's website. Monitoring is targeted to inform DBCA's values and objectives relating, not necessarily suitable to provide all baseline information required for oil spill risk assessment and management planning. DBCA encourages EOG to acquire the necessary information to implement a BACI framework in planning and evaluating its management response. This may include independently monitoring and collecting data or identifying other data sources. Refer EOG to the Commonwealth DCCEEW's National Light Pollution Guidelines for Wildlife as a best-practice industry standard for managing potential impacts of light pollution on marine fauna. In the event of a hydrocarbon release, notify DBCA's Kimberley regional office. DBCA will not implement an oiled wildlife management response on behalf of a petroleum operator except as part of a whole of government response mandated by regulatory decision makers. EOG should also commit to the monitoring and clean-up of DBCA interests affected by an oil spill. Refer EOG to DoT web content regarding marine pollution, and the Offshore Petroleum Industry Guidance Note of July 2020 "Marine Oil Pollution: Response and Consultation Arrangements". Contains information on the WA emergency management arrangements for marine oil pollution incidents, petroleum titleholders' obligations, and the DoT's expectations. Please continue to provide all future notifications to DBCA.	Response as per BHMW-DBCA-03 XEN
		21/03/2024 10:51	21/03/2024 10:51	Outbound Email	BHMW-DBCA-03 XEN	Thanking them for their feedback provided on the 5/3/2024 in relation to the project. They provide explanation to the questions posed in the feedback and a table.	DBCA email notes the North Kimberley, Lalang-gaddam, Mayala, and Bardi Jawi Gaaraa Marine Parks, Rowley Shoal, Scott Reef, and Browse Island Nature Reserves, Prince Regent National Park and Ord River Conservation Park and the potential for these areas to be affected by EOG's operations if there is a substantial hydrocarbon release, subject to particular weather or other environmental conditions. These areas have been considered and described in various parts of the EP and OPEP currently under review by NOPSEMA for the Beehive-1 Exploration Drilling project and are again being considered and will be described in various parts of the Multi-Well Drilling EP and OPEP submissions as listed in the table below. Further, Sections 3 and 4 of Appendix C OSMBIP to the OPEP lists the online sources of baseline data relevant to the high value receptors in the spill EMBA. Section 7 of Appendix C discusses activation of SMP teams to collect additional reactive baseline data post-incident pre-impact. Appendix C-1 of Appendix C provides a lengthy list of sources of baseline data to be accessed in the event of a spill. EOG has considered DCCEEW's National Light Pollution Guidelines for Wildlife guidance document in development of the EP and OPEP. Emergency response contact details in the event of a hydrocarbon spill are included in Section 3.1 of the OPEP. The DBCA's Kimberley office has been included in this section of the OPEP, and we note the comments about the whole-of-government spill response. The DoT's web content regarding marine pollution and the Offshore Petroleum Industry Guidance Note of September 2018 titled Marine Oil Pollution: Response and Consultation Arrangements have also been taken into consideration, in addition to direct consultation with the DoT. EOG is committed to clean-up and monitoring of areas of DBCA's interests in the event of a hydrocarbon spill; NOPSEMA will not accept the EP unless they are satisfied that EOG has demonstrated the capability to do so.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		9/05/2024 18:26	9/05/2024 18:26	Inbound Email	BHMW-DBCA-01 Xen	DBCA has reviewed the attached information about the Beehive project update and provides the following comments.	DBCA has previously commented to EOG in relation to responsibilities under the CALM Act and BC Act, petroleum activities in proximity to ecologically sensitive receptors, need for comprehensive baseline monitoring of the receptors and oil spill response preparedness. Notes responses received but reiterate its comments in relation to the marine parks, island and coastal conservation reserves which are located within the area of the EOG modelled EMBA. In the event of a hydrocarbon request EOG notify DBCA's Kimberley regional office as soon as practicable. Any additional information in relation to EOG monitoring or oil spill response preparedness for decommissioning activities for DBCA's information is welcome. Please continue to provide all future notifications to DBCA.	N/A
WA Department of Planning, Lands & Heritage	Protect Aboriginal heritage, assist with compliance with the Aboriginal Heritage Act 1972 and provide access to heritage information. Relevant if the activity results in impacts to Aboriginal heritage.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 14:27	27/02/2024 14:27	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver had reviewed project information and had previously provided comments and concerns towards the project.	Contact information to be updated in CM as requested.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

WA Department of Primary Industries & Regional Development - Fisheries	Managed West Australian commercial fisheries. Relevant when the activity has the potential to impact on fisheries resources in DPIRD.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 14:55	27/02/2024 14:55	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
WA Department of Transport - Oil Spill Response Coordination	Manage oil pollution preparedness for response in WA state waters. Relevant if the activity results in impacts to a marine park.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided.	N/A.
		21/02/2024 22:15	21/02/2024 22:15	Inbound Email	BHMW-WA DOT-01 Xen	Request to ensure Department is consulted if risk of spill impacting State waters.	Request to ensure Department is consulted if risk of spill impacting State waters as outlined in Offshore Petroleum Industry Guidance Note – Marine Oil Pollution, with website link provided to EOG.	Repsonse as per BHMW-WA DOT-02 Xen
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 14:47	27/02/2024 14:47	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that EOG should be providing updated information and feedback to the department surrounding their project and any updated plans in regard to spill response. Call receiver was aware that department was working with EOG and consultants closely.	N/A
		6/03/2024 3:05	6/03/2024 3:05	Outbound Email	BHMW-WA DOT-02 Xen	EOG thanks organisation for their feedback and will take into account the information provided.	EOG thanks organisation for their feedback and will take into account the information provided. Reiteration of EOG's information website and contact details provided.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		6/05/2024 18:21	6/05/2024 18:21	Inbound Email	BHMW-WA DOT-03 XEN	WA DoT response to BHMW-EM-02-EOG Beehive EP2 Follow Up Email	WA DoT comments if there is a risk of a spill impacting State Waters ensure the DoT is consulted as per the Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020).	N/A

Cat 3 Department of State Minister

Western Australia

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
WA Department of Mines, Industry Regulation & Safety	Manages offshore petroleum approvals in WA State waters. Relevant if the activity results in impacts to WA state waters.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer.	N/A.
		21/02/2024 10:15	21/02/2024 10:15	Inbound Email	BHMW-DMIRS-01 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Email also sent to Organisation's main email address. Letter posted to Organisation also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:01	27/02/2024 15:01	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that previous contact has left the department and that information flyer for project should be sent to alternate emails.	Contact information to be updated in CM as requested.
		27/03/2024 9:42	27/03/2024 9:42	Outbound Email	BHMW-DMIRS-02 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 17:55	25/04/2024 17:55	Inbound Email	BHMW-DMIRS-03 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Second delivery failure noted. Email also sent to Organisation's main email address.
Cat 4 Person, Organisation, Industry Group or Association								
Commonwealth Fisheries Associations								
Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
Australian Southern Bluefin Tuna Industry Association Ltd	Peak body representing the Australian Southern Bluefin Tuna Industry.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:23	27/02/2024 15:23	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisheries Association	Peak industry body representing the interests of commercial fishers with licences in Commonwealth waters.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:46	27/02/2024 15:46	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver explained that the organization do not have enough resources to answer oil and gas consultations and they did not want the call regarded as a consultation with the organization.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Fisheries Research and Development Corporation (FRDC)	Statutory corporation under the PIRD Act investing in research, development and extension activities to increase economic, social and environmental benefits for Australian fishing and aquaculture.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:24	29/02/2024 12:24	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unsure if the organization had any comments towards the project, requested that information flyer be resent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Seafood Industry Australia	National peak-body representing the Australian seafood industry as a whole (wildcatch, aquaculture and post-harvest sectors).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:20	27/02/2024 15:20	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested to resend information flyer via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tuna Australia	Represents statutory fishing right owners, holders, fish processors and sellers, and associate members of the Eastern and Western tuna and billfish fisheries of Australia.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:12	27/02/2024 15:12	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that there is no current Consultation Servies Agreement (CSA) between Tuna Australia and EOG, therefore Tuna Australia is not prepared to make comments on the project. Call receiver suggested that EOG develop a consultation services agreement moving forward and the organization can assist on industry feedback and consultation.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Commonwealth & Western Australia Fisheries Associations

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Northern Prawn Fishery Industry Pty Ltd	NPF Industry Pty Ltd is a single voice for the industry in the Northern Prawn Fishery.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 16:26	29/02/2024 16:26	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australian Fishing Industry Council (WAFIC)	Peak industry body representing the interests of the WA commercial fishing, pearling and aquaculture sectors.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:24	28/02/2024 16:24	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Western Australia Fisheries Associations

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Pearl Producers Association	Peak representative organisation of the Australian South Sea Pearling Industry.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Recfish West	Peak body representing recreational fishers in WA.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:22	28/02/2024 16:22	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		28/02/2024 18:25	28/02/2024 18:25	Inbound Email	BHMW-RecFish-01 Xen	Organisation thanks EOG for a project update and confirms operational details. Unlikely to be affected but requests to remain updated.	Organisation thanks EOG for a project update and confirms operational details relating to Geotech, Beehive-1 Drilling and exploratory multi-well. Organisation states recreational fishing unlikely to be affected, but organisation requests to remain updated on project progress and any new information, including the draft EP for the Beehive Multi-Well.	Response as per BHMW-RecFish-02 Xen.
		6/03/2024 3:53	6/03/2024 3:53	Outbound Email	BHMW-RecFish-02 Xen	EOG thanks the organisation for their response to the project and will keep them inform as the project moves forward.	EOG thanks the organisation for their response to the project and will keep them inform as the project moves forward. Reiteration of EOGs website link and contract information.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

		27/05/2024 19:36	27/05/2024 19:36	Inbound Email	BHMW-RecFish-03 Xen	Thanks EOG for the follow up email regarding the Beehive project and note three points. They maintain the view that recreational fishing is unlikely to be affected by the activities and they look forward to further updates to the project.	Thank you for your follow up email regarding EOG's Beehive Multi-Well Drilling (MWD) campaign in the Joseph Bonaparte Gulf. It is noted that: 1.an environment plan (EP) has now been drafted for the drilling of up to three exploratory wells; 2.the oil spill modelling undertaken in support of the Beehive-1 drilling EP applies to each well within the MWD campaign and the OPEP prepared for Beehive-1 also applies to the MWD campaign; and 3.at this stage, EOG expects to only drill one of the three additional wells, either under the Beehive-1 Exploration Drilling EP or the Beehive MWD EP depending on project timing and objectives at the time. Based on the information provided, Recfishwest maintains the view that recreational fishing is unlikely to be affected by the activities proposed under the Beehive MWD EP. We look forward to receiving further updates as operations progress.	N/A
Northern Territory Fisheries Associations								
Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
Amateur Fishermen's Association of the Northern Territory (AFANT)	Peak body representing the varied interests and pursuits of recreational fishers in the NT.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 16:00	27/02/2024 16:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no voicemail option.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Guided Fishing Industry Association	Peak body responsible for promoting, developing, and maintaining the guided fishing industry in the NT. The NTGFA represents professional fishing guides and operators.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:59	27/02/2024 15:59	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		13/03/2024 15:41	13/03/2024 15:41	Inbound Post / Letter	BHMW-NTGFIA-01 Xen	Returned Mail of letter sent 22Feb2024. RTS Box Closed.	Returned Mail of letter sent 22Feb2024. RTS Box Closed.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Seafood Council	The Northern Territory Seafood Council (NTSC) is an incorporated association that focuses on the needs of its members as well as promoting and developing the Northern Territory seafood industry.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 16:03	29/02/2024 16:03	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer and no voicemail option	N/A
		13/03/2024 14:09	13/03/2024 14:09	Inbound Post / Letter	BHMW-NTSC-01 Xen	Return to Sender of letter sent 22Feb2024 - RTS Non Delivery Point.	Return to Sender of letter sent 22Feb2024 - RTS Non Delivery Point.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fishers								
Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
ABS Qld Holding Pty Ltd	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
All Oceans Tuna Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:34	20/05/2024 13:34	Inbound Post / Letter	BHMW-ALLO-01 XEN	Returned Mail. "Return to sender, left address" commented.	Returned Mail. "Return to sender, left address" commented.	N/A.
Angelica Fisheries Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australian Fishing Enterprises Pty Ltd	CTH Western Skipjack, Southern Bluefin Tuna, Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australian Ocean Producers Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Blaslov Fishing Pty Ltd	CTH Western Skipjack, Southern Bluefin Tuna & Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Charissa Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Chasper Investments Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Clark Fishing Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Correia Holding Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Crystal Trawling Co Pty Ltd	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:53	20/05/2024 13:53	Inbound Post / Letter	BHMW-CTCPL-01 Xen	Returned Mail. "Return to sender, no longer at this address" commented.	Returned Mail. "Return to sender, no longer at this address" commented.	N/A.
Davica Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
DDD Lavelle Fisheries Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
De Costi Seafoods Pty Ltd	CTH Northern Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
DI Fishing Eden Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:25	20/05/2024 13:25	Inbound Post / Letter	BHMW-DFEPL-01 Xen	Returned Mail. "RTS NATA" commented.	Returned Mail. "RTS NATA" commented.	N/A
DL & LT Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Dujour Pty Ltd	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Emily Krstina (Australia) Pty Ltd	CTH Western Skipjack & Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Esbjorn Co Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
F M F Pirrello & FMC Fisheries Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
FC & S Campisi Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Fina K Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
FM Investments (NSW) Pty Ltd	CTH Western Deepwater Trawl Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
G J Holdings Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Gary J Kennedy Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Gracie P Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Harkness Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Hinchcliff Holdings Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Jetopay Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kin Premium Australian Seafood Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Latitude Fisheries Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Lavalle Fisheries Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
LCM77 Super Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Macfish	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Machro Fishing Co Pty Ltd	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:18	20/05/2024 13:18	Inbound Post / Letter	BHMW-MFCPL-01 Xen	Returned Mail. "Return to Sender, no longer at this address" commented.	Returned Mail. "Return to Sender, no longer at this address" commented.	N/A
Mae Investments Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Markane Seafoods Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/03/2024 14:51	28/03/2024 14:51	Inbound Post / Letter	BHMW-MSPL-01 Xen	Return to sender- comments the company is closed	Return to sender- comments the company is closed	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Marnikol Fisheries Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Menbar Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 10:33	21/02/2024 10:33	Inbound Email	BHMW-MENB-01 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Organisation was sent a letter also

		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:04	25/04/2024 18:04	Inbound Email	BHMW-MENB-02 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Second email provider rejection noted. This is the legitimate email address for the organisation. The email provider won't accept this email.
Muollo Fishing Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Mures Fishing Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
North Coast Fishing Company Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Panther Nominees Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Pearl Seafood Exports	CTH Southern Bluefin Tuna Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Pelamis Australia Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 10:43	21/02/2024 10:43	Inbound Email	BHMW-PAPL-01 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Organistion was sent a letter also.

		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:06	25/04/2024 18:06	Inbound Email	BHMW-PAPL-02 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Second email provider rejection noted. This is the legitimate email address for the organisation. The email provider won't accept this email.
Peltown Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Pescatore Di Mare Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Prisman Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:52	27/02/2024 15:52	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that the organization is not interested in the project.	N/A
		28/03/2024 11:30	28/03/2024 11:30	Inbound Post / Letter	BHMW-PRI-01 Xen	Returned Mail 'Unknown' ticked on postal sticker.	Returned Mail 'Unknown' ticked on postal sticker.	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:49	20/05/2024 13:49	Inbound Post / Letter	BHMW-PRI-02 Xen	Returned Mail. Return to sender commented.	Returned Mail. Return to sender commented.	N/A
Quota Holdings Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Quota Pool Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
R & R Hobart Investments Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:49	27/02/2024 15:49	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Radar Holdings Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		7/05/2024 16:55	7/05/2024 16:55	Inbound Email	BHMW-RADH-01XEN	Advising EOG their company has moved addresses	Our company Radar Holdings has changed address for any future mail please send to <WITHHELD>	N/A
Raptis Fishing Licences Pty Ltd	CTH Northern Prawn, North West Slope & Western Deepwater Trawl Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Ronbridge Pty Ltd	CTH Northern Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
S & Z Lukin Pty Ltd	CTH Western Skipjack, Southern Bluefin Tuna & Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:51	27/02/2024 15:51	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer and no voicemail option.	N/A
		13/03/2024 15:02	13/03/2024 15:02	Inbound Post / Letter	BHMW-LUKI-01 Xen	Returned Mail of letter sent 22 Feb 2024. RTS Unit ?	Returned Mail of letter sent 22Feb2024. RTS Unit ?	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:44	20/05/2024 13:44	Inbound Post / Letter	BHMW-LUKI-02 Xen	Return mail. "Insufficient address, left address/unknown" commented.	Return mail. "Insufficient address, left address/unknown" commented.	N/A
Schulz Fisheries Pty Ltd	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sea Harvest Marine Pty Ltd	CTH Western Deepwater Trawl & Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Seacave Enterprises Pty Ltd & Puresea Investments Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Ship Agencies Australia Pty Ltd	CTH Western Skipjack & Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sniper Fishing Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Stehr Group Pty Ltd	CTH Southern Bluefin Tuna & Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sunzrays Pty Ltd C/- Tuna Australia	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Talley's Australia Pty Ltd	CTH Western Skipjack Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tirrenia Nominees Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Tony's Tuna International Pty Ltd	CTH Western Skipjack & Southern Bluefin Tuna Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/03/2024 14:44	28/03/2024 14:44	Inbound Post / Letter	BHMW-TTI-01 Xen 20230328 Returned Mail	Returned to sender. Comments that the company is closed.	Returned to sender. Comments that the company is closed.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Toren Fishing & Trading Co Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tuna Farmers Pty Ltd	CTH Western Skipjack, Southern Bluefin Tuna & Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tunafish.Com Pty Ltd	CTH Southern Bluefin Tuna & Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Viking J Fisheries Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Vinci Holdings Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Warburton Aquaculture Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Westshape Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Whan & Boxsell Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Willowood Holdings Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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YB Licence Pty Ltd	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Z Cross Construction Pty Ltd	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 1	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 2	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 3	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Commonwealth Fisher 4	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 5	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 6	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 6	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 8	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 9	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 10	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 11	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 12	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 13	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 14	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 15	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 16	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 17	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 18	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 19	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 12:34	26/04/2024 12:34	Inbound Post / Letter	BHMW-MJCL- 01 Xen	Return to sender, not at this address.	Return to sender, not at this address.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 20	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 21	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 22	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 23	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 25	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 26	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 27	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 28	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth Fisher 29	CTH Western Tuna & Billfish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 30	CTH Northern Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 31	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 32	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth Fisher 33	CTH Southern Bluefin Tuna Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth & Northern Territory Fishers

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Commonwealth & Northern Territory Fisher 1	CTH Western Tuna & Billfish & NT Bait Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth & Northern Territory Fisher 2	Mud Crab License Holder	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Commonwealth & Northern Territory Fisher 3	Coastal line license holder	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth & Northern Territory Fisher 4	Coastal line license holder	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commonwealth & Northern Territory Fisher 5	Coastal line license holder	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Commonwealth & Western Australia Fishers

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Advance Pty Ltd	CTH Northern Prawn & WA Kimberley Prawn Fishing Licence Holder	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Austfish Pty Ltd	CTH Northern Prawn & North West Slope & WA Broome Prawn, Kimberley Prawn, Nickol Bay Prawn & Onslow Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 10:53	21/02/2024 10:53	Inbound Email	BHMW-AUSTF-01 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Alternative Contact Person was included in email. Organistion was sent a letter also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 15:55	27/02/2024 15:55	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested information flyer be resent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:02	25/04/2024 18:02	Inbound Email	BHMW-AUSTF-02 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Second delivery failure noted. Alternative Contact Person was included in email.
Henchman Fishing Company Pty Ltd	CTH Northern Prawn & WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Madang Contractors (Qld) Pty Ltd	CTH Northern Prawn & WA Kimberley Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 10:54	21/02/2024 10:54	Inbound Email	BHMW-MCQLD-01 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Organistion was sent a letter also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:05	25/04/2024 18:05	Inbound Email	BHMW-MCQLD-02 Xen	Your message to <Contact Person> couldn't be delivered.	Your message to <Contact Person> couldn't be delivered.	Second email provider rejection noted. This is the legitimate email address for the organisation. The email provider won't accept this email.
Marellen Pty Ltd	CTH Western Tuna & Billfish & WA Gascoyne Demersal & Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Ruby Marine Engineering Pty Ltd	CTH Northern Prawn & WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Seafresh Holdings Pty Ltd	CTH North West Slope & Western Deepwater Trawl & WA Kimberley Prawn, Nickol Bay Prawn & Onslow Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 10:56	21/02/2024 10:56	Inbound Email	BHMW-SHFH-01 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Organisation has been sent a letter also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:06	25/04/2024 18:06	Inbound Email	BHMW-SHFH-02 Xen	Delivery has failed to these recipients or groups:	Delivery has failed to these recipients or groups:	Second email provider rejection noted. This is the legitimate email address for the organisation. The email provider won't accept this email.
Seafresh Holdings Pty Ltd & Fabron Holdings Pty Ltd	CTH North West Slope & Western Deepwater Trawl & WA Kimberley Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 10:56	21/02/2024 10:56	Inbound Email	BHMW-SHFH-01 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Organisation has been sent a letter also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:06	25/04/2024 18:06	Inbound Email	BHMW-SHFH-02 Xen	Delivery has failed to these recipients or groups:	Delivery has failed to these recipients or groups:	Second email provider rejection noted. This is the legitimate email address for the organisation. The email provider won't accept this email.
Shark Bay Seafoods Pty Ltd	CTH North West Slope & WA Gascoyne Demersal Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
The Deckstore Pty Ltd	CTH Northern Prawn & WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
WA Seafood Exporters Pty Ltd	CTH Northern Prawn & WA Broome Prawn & Kimberley Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Commonwealth, Western Australia & Northern Territory Fishers

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Austral Fisheries Pty Ltd	CTH Northern Prawn & Western Deepwater Trawl & NT Timor Reef & Demersal & WA Kimberley Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Tasmanian Seafoods Pty Ltd	CTH Western Skipjack & Western Tuna & Billfish & NT Trepang & WA Onslow Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Western Australia Fishers

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Albany Seafoods Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Albany Tuna No3 Pty Ltd	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Anjoy Nominees Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Arrow	WA Pearl Oyster Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		13/03/2024 15:49	13/03/2024 15:49	Inbound Post / Letter	BHMW-ARRO-01 Xen	Returned Mail of letter sent 22Feb2024. Return To Sender Left Adress/Unknown.	Returned Mail of letter sent 22Feb2024. Return To Sender Left Adress/Unknown.	N/A
		20/05/2024 13:31	20/05/2024 13:31	Inbound Post / Letter	BHMW-ARRO-02 Xen	Returned Mail. "Returned to Sender, Left Address" commented.	Returned Mail. "Returned to Sender, Left Address" commented.	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Athanasios Raptis Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Bardsley Fisheries Pty Ltd	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Big Blue Fishing Pty Ltd	WA Kimberley Gillnet & Barramundi Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Boots Superannuation Pty Ltd	WA Onslow Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Brampton Fishing Company Pty Ltd	WA Broome Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Brefjen Nominees Pty Ltd	WA Gascoyne Demersal & Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Brown Dog Fishing Company Pty Ltd	WA Northern Demersal Scalefish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Cervan Marine Pty Ltd	WA Kimberley Crab & Northern Demersal Scalefish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Correia Fishing Co (WA) Pty Ltd	WA Gascoyne Demersal & Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Cygnet Bay Consolidated Pty Ltd	WA Pearl Oyster Fishing Licence Holder, including operational pearl farm on the Dampier Peninsula that also offer tours & accommodation of the farm.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:48	28/02/2024 10:48	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
DVS Enterprises Pty Ltd	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Elmwood Holdings Pty Ltd	WA Gascoyne Demersal & Kimberley Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 12:10	21/02/2024 12:10	Inbound Email	BHMW-EHPL-01 Xen	Delivery has failed to these recipients or groups.	Your message to [Contact Person] couldn't be delivered.	Organisation has been sent a letter also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:04	25/04/2024 18:04	Inbound Email	BHMW-EHPL-02 Xen	Delivery has failed to these recipients or groups.	Your message to [Contact Person] couldn't be delivered.	Second email provider rejection noted.
Fantome Pearls Pty Ltd	WA Pearl Oyster Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer.. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Frenchman Nominees Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Henchman Fishing Company Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
Imoboat Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Isle Holdings Pty Ltd	WA Gascoyne Demersal & Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Kai Nominees Pty Ltd	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
KB Takari Pty Ltd	WA Gascoyne Demersal & Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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KFM Leasing Pty Ltd	WA Mackerel & Northern Demersal Scalefish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Lenden Nominees Pty Ltd	WA Northern Demersal Scalefish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Maxima Pearling Co Pty Ltd	WA Pearl Oyster Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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M G Kailis Pty Ltd	WA Kimberley Prawn, Onslow Prawn & Pearl Oyster Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Mt Sopris Pty Ltd	WA West Coast Deep Crustacean Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Newbeach Nominees Pty Ltd	WA Kimberley Prawn, Nickol Bay Prawn & Onslow Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Puresea Investments Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sabea Fishing Co Pty Ltd	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sagacity Pty Ltd	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sakan Pty Ltd	WA Kimberley Prawn, Nickol Bay Prawn & Onslow Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sakan Pty Ltd & Newbeach Nominees Pty Ltd	WA Nickol Bay Prawn & Onslow Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Scallop Nominees Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Sea Harvest Fishing Company Pty Ltd	WA Kimberley Prawn & Mackerel Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Seahorse Horizon Pty Ltd	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Shelldiver Pty Ltd	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Shrimp King Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Spaniard Fishing Pty Ltd	WA Gascoyne Demersal & Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tanus Fisheries Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tennereef Pty Ltd	WA Kimberley Prawn & Pearl Oyster Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Viency Pty Ltd	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Westcoast Shells Pty Ltd	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
West Coast Crabs Pty Ltd	WA Mackerel Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Willie Creek Pearling Pty Ltd	WA Pearl Oyster Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Yennett Pty Ltd	WA West Coast Deep Crustacean Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Zilzie Nominees Pty Ltd	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 1	WA Kimberley Gillnet and Barramundi Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 4	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		22/05/2024 9:55	22/05/2024 9:55	Inbound Email	BHMW-BERRY-01XEN	Asking to be taken off the mailing list for the beehive project.	Asking to be taken off the mailing list for the beehive project.	Removed from any further mailing lists.
Western Australia Fisher 5	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 6	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 8	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 9	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 11	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 12	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 14	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 17	WA Kimberley Gillnet and Barramundi Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 22		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

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Western Australia Fisher 24	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 25	WA Kimberley Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 27	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 29	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 30	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 31	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 32	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 34	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

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Western Australia Fisher 35	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 38	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 40	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 41	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 42	WA Kimberley Crab & Kimberley Gillnet & Barradmundi Fishing Licence Holder	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 43	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 44	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 47	WA Kimberley Prawn & Mackerel & Onslow PrawnFishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

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Western Australia Fisher 48	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 50	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Western Australia Fisher 52	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 54	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 55	WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 56	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 57	WA West Coast Deep Sea Crustacean Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 58		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 62	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 63	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 67	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 68	WA Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 71	WA Specimen Shell Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia Fisher 72		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Western Australia & Northern Territory Fishers

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
A Raptis & Sons Pty Ltd	NT Demersal & WA Kimberley Prawn Fishing Licence Holder. Raptis owns and operates 15 commercial fishing vessels in their licenced fishing zones.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 11:10	21/02/2024 11:10	Inbound Email	BHMW-ARAPTIS-01 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Organisation has been sent a letter also.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 16:08	27/02/2024 16:08	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Clipper Pearls PTY LTD	NT Pearl Oyster & WA Pearl Oyster Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NDSF Licenses Holding Company PTY LTD	NT Timor Reef & Demersal & WA Northern Demersal Scalefish Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Wildcatch Seafood Australia	NT Timor Reef & Demersal & WA Kimberley Prawn & Northern Demersal Scalefish Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 16:13	27/02/2024 16:13	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer and no voicemail option.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 18:05	25/04/2024 18:05	Inbound Email	BHMW-NWSA-01	Your message to (contact person) couldn't be delivered.	Your message to (contact person) couldn't be delivered.	Communication also sent to secondary email successfully.
Paspaley Pearling Co Pty Ltd	NT Pearl Oyster & WA Pearl Oyster Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Western Australia & Northern Territory Fisher 1	NT Spanish Mackerel & WA Kimberley Prawn Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment. Address A.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment. Address B.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program	N/A.
		13/03/2024 14:51	13/03/2024 14:51	Inbound Post / Letter	BHMW-ODON-01 Xen	Returned Mail of letter sent 22Feb2024. RTS Box Cancelled. Left Address/Unknown. Address A.	Returned Mail of letter sent 22Feb2024. RTS Box Cancelled. Left Address/Unknown.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Address A.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up	N/A

		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Address B.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up	N/A
Northern Territory Fishers								
Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
Askbase Pty Ltd	NT Coastal Line & Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australia Bay Seafoods Pty Ltd	NT Demersal Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australian Trade and Produce PTY LTD	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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A&W Rapp Pty Ltd (Wansima)	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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B & W International Trading Pty Ltd	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Bokma Pty Ltd	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Box Fishing Pty Ltd	NT Timor Reef Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Cairns Marine Coral Holdings Pty Ltd	NT Aquarium Fish & Display Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Calpino Nominees Pty Ltd	NT Barramundi Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Caracciolo Holdings Pty Ltd	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Commercial Catamarans Pty Ltd	NT Coastal Line & Demersal Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Dapmist Pty Ltd	NT Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
DCF Fisheries Pty Ltd	NT Barramundi Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
DDTB Seafood Pty Ltd	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Enigma Rose Pty Ltd	NT Offshore Net & Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Fischer Wholesale Pty Ltd	NT Coastal Line, Timor Reef & Demersal Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

H & T Investment Pty Ltd	NT Coastal Line, Timor Reef & Demersal Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Hong Peng Group PTY LTD	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
JJ's Fish & Chips & Charcoal Chicken Pty Ltd	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
MJMT Super Pty Ltd as trustee for The Matty Tybell	NT Restricted Bait Entitlement & Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Monsoon Aquatics Pty Ltd	NT Aquarium Fish & Display Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Monsoon Fishing (NT) Pty Ltd	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Mudkrabba Pty Ltd	NT Mud Crab Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 16:07	27/02/2024 16:07	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		13/03/2024 15:32	13/03/2024 15:32	Inbound Post / Letter	BHMW-MUDK-01 Xen	Returned Mail of letter sent 22Feb2024. Return to Sender Left Adress.	Returned Mail of letter sent 22Feb2024. Return to Sender Left Adress.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

North Coasties (Holdings) PTY LTD	NT Offshore Line & Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
NT Box Fisheries Pty Ltd	NT Timor Reef Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Panlyn Pty Ltd	NT Coastal Line & Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Piedmont Investments Pty Ltd	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Reef Fishing Pty Ltd	NT Timor Reef Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Seagull Fishing Pty Ltd	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
South Sea Pearling Co Pty Ltd	NT Pearl Oyster Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Taroona Pty Ltd	NT Coastal Line, Jigging & Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

The Australian South Sea Pearl Company Pty Ltd	NT Pearl Oyster Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
The RCJ Collins Investments Pty Ltd	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Timms NT Pty Ltd	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Timor Fisheries Pty Ltd	NT Timor Reef Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Toren Fishing Co Pty Ltd	NT Offshore Net & Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Wild Barra Fisheries Pty Ltd	NT Coastal Line & Barramundi Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Wildmackerel Pty Ltd	NT Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Wren Fishing Pty Ltd	NT Offshore Net & Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fisher 1	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 2	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 3	NT Coastal Line & Coastal Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 4	NT Aquarium Fish/Display Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 5	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 6	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 7	NT Coastal Line & Timor Reef Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 8	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fisher 9	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 10	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 11	NT Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 12	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Northern Territory Fisher 13	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 14	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 15	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 16	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Northern Territory Fisher 17	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Northern Territory Fisher 18	NT Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 20	NT Coastal Line & Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 21	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 22	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 24	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 25	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 26	NT Coastal Line & Demersal & Timor Reef Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fisher 27	NT Coastal Line & Demersal & Timor Reef Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Northern Territory Fisher 29	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 30	NT Coastal Line & Coastal Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 31	NT Demersal Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 32	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 33	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 34	NT Aquarium Fish/Display Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 35	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fisher 37	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 38	NT Coastal Line & Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 39	NT Aquarium Fish/Display Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 40	NT Offshore Net & Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 41	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 42	NT Spanish Mackerel Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 43	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 46	NT Demersal Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fisher 47	NT Aquarium Fish/Display Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 48	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
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Northern Territory Fisher 49	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 51	NT Aquarium Fish/Display Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 52	NT Bait Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 53	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 56	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 57	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fisher 58	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 59	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 60	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 64	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 66	NT Barramundi Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 67	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 68	NT Coastal Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 69	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fisher 70	NT Coastal Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		13/03/2024 15:09	13/03/2024 15:09	Inbound Post / Letter	BHMW-NGUY-01 Xen	Returned Mail of letter sent 22 Feb 2024. Return to Sender Left Address.	Returned Mail of letter sent 22 Feb 2024. Return to Sender Left Address.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:09	20/05/2024 13:09	Inbound Post / Letter	BHMW-NGUY-02 XEN	Returned mail. "Return to sender, left address" commented.	Returned mail. "Return to sender, left address" commented.	N/A.
Northern Territory Fisher 71	NT Coastal Net Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
Northern Territory Fisher 72	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Territory Fisher 73	NT Mud Crab Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Other Stakeholders

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Adventure Wild Kimberley Tours	Fully guided Kimberley land-based adventure covering all areas between Broome & Kununurra including views of waterfalls and aboriginal rock art.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:59	28/02/2024 10:59	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that they did not think the project would impact on their business in any way.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Anglers Choice Fishing Safaris	Charter Operator operating out of Dundee Beach NT.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:03	28/02/2024 16:03	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - mobile user returned a text message stating they would call back at a later date.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
APT Touring	Cruise provider in the coastal waters and inlets of the Kimberley area between Broome & Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 11:53	21/02/2024 11:53	Inbound Email	BHMW-APT-01 Xen	Automatic reply email	Automatic reply email	N/A
		28/02/2024 10:40	28/02/2024 10:40	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - phone number disconnected.	Contact information to be updated in CM as requested.

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Arafura Bluewater Charters	Charter Operator out of Cullen Bay Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 12:08	28/02/2024 12:08	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call Receiver requested information flyer be sent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Australian Agricultural Company (AACo)	Owners of La Belle Downs Station. The station's western boundary is the coastline of the Joseph Bonaparte Gulf within the EMBA.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:02	28/02/2024 11:02	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Cannon Charters	Charter Operator out of Cullen Bay Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 15:33	28/02/2024 15:33	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Clearwater Island Lodge	Charter Operator based out of Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:20	28/02/2024 16:20	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Coral Expeditions	Operate three Australian expedition ships in the coastal waters of the Kimberley between Broome & Darwin from March to September each year offering different voyage	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

	options.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:51	28/02/2024 10:51	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver informed that previous organization contact was unavailable. Call receiver requested that information flyer be sent to alternate email.	N/A
		27/03/2024 9:41	27/03/2024 9:41	Outbound Email	BHMW-CORA-01 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	Undeliverable.
		27/03/2024 9:41	27/03/2024 9:41	Inbound Email	NHMW-CORA-02 Xen	BHMW-CORA-01 Xen Email could not be delivered.	Delivery has failed to recipient.	Email Bounced back.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Darwin Harbour Fishing Charters	Charter Operator based out of Stokes Hill Wharf Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/03/2024 14:33	28/03/2024 14:33	Inbound Post / Letter	BHMW-DarwinHFC-01 Xen 20230328 Returned Mail	Returned mail "RTS Non Delivery Point" noted on letter	Returned mail "RTS Non Delivery Point" noted on letter	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Darwin Ports Corporation	Privately owned, responsible for management of Darwin Port.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:18	28/02/2024 11:18	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		26/04/2024 11:49	26/04/2024 11:49	Inbound Post / Letter	BHMW-DPC-01 Xen 20240426	Returned Mail. "unclaimed, no street delivery" is labelled on letter.	Returned Mail. "unclaimed, no street delivery" is labelled on letter.	N/A
Dundee Beach Fishing Charters	Charter Operator based out of Dundee Beach.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:02	28/02/2024 16:02	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Eco Abrolhos	Charter & cruise provider in the coastal waters and inlets of the Kimberley area between Broome & Wyndham.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		28/02/2024 10:32	28/02/2024 10:32	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Equinox Fishing Charters	Charter Operator based out of Cullen Bay Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:04	28/02/2024 16:04	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver informed that they had received the information from EOG and believed that the information provided to them was too long in format and didn't address the key points succinctly. Receiver wanted it noted that they are opposed to the project and they would prefer for the drilling and blasting to not go ahead. They informed that the fishing industry in the area would be negatively affected by operational activities due to its proximity to the coastline (referenced times of low fishing productivity in the gulf from earthquakes in Indonesia). The receiver noted that she did not think her saying no to the project was going to stop any approvals from going ahead.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Fish Darwin	Charter Operator out of Stokes Hill Wharf Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:15	28/02/2024 16:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kimberley Boat Cruises	Cruise provider in the coastal waters & inlets of the Kimberley area between Broome & Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:39	28/02/2024 10:39	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested information flyer be resent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kimberley Expeditions	Cruise & adventure tour provider in the coastal waters & inlets of the Kimberley area between Broome & Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:33	28/02/2024 10:33	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested information flyer be resent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kimberley Pearl Charters	Cruise provider in the Kimberley area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 11:32	21/02/2024 11:32	Inbound Email	BHMW-KPC-01 Xen	Contact person out of office automated response	Contact person out of office automated response	N/A
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		27/02/2024 16:23	27/02/2024 16:23	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kimberley Quest	Cruise & fishing expedition provider in the coastal waters and inlets of the Kimberley area between Broome & Darwin.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:41	28/02/2024 10:41	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver informed that the organization was not interested in the project.	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Lady M Luxury Cruises	Cruise provider in the Kimberley area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:27	28/02/2024 10:27	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Marine Tourism WA	Marine Tourism WA represents the charter sector to all relevant government departments. MTWA is an association made up of charter industry owners and operators who understand the many and varied pressures affecting our industry.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:22	28/02/2024 16:22	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Phone number disconnected.	Contact information to be updated in CM as requested.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Ocean Dream Charters	Cruise provider in the Kimberley area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 16:18	27/02/2024 16:18	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver informed that the project is located further offshore from where they operate and believed that the project would not impact them. Call receiver suggested that the larger cruise ship companies would be more likely to be impacted by the project. No further comments.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Odyssey Expeditions	Cruise provider in the Kimberley area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 16:14	27/02/2024 16:14	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver informed that the project is located further offshore from where they operate and believed that the project would not impact them. Organization had no further comments.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Offshore Boats Fishing Charters	Charter Operator based out of Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		28/02/2024 16:19	28/02/2024 16:19	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be sent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Ponant	Cruise provider in the Kimberley area (Broome to Darwin cruises and Australia to Indonesia).	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:43	28/02/2024 10:43	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested information flyer be resent via alternative email.	Contact information to be updated in CM as requested. Actioned as per BHMW-PONA-01 Xen
		27/03/2024 9:42	27/03/2024 9:42	Outbound Email	BHMW-PONA-01 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Red Devil Fishing Charters	Charter Operator based out of Cullen Bay Darwin.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 15:37	28/02/2024 15:37	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Seafarms Group Limited	Developer of the land based prawn aquaculture project (Sea Dragon) in the NT reliant on ongoing sea water quality for infrastructure / facilities adjacent to coast in NT.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 11:37	21/02/2024 11:37	Inbound Email	BHMW-SGL-01 Xen	Automatic response <Contact Person> left Organisation.	Automatic response <Contact Person> left Organisation. Alternative Contact Persons provided.	Organisation was sent a letter also. CM updated with alternative Contact Persons information.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:16	28/02/2024 11:16	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		20/05/2024 13:38	20/05/2024 13:38	Inbound Post / Letter	BHMW-SGL-02 Xen	Returned mail. "Returned to Sender" commented.	Returned mail. "Returned to Sender" commented.	N/A
The Great Escape Charter Company	Cruise and fishing cruise provider in the Kimberley area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:28	28/02/2024 10:28	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested a call back on the week of 04/02/2024 as manager was out of office.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Tipperary Group of Stations	Owners of Litchfield Station. The station's western boundary is the coastline of the Joseph Bonaparte Gulf within the EMBA.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:07	28/02/2024 11:07	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be sent to alternate email.	N/A
		27/03/2024 9:41	27/03/2024 9:41	Outbound Email	BHMW-TIPP-01 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	Email Bounced back as per BHMW-TIPP-02 Xen. New Email identified.
		27/03/2024 9:42	27/03/2024 9:42	Inbound Email	BHMW-TIPP-02 Xen	BHMW-TIPP-01 Xen Email could not be delivered.	Unknown To address.	Email Bounced back. New Email identified.
		27/03/2024 10:48	27/03/2024 10:48	Outbound Email	BHMW-TIPP-03 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tiwi Island Adventures	Charter Operator based out of the Tiwi Islands.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 14:45	28/02/2024 14:45	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver provided new contact details for best contact within organization - contact was out of office at time of call.	Contact information to be updated in CM as requested.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
WA Cambridge Gulf Limited	International supply chain link for the resources and agricultural industry, headquarters in Kununurra.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:21	28/02/2024 11:21	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Previous contact no longer works with organization, suggested that EOG contact organization to find new contact.	Contact information to be updated in CM as requested.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Yknot Fishing Charters	Charter Operator based out of Cullen Bay Darwin & Dundee Beach.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:17	28/02/2024 16:17	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Other Titleholders

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
3D Oil Limited	Titleholder and operator in the Roebuck Basin. Exploration Permit WA-527-P.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 14:00	29/02/2024 14:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
BP Developments Australia Pty Ltd	Titleholder of nearby petroleum permit WA-359-P.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 15:00	29/02/2024 15:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Carnarvon Energy Limited	Titleholder and operator in Bonaparte & Roebuck Basins. Exploration Permit WA-435-P, WA-436-P, WA-437-P, WA-438-P, AC/P62, AC/P63. Production Licence WA-64-L.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 14:15	29/02/2024 14:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unaware of the project and transferred to an internal team within organization who did not answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		2/05/2024 0:42	2/05/2024 0:42	Inbound Email	BHMW-CAR-01 Xen	Thanking EOG for reaching out. They do not have any comments on the beehive project.	No comments to make on the Beehive MWD EP.	N/A
Chevron Australia Pty Ltd	Titleholder of nearby petroleum permit WA-37-L	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 13:15	29/02/2024 13:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unsure of the project and unable to transfer call to someone in the business who could provide feedback/comments towards the project. Contact details left with call receiver if future comments/feedback arises.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Eni Australia B.V.	Titleholder of adjacent petroleum permit WA-33-L.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 11:45	21/02/2024 11:45	Inbound Email	BHMW-ENI-01 Xen	Delivery has failed to these recipients or groups: <Contact Person>	Delivery has failed to these recipients or groups: <Contact Person>	Organisation has been sent a letter also. New contact person has been identified and CM details updated to reflect.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 14:45	29/02/2024 14:45	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unaware of the project and did not wish to comment on the project. Contact details left with call receiver once relevant person in the business was found to make comments/feedback.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

		30/04/2024 13:46	30/04/2024 13:46	Inbound Email	BHMW-ENI-02 XEN	Acknowledge they have no concerns regarding the activities of the EOG project. Ask to be updated if there is any changes.	Acknowledge they have no concerns regarding the activities of the EOG project. Ensure both titleholders activities are conducted in respect to each other. Ask to be updated if there is any changes.	N/A
Finder Energy	Titleholder and operator in the Northern Carnarvon & Bonaparte Basins (Finder No 1 Pty Limited; Finder No 16 Pty Ltd; Finder No 9 Pty Limited 64; Beagle No. 1 Pty Ltd). Exploration Permit WA-412-P, WA-542-P, WA-547-P, AC/P61.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		22/02/2024 17:35	22/02/2024 17:35	Inbound Email	BHMW-FIN-01 Xen	Organisation thanks EOG for the update on the project and has no concerns regarding the activities.	Organisation thanks EOG for the update on the project and has no concerns regarding the activities. Request made to remain on communications list.	Response as per BHMW-FIN-02 Xen
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 14:30	29/02/2024 14:30	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		6/03/2024 3:11	6/03/2024 3:11	Outbound Email	BHMW-FIN-02 Xen	EOG thanks the organisation for their response and will continue to keep them updated on the project.	EOG thanks the organisation for their response and will continue to keep them updated on the project. Reiteration of EOGs website link and contact information.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		25/04/2024 21:47	25/04/2024 21:47	Inbound Email	BHMW-FIN-03 Xen	No objections or comments to planned activities	No objections or comments to planned activities	N/A
INPEX	Titleholders and operator in Offshore Canning, Browse & Bonaparte Basins (INPEX Browse E&P Pty Ltd; INPEX Ichthys Pty Ltd; INPEX Oil & Gas Australia Pty Ltd). Exploration Permit WA-274-P, WA-281-P, WA-285-P, WA-343-P, WA-344-P, WA-371-P, WA-502-P, WA-513-P, WA-514-P, WA-532-P, WA-533-P, AC/P36, AC/P66. Production Licence WA-44-L, WA-50-L, WA-51-L. Retention Lease WA-37-R, WA-56-R, WA-74-R, WA-79-R, WA-80-R, WA-81-R, WA-84-R, WA-85-R, WA-86-R. Infrastructure Licence WA-2-IL. Greenhouse Gas Assessment Permit G-7-AP.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:45	29/02/2024 11:45	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
IPB Petroleum Limited	Titleholder and operator in Browse Basin (IPB WA 424P Pty Ltd). Exploration Permit WA-424-P.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 9:15	29/02/2024 9:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Jadestone Energy (Australia) Pty Ltd	Titleholder and operator in the Bonaparte Basin. Exploration Permit AC/P34. Production Licence AC/L7, AC/L8.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:35	29/02/2024 11:35	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		19/03/2024 21:30	19/03/2024 21:30	Inbound Email	BHMW-JAD-01 Xen	Organisation confirms they have no comments and do not need further information.	Organisation confirms they have no comments and do not need further information. Organisation would like to remain informed of changes, but not continuous updates.	Response as per BHMW-JAD-02 Xen.
		21/03/2024 3:01	21/03/2024 3:01	Outbound Email	BHMW-JAD-02 Xen	EOG thanks organisation for response and will continue to inform them of any changes.	EOG thanks organisation for response and will continue to inform them of any changes. Reiteration of EOGs website link and contact information.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kato Energy	Titleholder and operator in the Northern Carnarvon Basin (Kato NWS Pty Ltd; Kato Amulet Pty Ltd). Exploration Permit WA-191-P. Production Licence WA-8-L.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:30	29/02/2024 11:30	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver did not wish to provide feedback on the project and unable to transfer caller to someone within the business who could provide feedback/comments towards the project.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Melbana Energy	Titleholder of nearby petroleum permits NT/P87 & WA-544-P.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		22/02/2024 19:12	22/02/2024 19:12	Inbound Email	BHMW-MEL-01 Xen	Organisation thanks EOG for the update and states their support for the project.	Organisation thanks EOG for the update and states their support for the project.	Response as per BHMW-MEL-02 Xen
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 15:15	29/02/2024 15:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		6/03/2024 3:13	6/03/2024 3:13	Outbound Email	BHMW-MEL-02 Xen	EOG thanks organisation for their response and will continue to update them.	EOG thanks organisation for their response and will continue to update them. Reiteration of EOGs website link and contact details.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Mobil Australia Resources Company Pty Limited	Titleholder and operator in Northern Carnarvon Basin. Exploration Permits WA-205-P, WA-248-P, WA-253-P, WA-374-P, WA-392-P, WA-444-P. Production Licence WA-37-L, WA-38-L. Retention Leases WA-5-R, WA-14-R, WA-15-R, WA-17-L, WA-19-R, WA-20-R, WA-21-R, WA-22-R, WA-23-R, WA-24-R, WA-39-R, WA-73-R, WA-76-R, WA-77-R, WA-82-R, WA-87-R.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 9:00	29/02/2024 9:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unaware of the project and unable to transfer caller to someone in the business who could provide feedback/comments on the project.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Neptune Energy Bonaparte Pty Ltd	Titleholder of nearby petroleum permit WA-27-R.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 15:30	29/02/2024 15:30	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Pathfinder Energy Pty Ltd	Titleholder and operator in Roebuck Basin. Exploration Permit WA-479-P, WA-487-P.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 11:00	28/02/2024 11:00	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unaware of the project and unable to transfer caller to someone else in the business who might know.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
PTTEP	Titleholder and operator in Bonaparte Basin (PTTEP Australasia (Ashmore Cartier) Pty Ltd; PTTEP Australia Timor Sea Pty Ltd). Exploration Permit AC/P17, AC/P24, AC/P33, AC/P54. Retention Lease AC/RL4, AC/RL6, AC/RL7, AC/RL10, AC/RL12.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:55	28/02/2024 10:55	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Santos	Titleholder of nearby petroleum permit WA-454-P, WA-545-P & NT/P84.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 15:45	29/02/2024 15:45	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Shell Australia Pty Ltd	Titleholder and operator in Bonaparte, Browse & Northern Carnarvon Basins. Exploration Permit WA-1-P, WA-28-P, WA-205-P, WA-253-P, WA-275-P, WA-371-P, WA-374-P, WA-392-P, WA-444-P, WA-534-P, AC/P41, AC/P64. Production Licence WA-1-L, WA-2-L, WA-3-L, WA-4-L, WA-5-L, WA-6-L, WA-9-L, WA-11-L, WA-16-L, WA-23-L, WA-24-L, WA-30-L, WA-37-L, WA-38-L, WA-44-L, WA-53-L, WA-56-L, WA-57-L, WA-58-L, AC/L10. Retention Lease WA-5-R, WA-7-R, WA-9-R, WA-10-R, WA-14-R, WA-15-R, WA-19-R, WA-20-R, WA-21-R, WA-22-R, WA-23-R, WA-24-R, WA-28-R, WA-29-R, WA-30-R, WA-31-R, WA-32-R, WA-39-R, WA-51-R, WA-52-L, WA-73-R, WA-76-R, WA-77-R, WA-82-R, WA-87-R, AC/RL16. Infrastructure Licence WA-2-IL. Greenhouse Gas Assessment Permit G-10-AP.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 10:10	28/02/2024 10:10	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was not aware of the project and unable to find someone within the organization who could provide comments and feedback on the project.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

TGS - NOPEC Geophysical Company Pty Ltd	Titleholder and operator in Browse Basin, Access Authority WA-105-AA. Special Prospecting Authority WA-45-SPA.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 9:28	28/02/2024 9:28	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Woodside Energy Limited	Titleholder of nearby petroleum permits WA-522-P & WA-279-P.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:15	29/02/2024 12:15	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unaware of the project and unable to transfer call to someone within the business who could provide feedback/comments on the project. Contact details left with call receiver once relevant person within business had been found.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Northern Territory Fishers & Traditional Owners

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Bawinanga Aboriginal Corporation	NT Aquarium Fish, Display & Mud Crab Fishing Licence Holder.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	"Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number."	N/A.
		29/02/2024 13:02	29/02/2024 13:02	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Garngirr Fishing Aboriginal Corporation	NT Coastal Line Fishing Licence Holder.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Traditional Owners

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*
Aboriginal Sea Company	Governed by a board comprising equal representation from the three land councils with traditional ownership of sea country (Northern Land Council, Tiwi Land Council & Anindilyakwa Land Council) as well as independent industry experts. ASC empowers Aboriginal Traditional Owners to be actively engaged in the commercial fishing and aquaculture industries.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:04	29/02/2024 12:04	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Ardyaloon Inc.	Charitable organisation providing services and programs to Aboriginal residents of the One Arm Point / Ardyaloon Community. Objective of the association is to provide for the cultural, social and economic needs of the community, acting at all times as a benevolent body and not as a profit making enterprise.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:51	29/02/2024 11:51	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver noted that EOG had done presentations for the aboriginal group previously. They advised that they are some distance from the project area but could be affected by a potential oil spill. Advised on ringing aboriginal organizations closer to the project area. No further comments at this stage.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Arnhem Land Aboriginal Land Trust	The Arnhem Land Aboriginal Land Trust is established under the Aboriginal Land Rights (Northern Territory) Act 1976. Contact is through the Northern Land Council.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:14	29/02/2024 12:14	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver transferred call internally to legal counsel - no answer and no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Balanggarra Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Balanggarra (Combined) (WCD2013/005), Balanggarra #3 (WCD2013/006) and Balanggarra #4 (WCD2015/005) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Balanggarra (Combined) (WCD2013/005), Balanggarra #3 (WCD2013/006) and Balanggarra #4 (WCD2015/005) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

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Bardi & Jawi Niimidiman Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Bardi and Jawi Native Title Determination (WCD2005/003)to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Bardi and Jawi Native Title Determination (WCD2005/003) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:02	29/02/2024 12:02	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these actiwties. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Bindunbur	Bindunbur (WCD2018/005) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law(s 223 NTA). Bindunbur has representation through three PBCs: Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:24	29/02/2024 12:24	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these actiwties. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Cobourg Peninsula Sanctuary Land Trust	The Cobourg Peninsula Sanctuary Land Trust is established under the Aboriginal Land Rights (Northern Territory) Act 1976. Contact is through the Northern Land Council.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:14	29/02/2024 12:14	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver transferred call internally to legal counsel - no answer and no option for voicemail.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Dak Djerat Guwe People	Native Title Claimant with an application made for the legal recognition of native title rights and interests held by Indigenous Australians. Claim is over an area of land adjoining the coast on the western side on Northern Territory south of Darwin.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Daly River / Port Keats Aboriginal Land Trust	The Daly River / Port Keats Aboriginal Land Trust is established under the Aboriginal Land Rights (Northern Territory) Act 1976. Contact is through the Northern Land Council.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:14	29/02/2024 12:14	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver transferred call internally to legal counsel - no answer and no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Dambimangari Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Dambimangari (WCD2011/002) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:22	29/02/2024 12:22	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested information flyer be sent via email.	N/A
		11/03/2024 20:01	11/03/2024 20:01	Inbound Email	BHMW-DAC-01 Xen	Response to EOG Beehive Multi-Well Drilling Request to Consult. The organization will be able to meet with EOG Resources to discuss this matter at its April Board meeting on 10/11 April.	Response through advisor to DAC. The organization will be able to meet with EOG Resources to discuss this matter at its April Board meeting on 10/11 April. Request to provide full disclosure on: any environmental issues or incidents (incl from current operations in the region), and how EOG Resources manages these. Seeking to understand EOG Resources' track record.	Response as provided in BHMW-DAC-02 Xen.
		13/03/2024 7:38	13/03/2024 7:38	Outbound Email	BHMW-DAC-02 Xen	EOG Resources understands that the organisation does not have any feedback at this time but welcomes the opportunity to discuss the project.	EOG Resources understands that the organisation does not have any feedback at this time but would like to discuss the project, and the specific request to understand EOG's track record. EOG welcome the opportunity present, and request any additional details (if any) helpful for the Board. EOG Beehive team is based in North America with limited availability to travel. Proposal to present virtually to proceed with engagement.	N/A
		4/04/2024 11:28	4/04/2024 11:28	Inbound Email	BHMW-DAC-03 XEN	Reply to BHMW-DAC-02 XEN. DAC has scheduled EOG's attendance (remotely) for 4-5pm next Wednesday 10 April.	Request to include an overview of EOG's current and proposed projects in the region in EOG's presentation.	N/A
		7/04/2024 22:06	7/04/2024 22:06	Inbound Email	BHMW-DAC-04 Xen	Sent meeting link and confirming schedule time discusses in BHMW-DAC-03 Xen.	We look forward to your attendance at the Dambimangari Board meeting on Wednesday 10 April at 9:30am. My apologies for the typo. The scheduled time is Wednesday 10 April at 4:00pm.	N/A
		8/04/2024 9:31	8/04/2024 9:31	Outbound Email	BHMW-DAC-05 Xen	Confirmed Receipt of the link sent in BHMW-DAC-04 Xen.	Happy to participate earlier in the day if that works for the DAC. Nonetheless, I understand how challenging it is to arrange all the participants and items to cover in a Board meeting and I appreciate you accommodating our virtual attendance. As such we're happy to proceed Wednesday 10 April 4:00pm and look forward to engaging with the DAC then	N/A
		10/04/2024 8:26	10/04/2024 8:26	Outbound Email	BHWM-DAC-06 Xen	Sent presentation for meeting organized in BHMW-DAC-04 Xen.	Please find attached a copy of the presentation we will review at our meeting today at 4:00 pm.	N/A
		10/04/2024 1:00	10/04/2024 1:00	Inbound Email	BHMW-DAC-07Xen	DAC stating they have printed and circulated the presentation to their Directors and are running one hour behind schedule for the upcoming meeting.	DAC stating they have printed and circulated the presentation to their Directors and are running one hour behind schedule for the upcoming meeting.	N/A
		10/04/2024 1:38	10/04/2024 1:38	Outbound Email	BHMW-DAC-08 Xen	Thanking them for the update and will still try and join the teams meeting set for 4pm.	Thanking them for the update and will still try and join the teams meeting set for 4pm.	N/A
		11/04/2024 11:49	11/04/2024 11:49	Outbound Email	BHMW-DAC-09 Xen	Finalizing the notes for the April 10 presentation and do not have a list of the attendees from the DAC. If they could send the list of attendees from the DAC they will happy to include them in the meeting notes. EOG appreciate the opportunity to present to the board and thank them for their assistance in putting in together.	Finalizing the notes for the April 10 presentation and do not have a list of the attendees from the DAC. If they could send the list of attendees from the DAC they will happy to include them in the meeting notes. EOG appreciate the opportunity to present to the board and thank them for their assistance in putting in together.	N/A
		22/04/2024 19:00	29/04/2024 20:00	Public / Group Meeting	BHMW-DAC-10 Xen	EOG-DAC Presentation to the Dambimangari Aboriginal Corporation (DAC) Meeting summary Notes and attached presentation slides. Meeting summary notes address the questions and answers provided throughout the presentation.	Beehive Project presentation included: Overview of EOG Resources, Project Summary for Geotechnical Assessment Activity and Exploration Drilling Activity, Offshore Exploration Drilling and the Beehive Multi-Well Drilling Activity, Oil spill modelling and limited potential for exposure to DAC Lands, Oil Spill Prevention, EOG's Spill Mitigation and Response Measures, Commitment to Safeguarding People and Protecting the Environment, and How to provide feedback. Meeting summary notes include questions that were raised throughout the presentation. Request for further information to answer questions 7,9 and 10.	Questions raised during presentation were answered during presentation and through a follow up email.
		26/04/2024 9:16	26/04/2024 9:16	Outbound Email	BHMW-DAC-11 Xen	Thanking the DAC for allowing the presentation on the 10 April 2024 to the board members. Thanking them for the questions raised and apologies to any members unable to attend the meeting. EOG have provided responses to three questions with reference to the sections within the Multi-Well EP where more detailed information is available.	Thanking the DAC for allowing the presentation on the 10 April 2024 to the board members. Thanking them for the questions raised and apologies to any members unable to attend the meeting. EOG have provided responses to three questions with reference to the sections within the Multi-Well EP where more detailed information is available.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Gogolanyngor Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Bindunbur (WCD2018/005) to represent them and manage their native title rights and interests once the	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

	determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		27/02/2024 10:01	27/02/2024 10:01	Inbound Email	BHMW-GAC-02 XEN	Confirmed correct contact person was included.	KLC contact person confirmed GAC contact person was included in original email.	N/A
		28/02/2024 13:00	28/02/2024 13:00	Inbound Email	BHMW-GAC-01 XEN	Forwarded on email. Request for EOG to update their current contact person for this organisation.	KLC contact person forwarding to the GAC contact person. KLC contact person request to EOG to update their current contact person for this organisation.	GAC contact person included in original email. No action required.
		29/02/2024 12:43	29/02/2024 12:43	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that the project would not impact the aboriginal corporation. The receiver requested to have information flyers and updated pollution spill modelling maps sent via email. Receiver also noted that organization was not affiliated with the legal secretary anymore.	N/A
		6/03/2024 3:37	6/03/2024 3:37	Outbound Email	BHMW-GAC-03 XEN	EOG ensures GAC will continue to be updated as the project progresses and look forward to feedback.	Thankyou for the confirmation of inclusion of correct GAC contact person. EOG ensures GAC will continue to be updated as the project progresses and look forward to project feedback. Reiteration of EOG information links and contact details.	N/A
		10/04/2024 8:26	10/04/2024 8:26	Outbound Email	BHMW-GAC-04 Xen	Attached flyer with updated spill modelling maps.	Further to the Gogolanyngor Aboriginal Corporation's (GAC) request during a phone call on February 29, 2024, please find attached a flyer with updated spill modelling maps. We understand from the email chain below that the GAC is no longer affiliated with the KLC legal secretary, and as such, are using this contact information as confirmed during the February 29 phone call previously menitoned.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kalumburu Aboriginal Corporation	Traditional custodians of Kalumburu. Northern most settlement in Western Australia on the King Edward River and not far from the coast in the Kimberley region. Also lease Carson River Station which has access to coastal waters.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:06	29/02/2024 12:06	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that project information flyer be sent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kenbi Aboriginal Land Trust	The Kenbi Aboriginal Land Trust is established under the Aboriginal Land Rights (Northern Territory) Act 1976. Contact is through the Northern Land Council.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:14	29/02/2024 12:14	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver transferred call internally to legal counsel - no answer and no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Kimberley Land Council	Peak Indigenous body in the Kimberley region working with Aboriginal people to secure native title, conduct conservation and land management activities and develop cultural business enterprises.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:57	29/02/2024 12:57	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		5/03/2024 17:06	5/03/2024 17:06	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be sent to alternate email address.	N/A
		27/03/2024 9:40	27/03/2024 9:40	Outbound Email	BHMW-KLC-01 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	Undeliverable.
		27/03/2024 9:41	27/03/2024 9:41	Inbound Email	BHMW-KLC-02 Xen	BHMW-KLC-01 Xen Email could not be delivered.	Unknown To address.	Email Bounced back.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Larrakia Nation Aboriginal Corporation	Aboriginal Corporation registered with the Office of the Registrar of Indigenous Corporations with a principal activity to provide land and waters management (care of Country) within the negative Determination area for Larrakia (Part A - consolidated proceeding) (DCD2006/001). Larrakia (Part A - consolidated proceeding) (DCD2006/001) is the most recent native title applicant on the National Native Title Tribunal for the Darwin area.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:19	29/02/2024 12:19	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Limilngan-Wulna Aboriginal Corporation	Adelaide River Aboriginal Corporation registered with the Office of the Registrar of Indigenous Corporations with a principal activities of land and waters management—care for Country (holding land title/deeds), and Land Holding and community homeland development.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:13	29/02/2024 12:13	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		26/04/2024 12:28	26/04/2024 12:28	Inbound Post / Letter	BHMW-LWAC-01 XEN	Returned mail. "No delivery to residential address" written on letter.	Returned mail. "No delivery to residential address" written on letter.	N/A
Madanaa Nada Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Warrwa Mawadjala Gadjidgar (WCD2020/009) to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).	23/02/2024 1:50	23/02/2024 1:50	Outbound Email	BHMW-MNAC-01 Xen	EOG Beehive Multi-Well Drilling Request to Consult	New RP communication outlining reason for contact being organisation as a potential 'relevant person'. Outline of the Beehive project: Geotechnical Assessment, Beehive-1 Exploration Drilling and Beehive Multi-well drilling. Flyer enclosed containing current project informataion. Link to EOG website, link to NOPSEMA websites. Sensitive information statement provided stating RP may request information they provide can be withheld from public display. Request for feedback, objections, claims, or knowledge of other RPs, and providing the address, email and phone number for correspondence.	N/A
		23/02/2024 9:00	23/02/2024 9:00	Outbound Post / Letter	BHMW-MNAC-02 Xen	EOG Beehive Multi-Well Drilling Request to Consult	New RP communication outlining reason for contact being organisation as a potential 'relevant person'. Outline of the Beehive project: Geotechnical Assessment, Beehive-1 Exploration Drilling and Beehive Multi-well drilling. Flyer enclosed containing current project informataion. Link to EOG website, link to NOPSEMA websites. Sensitive information statement provided stating RP may request information they provide can be withheld from public display. Request for feedback, objections, claims, or knowledge of other RPs, and providing the address, email and phone number for correspondence.	N/A
		29/02/2024 11:50	29/02/2024 11:50	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Number disconnected.	Reviewed ORIC for any changed or additional phone numbers. Nil identified. Email and postal mail send to organisation. Remove phone number from register until a new phone number can be identified.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Mayala Inninalang Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Mayala People (WCD2018/009) and Mayala People #2 (WCD2019/007) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Mayala People (WCD2018/009) and Mayala People #2 (WCD2019/007) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective area	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

	recognised under Australian law (s 223 NTA).	29/02/2024 12:42	29/02/2024 12:42	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Miriuwung & Gajerrong Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Miriuwung-Gajerrong (WCD2003/001) and Miriuwung Gajerrong #4 (WCD2006/002) to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Miriuwung-Gajerrong (WCD2003/001) and Miriuwung Gajerrong #4 (WCD2006/002) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:56	29/02/2024 12:56	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Nimanburr Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Bindunbur (WCD2018/005) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:38	29/02/2024 12:38	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
North Australian Indigenous Land & Sea Management Alliance Ltd (NAILSMA)	North Australian Indigenous Land & Sea Management Alliance Ltd (NAILSMA) is an Indigenous led not-for-profit company operating across north Australia who work to assist Indigenous people manage their country sustainably for future generations.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:11	29/02/2024 12:11	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be sent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Northern Land Council	NT Independent statutory authority of the Commonwealth responsible for assisting Aboriginal peoples in the NT to acquire and manage their traditional lands and sea.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.

		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:14	29/02/2024 12:14	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver transferred call internally to legal counsel - no answer and no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Nyul Nyul PBC Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Bindunbur (WCD2018/005) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:38	29/02/2024 12:38	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Oolin Sunday Island Cultural Tours	Cultural tour from the Dampier Peninsula retracing the ocean journey from Bardi Country on the mainland through the network of islands and tidal passages that make up Jawi Country. The journey began thousands of years ago through what is today known as the Middle Passage and passes through the whirlpools and eddies between Jooloom & Jayirru through some of the World's biggest tidal waters that are used by the Jawi people to hunt, fish and trade.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Tiwi Islands Land Council	The Tiwi Land Council represents all Tiwi people in the protection of land, sea and environment, while at the same time supporting sustainable economic development to improve Tiwi lives through employment, income, education and health opportunities. Their reputation is founded on cultural and leadership strengths, following in the footsteps of their visionary leaders. The Tiwi Island Land Council is the only body with authority and capacity to direct and administer the Tiwi Islands Aboriginal Land Trust.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:31	29/02/2024 12:31	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver advised that everyone who could provide feedback/comments were out of the office at time of call. Left contact details for call receiver to pass on once relevant persons were available to provide feedback/comments.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Top End Aboriginal Coastal Alliance (TEACA)	Alliance of Coastal Traditional Owners in the Northern Territory (primarily) and Western Australian (secondarily).	27/05/2024 11:05	27/05/2024 11:22	Inbound Phone Call	BHMW-TEACA-PH-01 XEN	New Organisation identifying as a Relevant Person	Organisation has recently formally established itself to assist engagement between Traditional Owners with proponents of offshore projects. Focus on top end coastal Traditional Owner groups in NT and crossing over in WA. Received a number of consultation communications from various Traditional Owner groups for a variety of offshore projects - including the Beehive project. They requested a status update on the project. They would like to be directly contacted regarding the project, and have made a request for the most recent project communications to be sent to them.	Provided a brief project update from geotech to current beehive multi-well projects, including providing the status of the approvals/submissions to NOPSEMA. Took down the Organisations contact details to include in Consultation Manager for future distributions. Provided information that EOG is a foreign company, and a request will be made for the team who look after the email distributions to send the requested information via email.
		28/05/2024 1:28	28/05/2024 1:28	Outbound Email	BHMW-TEACA-01 XEN	EOG request to consult with the TEACA about the beehive project.	EOG request to consult with the TEACA about the beehive project - template letter adapted for new RP.	N/A.
		28/05/2024 8:30	28/05/2024 8:30	Outbound Post / Letter	BHMW-TEACA-02 XEN	EOG sent a request to consult letter attached with the Beehive February 2024 flyer to update the corporation with the Beehive project.	EOG sent a request to consult letter attached with the Beehive February 2024 flyer to update the corporation with the Beehive project - template letter adapted for new RP.	N/A.
		3/06/2024 6:03	3/06/2024 6:03	Inbound Email	BHMW-TEACA-03 XEN	Refer to the EOG's email sent on the 28 May 2024 to the organisation and have attached correspondence regarding the same project.	The attached letter informs EOG Resources Australia that TEACA is recognised as a relevant party for the Beehive Project stages: Geotechnical Assessment, Exploration Drilling, and Multi-Well Drilling, under the Offshore Petroleum and Greenhouse Gas Storage Regulations. TEACA, a First Nations organisation, represents various coastal territories in the Northern Territory, comprising senior leaders from representative organisations. They aim to facilitate culturally appropriate consultation with Indigenous stakeholders, emphasising in-person engagement. TEACA's expertise in cultural heritage and regulatory compliance aids proponents in satisfying legal requirements. They propose a meeting in Darwin to discuss the project further.	***NOTE: Response in progress with EOG at time of submission.***
Top End Aboriginal Corporation Croker Island	Prescribed body corporate (PBC) nominated by Croker Island (DCD1998/001) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Croker Island (DCD1998/001) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA). Contact is through the Northern Land Council.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:38	29/02/2024 12:38	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Top End Aboriginal Corporation Legune Pastoral Lease	Prescribed body corporate (PBC) nominated by Legune Pastoral Lease (DCD2011/007) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Legune Pastoral Lease (DCD2011/007) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA). Contact is through the Northern Land Council.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:38	29/02/2024 12:38	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Top End Aboriginal Corporation Spirit Hills Pastoral Lease	Prescribed body corporate (PBC) nominated by Spirit Hill Pastoral No 2 (DCD2011/002) to represent them and manage their native title rights and interests once a determination that native title exists has been made. Once the court determines that the corporation is to be the PBC, it is entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Spirit Hill Pastoral No 2 (DCD2011/002) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA). Contact is through the Northern Land Council.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		22/02/2024 8:40	22/02/2024 8:40	Inbound Email	BHMW-TEACSHPL-01 Xen	Informing EOG the contact person no longer works for the NLC.	Informing EOG the contact person no longer works for the NLC. Provides alternative contact person.	CM updated to reflect the alternative contact person for all three Top End Aboriginal Corporation entries.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 12:53	23/02/2024 12:53	Inbound Email	BHMW- TEACSHPL-02 Xen	Resubmission of template email sent to all relevant persons due to original contact person leaving organisation. Provided to new contact person.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
		29/02/2024 12:38	29/02/2024 12:38	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Wanjina-Wunggurr Aboriginal Corporation	Prescribed body corporate (PBC) nominated by Wanjina - Wunggurr Wilinggin Native Title Determination No 1 (WCD2004/001), Uungguu Part A (WCD2011/001), Uunguu - Area B (WCD2012/003) and Dambimangari (WCD2011/002) to represent them and manage their native title rights and interests once the determination that native title exists had been made. Once the court determined that the corporation is to be the PBC, it was entered onto the National Native Title Register as a registered native title body corporate (ss 193(2)(e) and 253 NTA). Wanjina - Wunggurr Wilinggin Native Title Wanjina - Wunggurr Wilinggin Native Title Determination No 1 (WCD2004/001), Uungguu Part A (WCD2011/001), Uunguu - Area B (WCD2012/003) and Dambimangari (WCD2011/002) are Determined Native Title Holders with communal, group or individual rights and interests in relation to land and waters, possessed under traditional law and custom, by which these people have a connection with their respective areas recognised under Australian law (s 223 NTA).	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 12:37	29/02/2024 12:37	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Cat 5 Other Relevant Persons

Conservation Groups

Relevant Person	*Functions, Interests and Activities*	*Engagement Start Date*	*Engagement End Date*	*Engagement Method*	*Reference*	*Summary*	*Stakeholder Comments*	*Team Assessment & Response*

Australian Wildlife Conservancy	Private (not for profit) owner and/or manager of land for conservation in Australia whose mission is the effective conservation of all Australian native animal species and the habitats in which they live. Involved in a number of projects in the Kimberley Region.	23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:33	29/02/2024 11:33	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		30/04/2024 13:01	30/04/2024 13:01	Outbound Post / Letter	BHMW-LET-02-EOG Beehive EP 2 Follow Up Letter	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Conservation Council WA	Western Australian peak body not-for-profit, non-government conservation and environment organisation who are active in conservation and climate action and focused on fossil fuels, uranium, biodiversity, citizen science and green economic futures.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:41	29/02/2024 11:41	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - voicemail left with contact details for return call.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Territory Natural Resource Management	Independent not for profit, membership based organisation who works with landholders, community groups, industry and government to ensure sustainable management of water, land, soils and biodiversity in the Northern Territory.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:28	29/02/2024 11:28	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested information flyer be sent to alternate email.	Contact information to be updated in CM as requested.
		27/03/2024 9:40	27/03/2024 9:40	Outbound Email	BHMW-TNRM-01 Xen	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/03/2024 11:18	28/03/2024 11:18	Inbound Post / Letter	BHMW-TNRM-02XEN 20240328 Returned Mail	Returned to sender letter received. No other comment left on envelope.	Returned to sender letter received. No other comment left on envelope.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
The Wilderness Society	Public company that works to support the living world. They take on transnational corporations, rogue operators, and the armies of lobbyists and politicians who defend them in relation to projects that could affect the environment. They have been active in WA & NT in the past.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:37	29/02/2024 11:37	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver requested that information flyer be sent via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

Environmental Groups

Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
Environment Centre NT	Peak community sector environment organisation in the NT that work closely with communities across the NT to stop environmentally destructive projects, hold government and industry to account and improve environmental regulation and governance.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:45	29/02/2024 11:45	Outbound Phone Call	BHMW-PH-01-EOG Febraury Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unaware of the project. Contact details left for return call when relevant person within organization was available and had reviewed project information.	N/A

		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
Environs Kimberley	Environmental NGO for the Kimberley region, including protecting the Kimberley Coast and North Kimberley Marine Park jointly managed with groups such as Balanggara Aboriginal Corporation & MG Corp.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		21/02/2024 12:41	21/02/2024 12:41	Inbound Email	BHMW-EK-01 Xen	Automatic Reply, contact person has taken annual leave. Alternative contact is provided.	Automatic Reply, contact person has taken annual leave. Alternative contact is provided.	N/A
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		29/02/2024 11:41	29/02/2024 11:41	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver was unsure of who could best provide feedback/comments towards the project within the organization. Contact details left with receiver for return call when relevant person is available.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

							Other	
Relevant Person	***Functions, Interests and Activities***	***Engagement Start Date***	***Engagement End Date***	***Engagement Method***	***Reference***	***Summary***	***Stakeholder Comments***	***Team Assessment & Response***
ASCO - Darwin Supply Base	Specific purpose intermodal freight facility for storage and freight consolidation, loading and unloading of vessels servicing the offshore oil and gas industry.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:29	28/02/2024 16:29	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	Call receiver explained that they would require updated timelines and project information from EOG. Organization will require pre-start meetings with EOG and all relevant stakeholders before drilling operations begin at sea to ensure all risk and safety management practices have been put in place. Call receiver confirmed they had received information from EOG via email.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A
CSIRO Environment	Australia's national science research organisation.	22/02/2024 0:37	22/02/2024 4:41	Outbound Email	BHMW-EM-01-EOG Beehive EP 2 Request to Consult	Template email sent to all relevant persons with a listed email address to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		23/02/2024 0:00	23/02/2024 0:00	Outbound Post / Letter	BHMW-LET-01-EOG Beehive EP 2 Request to Consult	Template letter sent to all relevant persons to commence consultation for Beehive Multi-Well Drilling. Includes Beehive February 2024 Flyer as an attachment.	Request to consult with you regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to engage on Beehive Multi-Well Drilling of up to three exploratory wells to take place between January 2025 and December 2029. Although the Multi-Well Drilling Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive Multi-Well Drilling. Refer to attached flyer. Request to visit website and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A.
		28/02/2024 16:31	28/02/2024 16:31	Outbound Phone Call	BHMW-PH-01-EOG February Telephone Calls	Beehive Multi-Well Drilling EP Outgoing call.	No answer - no option for voicemail.	N/A
		26/04/2024 9:43	26/04/2024 10:15	Outbound Email	BHMW-EM-02-EOG Beehive EP 2 Follow Up Email	Template email sent to all relevant persons with a listed email address to provide an update on consultation for Beehive Multi-Well Drilling.	Follow up to previous information regarding the Beehive project located in the Joseph Bonaparte Gulf in Western Australia. Note previous consultation efforts regarding Beehive Geotechnical Assessment and Beehive-1 Exploration Drilling, including associated activity timings. Invitation to continue providing feedback on these activities. Invitation to engage on Beehive Multi-Well Drilling (MWD) of up to three exploratory wells to take place between January 2025 and December 2029. Although the MWD Program covers up to three wells, at this time EOG plans to drill one single exploration well at Beehive, which could be drilled under either of the EP for Beehive-1 Exploration Drilling or Beehive MWD. OPEP prepared for Beehive-1 applies to MWD. Request to visit website for up-to-date information and share feedback. Merit assessment and response process provided. Sensitive Information statement provided. Contact information provided: website, NOPSEMA page, mailing address, email, local contact number.	N/A

No of Events	**1363**		**Average Consultation Days (11/06/2024 to end date)**	**110**	

11/06/2024 12:00	**Submission Date**	11/06/2024	**End Date**

Appendix 9
Fisheries Compensation Protocol - Summary

Fisheries Compensation Protocol - Summary

EOG Resources - Beehive Exploration

EOG Resources Australia Block WA-488 Pty Ltd ('EOG') is the titleholder of exploration permit WA-488-P (the 'Permit') and proposes to drill the Beehive-1 exploration well and conduct a related pre-drill geotechnical assessment (together the 'Activities') within Commonwealth waters approximately 80 kilometres off the Western Australian coastline, located in the Joseph Bonaparte Gulf. More details about these Activities can be found on EOG's website set out below.

Introduction

Offshore petroleum titleholders and licenced commercial fishers have mutual access rights and use of marine commons. With such rights comes the obligation to carry out activities safely and without interference with each other. EOG is committed to minimising impacts to commercial fishers from its offshore activities.

EOG has developed a Fisheries Compensation Protocol ('the Protocol'), summarised here, that outlines EOG's approach to minimising impacts to commercial fishers. The Protocol has been developed in line with Australian offshore industry best practice guidance (NERA, 2021). EOG's aim is to consult with commercial fishers in an open, transparent and respectful manner in order to promote safety and understand and minimise environmental and economic impacts.

Safety

EOG is focused on operating safely, which sometimes requires restricting access to defined areas while an activity is underway. EOG acknowledges that this may temporarily interfere with commercial fishing operations.

Environmental protection

All offshore petroleum activities must prepare Environment Plans (EP) that outline the potential impacts and risks to the environment, including risks to socio-economic factors such as commercial fishing. The EPs must be assessed and accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) before any activities can commence. The EP must propose control measures to reduce impacts and risk to be 'as low as reasonably practicable' (ALARP) and acceptable.

The Protocol is one such control measure in the unlikely event where impacts to the commercial fishing industry cannot be avoided or minimised and where the impacts may cause an economic loss.

Consultation

EOG works to identify commercial fishers potentially impacted by its Activities. EOG seeks to consult with commercial fishers in an open, transparent and respectful manner to 1) inform the environmental assessment process, and 2) seek to minimise potential disturbance to fishing grounds.

EOG is also making efforts to determine whether fishers wish to be consulted directly or via their representative association, where one exists.

Where a commercial fisher or fishing association believes they could be impacted by EOG's Activities and informs EOG as such, EOG will endeavour to provide activity-specific information as requested by the commercial fisher and/or association, discuss the issues and work to avoid or minimise impacts.

Economic loss

EOG is committed to the principle that a commercial fisher should not suffer an economic loss as a direct result of EOG Activities. Losses may be incurred for one of the following reasons:

- Fishing not undertaken - due to the need to avoid fishing in an EOG activity area and not being able to fish elsewhere;
- Displacement from fishing – due to the displacement from the EOG activity at the time of the activity resulting in reduced catch from fishing in a new area and/or increased running costs;
- Fishing gear loss or damage – loss of or damage to fishing gear as a result of accidental and uninsured physical contact with EOG vessels or in-water equipment.

Claims procedure

EOG works to provide a fair, simple and transparent process for a commercial fisher to claim compensation, where the commercial fisher has consulted with EOG in good faith ahead of project activities and provided that the fisher has taken steps to avoid impacts and mitigate any economic losses to their business as a result of the EOG Activities.

Claim procedure

A full copy of the Fisheries Compensation Protocol is available upon written request and provides simple claim forms for each type of loss (as listed above). Claims must be made within three months of the claimed event and must be supported by historical and current catch and effort evidence.

Before approving a claim, EOG may request to meet with the commercial fisher or their representative to seek further details. EOG will use best endeavours to approve claims within 60 days of receiving a claim.

Resolving disagreements

The Protocol outlines a process for managing disagreements regarding a claim, including appointing an independent mediator (paid by EOG) to facilitate both parties reaching an agreement.

Feedback

EOG encourages you to ask questions or provide feedback. Please use the following contact details to do so:

Phone: +61 472 519 027

Email: australia@eogresources.com

Mail: EOG Resources Australia Block WA-488 Pty Ltd (EOG) c/o Xenith Consulting, Level 6, 40 Creek Street, BRISBANE QLD 4000

Web: https://www.eogresources.com/australia

Appendix 10
EPBC Act Protected Matters Search Tool (PMST) Results

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: 05-Apr-2024

Impacts EMBA

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:	23
Listed Migratory Species:	39

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:	60
Whales and Other Cetaceans:	15
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	2
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:	13
Key Ecological Features (Marine):	1
Biologically Important Areas:	3
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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically 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 may occur within area
FISH		
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
REPTILE		
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat likely 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 likely to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
SHARK		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	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	Species or species habitat may 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
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[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 likely to occur within area
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat may occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat may occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
[Carcharhinus longimanus](#) Oceanic Whitetip Shark [84108]		Species or species habitat may 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 likely 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 likely to occur within area

Scientific Name	Threatened Category	Presence Text
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	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
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely 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
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Orcinus orca Killer Whale, Orca [46]		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	Species or species habitat may occur within area
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]		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 likely to 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
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

Scientific Name	Threatened Category	Presence Text
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
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

Scientific Name	Threatened Category	Presence Text
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
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
Fish		
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 suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		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
Corythoichthys schultzi Schultz's Pipefish [66205]		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

Scientific Name	Threatened Category	Presence Text
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		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 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 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
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
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]		Species or species habitat may occur within area
Reptile		
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	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

Scientific Name	Threatened Category	Presence Text
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat likely 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 likely to 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
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Sea Snake [1101]		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 hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		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

Scientific Name	Threatened Category	Presence Text
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
Hydrophis zweiffei as Enhydrina schistosa		
Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to 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 borealis		
Sei Whale [34]	Vulnerable	Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to 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
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 likely to 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
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 likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Australian Marine Parks	[Resource Information]
Park Name	Zone & IUCN Categories
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval
Not controlled action			
2D seismic survey, exploration permit NT/P67	2004/1587	Not Controlled Action	Completed
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Controlled Action	Completed
Nexus Drilling Program NT-P66	2007/3745	Not Controlled Action	Completed
Not controlled action (particular manner)			

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth Permit Area WA-280-P	2005/2100	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Nova 3D Seismic Survey	2013/6825	Not Controlled Action (Particular Manner)	Post-Approval
Petrel MC2D Marine Seismic Survey	2010/5368	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			
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	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
Carbonate bank and terrace system of the Sahul Shelf	North-west

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence

Scientific Name	Behaviour	Presence
Marine Turtles		
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	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 are 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

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

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

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
- 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: 05-Apr-2024

Flaring EMBA

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:	23
Listed Migratory Species:	39

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:	15
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	2
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:	16
Key Ecological Features (Marine):	1
Biologically Important Areas:	4
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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically 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
FISH		
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
REPTILE		
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat likely 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 likely to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
SHARK		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	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	Species or species habitat may 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
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[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 likely to occur within area
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat may occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Species or species habitat may occur within area
[Carcharhinus longimanus](#) Oceanic Whitetip Shark [84108]		Species or species habitat may 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 likely 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 likely to occur within area

Scientific Name	Threatened Category	Presence Text
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Dugong dugon Dugong [28]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	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
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely 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
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Orcinus orca Killer Whale, Orca [46]		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	Species or species habitat may 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 likely to 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
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

Scientific Name	Threatened Category	Presence Text
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
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

Scientific Name	Threatened Category	Presence Text
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
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
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]		Breeding known to occur within area
Fish		
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 suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		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
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Corythoichthys schultzi Schultz's Pipefish [66205]		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
Festucalex cinctus Girdled Pipefish [66214]		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 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 cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
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
Micrognathus micronotopterus Tidepool Pipefish [66255]		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		

Scientific Name	Threatened Category	Presence Text
[Dugong dugon](#) Dugong [28]		Species or species habitat may occur within area
Reptile		
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	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 likely 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 likely to 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
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Sea Snake [1101]		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 hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area
Hydrophis inornatus Plain Sea Snake [1107]		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 pacificus Pacific Sea Snake, Large-headed Sea Snake [1112]		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
Hydrophis zweiffei as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to 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 borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may 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
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Species or species habitat likely to 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
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
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 likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Australian Marine Parks	[Resource Information]
Park Name	Zone & IUCN Categories
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)

Park Name	Zone & IUCN Categories
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus		
Flatback Turtle [59257]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval
Not controlled action			
2D seismic survey, exploration permit NT/P67	2004/1587	Not Controlled Action	Completed
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Controlled Action	Completed
Nexus Drilling Program NT-P66	2007/3745	Not Controlled Action	Completed
Not controlled action (particular manner)			
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey within permit area WA-318-P	2007/3879	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth	2005/2100	Not Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Permit Area WA-280-P		(Particular Manner)	
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Floyd 3D and Chisel 3D Seismic Surveys	2011/6220	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Nova 3D Seismic Survey	2013/6825	Not Controlled Action (Particular Manner)	Post-Approval
Petrel MC2D Marine Seismic Survey	2010/5368	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			
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	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
Carbonate bank and terrace system of the Sahul Shelf	North-west

Biologically Important Areas

[Resource Information]

Scientific Name	Behaviour	Presence
Marine Turtles		
Chelonia mydas		
Green Turtle [1765]	Foraging	Known to occur

Scientific Name	Behaviour	Presence
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Seabirds		
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	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 are 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

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

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

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
- 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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Australian Government

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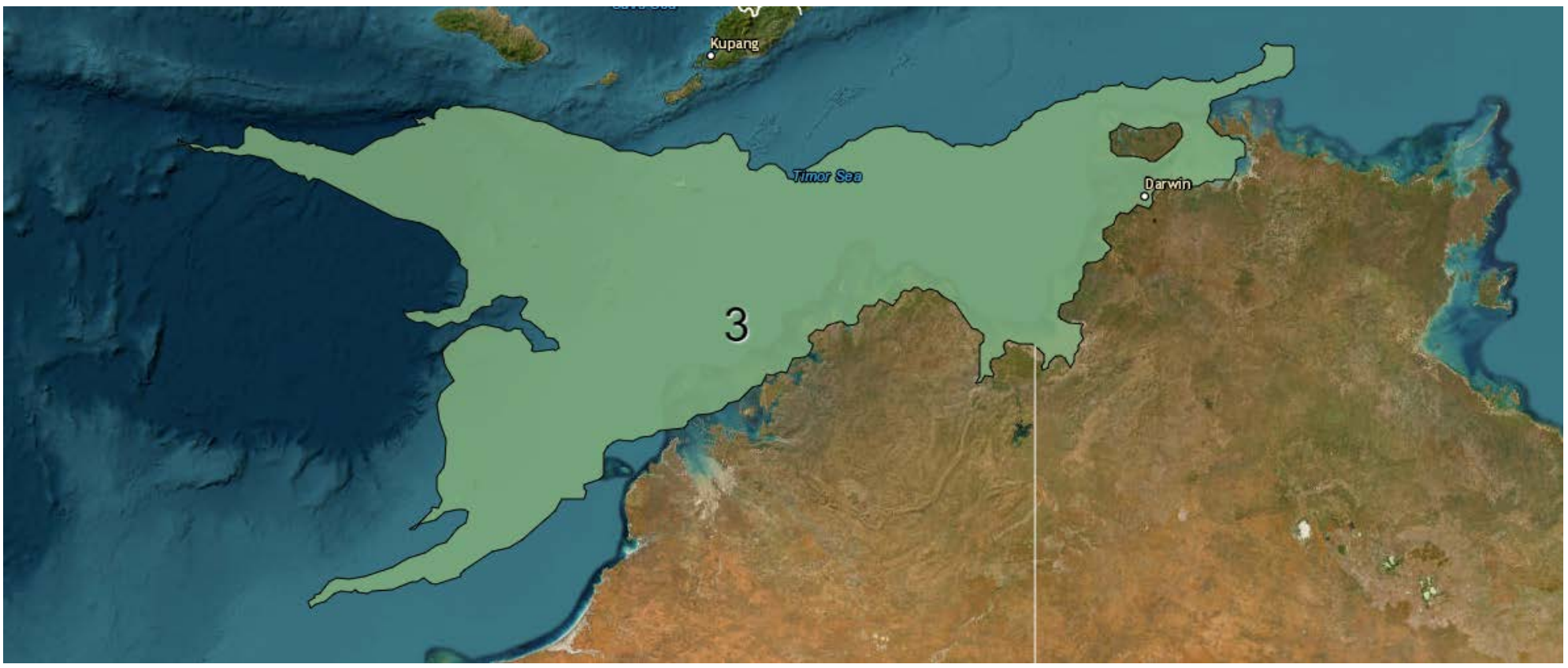
EPBC Act Protected Matters Report

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: 05-Apr-2024

Ecological Spill EMBA



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:	2
Wetlands of International Importance (Ramsar	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	11
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	84
Listed Migratory Species:	85

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:	86
Commonwealth Heritage Places:	11
Listed Marine Species:	142
Whales and Other Cetaceans:	29
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	1
Australian Marine Parks:	20
Habitat Critical to the Survival of Marine Turtles:	5

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	35
Regional Forest Agreements:	None
Nationally Important Wetlands:	15
EPBC Act Referrals:	204
Key Ecological Features (Marine):	11
Biologically Important Areas:	69
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties		[Resource Information]
Name	State	Legal Status
Kakadu National Park	NT	Declared property

National Heritage Places		[Resource Information]
Name	State	Legal Status
Natural		
Kakadu National Park	NT	Listed place
The West Kimberley	WA	Listed place

Wetlands of International Importance (Ramsar Wetlands)	[Resource Information]
Ramsar Site Name	Proximity
Ashmore reef national nature reserve	Within Ramsar site
Cobourg peninsula	Within Ramsar site
Kakadu national park	Within Ramsar site
Ord river floodplain	Within Ramsar site

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)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

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		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting 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 tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Epthianura crocea tunneyi Alligator Rivers Yellow Chat, Yellow Chat (Alligator Rivers) [67089]	Endangered	Species or species habitat known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area
Falcunculus frontatus whitei Crested Shrike-tit (northern), Northern Shrike-tit [26013]	Vulnerable	Species or species habitat known to occur within area
Geophaps smithii blaauwi Partridge Pigeon (western) [66501]	Vulnerable	Species or species habitat likely to occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known 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
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Melanodryas cucullata melvillensis Tiwi Islands Hooded Robin, Hooded Robin (Tiwi Islands) [67092]	Critically Endangered	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

Scientific Name	Threatened Category	Presence Text
Papasula abbotti		
Abbott's Booby [59297]	Endangered	Species or species habitat may 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	Breeding known to occur within area
Pluvialis squatarola		
Grey Plover [865]	Vulnerable	Roosting known to occur within area
Rostratula australis		
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tyto novaehollandiae kimberli		
Masked Owl (northern) [26048]	Vulnerable	Species or species habitat known to occur within area
Tyto novaehollandiae melvillensis		
Tiwi Masked Owl, Tiwi Islands Masked Owl [26049]	Endangered	Species or species habitat known to occur within area
Xenus cinereus		
Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area
FISH		
Thunnus maccoyii		
Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
FROG		

Scientific Name	Threatened Category	Presence Text
Uperoleia daviesae		
Howard River Toadlet, Davies's Toadlet [85375]	Vulnerable	Species or species habitat known to occur within area
MAMMAL		
Antechinus bellus		
Fawn Antechinus [344]	Vulnerable	Species or species habitat known to occur within area
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
Conilurus penicillatus		
Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat known to occur within area
Dasyurus hallucatus		
Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Isoodon auratus auratus		
Golden Bandicoot (mainland) [66665]	Vulnerable	Species or species habitat likely to occur within area
Macroderma gigas		
Ghost Bat [174]	Vulnerable	Species or species habitat known to occur within area
Mesembriomys gouldii gouldii		
Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Mesembriomys gouldii melvillensis		
Black-footed Tree-rat (Melville Island) [87619]	Vulnerable	Species or species habitat known to occur within area
Petrogale concinna canescens		
Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Petrogale concinna concinna		
Nabarlek (Victoria River District) [87605]	Critically Endangered	Species or species habitat likely to occur within area
Petrogale concinna monastria		
Nabarlek (Kimberley) [87607]	Endangered	Species or species habitat known to occur within area
Phascogale pirata		
Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat known to occur within area
Phascogale tapoatafa kimberleyensis		
Kimberley brush-tailed phascogale, Brush-tailed Phascogale (Kimberley) [88453]	Vulnerable	Species or species habitat known to occur within area
Saccolaimus saccolaimus nudicluniatus		
Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Sminthopsis butleri		
Butler's Dunnart [302]	Vulnerable	Species or species habitat known to occur within area
Trichosurus vulpecula arnhemensis		
Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat known to occur within area
Xeromys myoides		
Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat known to occur within area
PLANT		
Atalaya brevialata		
[86125]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Burmannia championii listed as Burmannia sp. Bathurst Island (R.Fensham 1021) [93461]	Endangered (listed as Burmannia sp. Bathurst Island	Species or species habitat likely to occur within area
Elaeocarpus miegei [65147]	Endangered	Species or species habitat known to occur within area
Hoya australis subsp. oramicola a vine [55436]	Vulnerable	Species or species habitat known to occur within area
Mitrella tiwiensis a vine [82029]	Vulnerable	Species or species habitat likely to occur within area
Stylidium ensatum a triggerplant [86366]	Endangered	Species or species habitat known to occur within area
Tarennoidea wallichii [65173]	Endangered	Species or species habitat known to occur within area
Typhonium jonesii a herb [62412]	Endangered	Species or species habitat known to occur within area
Typhonium mirabile a herb [79227]	Endangered	Species or species habitat known to occur within area
Typhonium taylorii listed as Typhonium taylori [93459]	Endangered	Species or species habitat likely to occur within area
Xylopia monosperma a shrub [82030]	Endangered	Species or species habitat known to occur within area
REPTILE		
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
Lucasium occultum Yellow-snouted Gecko, Yellow-snouted Ground Gecko [82993]	Endangered	Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Tiliqua scincoides intermedia Northern Blue-tongued Skink [89838]	Critically Endangered	Species or species habitat known to occur within area
Varanus mertensi Mertens' Water Monitor, Mertens's Water Monitor [1568]	Endangered	Species or species habitat known to occur within area
Varanus mitchelli Mitchell's Water Monitor [1569]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
SHARK		
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki Northern River Shark, New Guinea River Shark [82454]	Endangered	Breeding known to occur within area
Glyphis glyphis Speartooth Shark [82453]	Critically Endangered	Species or species habitat known to occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known 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
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Breeding known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons Little Tern [82849]		Breeding known to occur within area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
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
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour 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 likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Dugong dugon Dugong [28]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding 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
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known 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 likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding 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	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known 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]		Breeding 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		
Cecropis daurica		
Red-rumped Swallow [80610]		Species or species habitat known to occur within area
Cuculus optatus		
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundo rustica		
Barn Swallow [662]		Species or species habitat known to occur within area
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat known to occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat known to occur within area
Rhipidura rufifrons		
Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		

Scientific Name	Threatened Category	Presence Text
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting 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 known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius dubius Little Ringed Plover [896]		Roosting 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
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting known to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa incana Wandering Tattler [831]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known 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
Attorney-General - Australian Customs Service	
Commonwealth Land - Australian Customs Service [70998]	NT
Attorney-General - Australian Government Solicitor	
Commonwealth Land - Australian Government Solicitor [70089]	NT
Commonwealth Land - Australian Government Solicitor [70208]	NT

Commonwealth Land Name	State
Commonwealth Land - Australian Government Solicitor [70444]	NT
Commonwealth Land - Australian Government Solicitor [70092]	NT
Commonwealth Land - Australian Government Solicitor [70093]	NT
Commonwealth Land - Australian Government Solicitor [71135]	NT
Commonwealth Land - Australian Government Solicitor [70450]	NT
Commonwealth Land - Australian Government Solicitor [70332]	NT
Commonwealth Land - Australian Government Solicitor [70996]	NT
Commonwealth Land - Deputy Crown Solicitor [70334]	NT
Commonwealth Land - Deputy Crown Solicitor [70994]	NT
Commonwealth Land - Deputy Crown Solicitor [70333]	NT
Defence	
Defence - AUSTRALIAN ARMY BAND - DARWIN [70042]	NT
Defence - BERRIMAH ONE [70053]	NT
Defence - BRADSHAW FIELD TRAINING AREA [70043]	NT
Defence - DARWIN - AP10 RADAR SITE - LEE POINT [70021]	NT
Defence - DARWIN - AP3 RECEIVING STATION - LEE POINT [70044]	NT
Defence - DARWIN RELOCATIONS CENTRE [70045]	NT
Defence - DARWIN - TRANSMITTING STATION '11 MILE' [70027]	NT
Defence - DEFENCE FORCE CAREERS REFERENCE CENTRE [70046]	NT
Defence - Esanda Builidng [70048]	NT
Defence - HMAS COONAWARRA (Berrimah) [70050]	NT
Defence - HMAS COONAWARRA (Berrimah) [70051]	NT
Defence - HMAS COONAWARRA (Berrimah) [70049]	NT
Defence - KOWANDI NORTH COMMUNICATION STATION [70059]	NT
Defence - KOWANDI NORTH COMMUNICATION STATION [70060]	NT
Defence - LARRAKEYAH BARRACKS [70061]	NT
Defence - LEANYER BOMBING RANGE [70022]	NT

Commonwealth Land Name	State
Defence - LEANYER BOMBING RANGE [70023]	NT
Defence - LEANYER BOMBING RANGE [70024]	NT
Defence - MT GOODWIN RADAR SITE [70063]	NT
Defence - Patrol Boat Base (DARWIN NAVAL BASE) [70041]	NT
Defence - QUAIL ISLAND BOMBING RANGE [70003]	NT
Defence - RAAF BASE DARWIN [70073]	NT
Defence - RAAF BASE DARWIN [70072]	NT
Defence - ROBERTSON BARRACKS (Waler Barracks) [70030]	NT
Defence - SHOAL BAY RECEIVING STATION [70038]	NT
Defence - SHOAL BAY RECEIVING STATION [70037]	NT
Defence - SHOAL BAY RECEIVING STATION [70036]	NT
Defence - STOKES HILL OIL FUEL INSTALLATION [70035]	NT
Defence - WINNELLIE ONE [70076]	NT
Defence - WINNELLIE TWO [70077]	NT
Defence - Defence Housing Authority	
Commonwealth Land - Director of Property Services Defence Estate [70722]	NT
Commonwealth Land - Director of Property Services Defence Estate [71000]	NT
Commonwealth Land - Director of Property Services Defence Estate [70714]	NT
Commonwealth Land - Director of Property Services Defence Estate [70715]	NT
Commonwealth Land - Director of Property Services Defence Estate [70855]	NT
Commonwealth Land - Director of Property Services Defence Estate [70858]	NT
Commonwealth Land - Director of Property Services Defence Estate [70856]	NT
Environment and Heritage	
Commonwealth Land - Kakadu National Park [70835]	NT
Commonwealth Land - Kakadu National Park [71099]	NT

Commonwealth Land Name	State
Commonwealth Land - Kakadu National Park [70850]	NT
Family and Community Services - Department of Community Services & Health	
Commonwealth Land - Department of Community Services & Health [70720]	NT
Finance and Administration	
Commonwealth Land - Department of Administrative Services [70590]	NT
Commonwealth Land - Department of Administrative Services [70091]	NT
Commonwealth Land - Department of Administrative Services [70210]	NT
Immigration and Multicultural and Indigenous Affairs - Department of Immigration Local Government and Ethnic Affairs	
Commonwealth Land - Department of Immigration Local Government & Ethnic Affairs [70336]	NT
Transport and Regional Services	
Commonwealth Land - Department of Transport & Regional Development [70207]	NT
Unknown	
Commonwealth Land - [51968]	WA
Commonwealth Land - [70338]	NT
Commonwealth Land - [70335]	NT
Commonwealth Land - [70337]	NT
Commonwealth Land - [70721]	NT
Commonwealth Land - [70999]	NT
Commonwealth Land - [70593]	NT
Commonwealth Land - [70591]	NT
Commonwealth Land - [70203]	NT
Commonwealth Land - [70206]	NT
Commonwealth Land - [70204]	NT
Commonwealth Land - [70090]	NT
Commonwealth Land - [70327]	NT
Commonwealth Land - [70580]	NT

Commonwealth Land Name	State
Commonwealth Land - [70447]	NT
Commonwealth Land - [70995]	NT
Commonwealth Land - [70993]	NT
Commonwealth Land - [70205]	NT
Commonwealth Land - [70594]	NT
Commonwealth Land - [70595]	NT
Commonwealth Land - [51845]	WA
Commonwealth Land - [51844]	WA
Commonwealth Land - [70859]	NT
Commonwealth Land - [52276]	ACI
Commonwealth Land - [52278]	ACI
Commonwealth Land - [52277]	ACI
Commonwealth Land - [71140]	NT

Commonwealth Heritage Places		[Resource Information]
Name	State	Status
Historic		
Larrakeyah Barracks Headquarters Building	NT	Listed place
Larrakeyah Barracks Precinct	NT	Listed place
Larrakeyah Barracks Sergeants Mess	NT	Listed place
RAAF Base Commanding Officers Residence	NT	Listed place
RAAF Base Precinct	NT	Listed place
RAAF Base Tropical Housing Type 2	NT	Listed place
RAAF Base Tropical Housing Type 3	NT	Listed place
Natural		
Ashmore Reef National Nature Reserve	EXT	Listed place
Bradshaw Defence Area	NT	Listed place
Mermaid Reef - Rowley Shoals	WA	Listed place
Scott Reef and Surrounds - Commonwealth Area	EXT	Listed place

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area overfly marine area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous minutus Black Noddy [824]		Breeding known to occur within area
Anous stolidus Common Noddy [825]		Breeding known to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Ardenna pacifica as Puffinus pacificus Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting 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	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris alba Sanderling [875]		Roosting 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 known to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat known to occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Charadrius dubius Little Ringed Plover [896]		Roosting known to occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to 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]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting known to occur within area overfly marine area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
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 known to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area overfly marine 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
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area overfly marine area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Breeding known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding 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
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area overfly marine area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
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
Stiltia isabella Australian Pratincole [818]		Roosting known to occur within area overfly marine area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to 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 brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area overfly marine area
Tringa incana as Heteroscelus incanus Wandering Tattler [831]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
[Tringa stagnatilis](#) Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
[Xenus cinereus](#) Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area overfly marine area
Fish		
[Bhanotia fasciolata](#) Corrugated Pipefish, Barbed Pipefish [66188]		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 suillus](#) Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
[Corythoichthys amplexus](#) Fijian Banded Pipefish, Brown-banded Pipefish [66199]		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
[Corythoichthys haematopterus](#) Reef-top Pipefish [66201]		Species or species habitat may occur within area
[Corythoichthys intestinalis](#) Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
[Corythoichthys schultzi](#) Schultz's Pipefish [66205]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
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
Festucalex cinctus Girdled Pipefish [66214]		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 dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		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

Scientific Name	Threatened Category	Presence Text
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		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
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[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 known to occur within area
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
[Aipysurus fuscus](#) Dusky Sea Snake [1119]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
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	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour 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

Scientific Name	Threatened Category	Presence Text
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Sea Snake [1101]		Species or species habitat may occur within area
Hydrophis coggeri Cogger's Sea Snake [25925]		Species or species habitat may 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 hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area
Hydrophis inornatus Plain Sea Snake [1107]		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

Scientific Name	Threatened Category	Presence Text
Hydrophis pacificus Pacific Sea Snake, Large-headed Sea Snake [1112]		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
Hydrophis zweiffei as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Parahydrophis mertoni Arafura Smooth Sea Snake, Northern Mangrove Sea Snake [1090]		Species or species habitat may occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
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

Current Scientific Name	Status	Type of Presence
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
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
Indopacetus pacificus Longman's Beaked Whale [72]		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

Current Scientific Name	Status	Type of Presence
Mesoplodon ginkgodens Gingko-toothed Beaked Whale, Gingko-toothed Whale, Gingko Beaked Whale [59564]		Species or species habitat may occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding 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]		Breeding 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
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

Current Scientific Name	Status	Type of Presence
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

Commonwealth Reserves Terrestrial [Resource Information]

Name	State	Type
Kakadu	NT	National Park (Commonwealth)

Australian Marine Parks [Resource Information]

Park Name	Zone & IUCN Categories
Kimberley	Habitat Protection Zone (IUCN IV)
Kimberley	Habitat Protection Zone (IUCN IV)
Oceanic Shoals	Habitat Protection Zone (IUCN IV)
Arafura	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)
Kimberley	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	National Park Zone (IUCN II)
Kimberley	National Park Zone (IUCN II)
Mermaid Reef	National Park Zone (IUCN II)
Oceanic Shoals	National Park Zone (IUCN II)

Park Name	Zone & IUCN Categories
Ashmore Reef	Recreational Use Zone (IUCN IV)
Ashmore Reef	Sanctuary Zone (IUCN Ia)
Cartier Island	Sanctuary Zone (IUCN Ia)
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)
Argo-Rowley Terrace	Special Purpose Zone (Trawl) (IUCN VI)
Oceanic Shoals	Special Purpose Zone (Trawl) (IUCN VI)

Habitat Critical to the Survival of Marine Turtles [Resource Information]

Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan		
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Dermochelys coriacea Leatherback Turtle [1768]	Nesting	Known to occur
May - Jul		
Lepidochelys olivacea Olive Ridley Turtle [1767]	Nesting	Known to occur
Nov - May		
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State
Adele Island	Nature Reserve	WA
Balanggarra	Indigenous Protected Area	WA
Blackmore River	Conservation Reserve	NT

Protected Area Name	Reserve Type	State
Browse Island	Nature Reserve	WA
Casuarina	Coastal Reserve	NT
Charles Darwin	National Park	NT
Dambimangari	Indigenous Protected Area	WA
Djukbinj	National Park	NT
Garig Gunak Barlu	National Park	NT
Garig Gunak Barlu	Marine Park	NT
Holmes Jungle	Nature Park	NT
Howard Springs	Nature Park	NT
Keep River	Proposed National Parks Act park or park addition	NT
Knuckey Lagoons	Conservation Reserve	NT
Lalang-garram / Camden Sound	Marine Park	WA
Lawley River	National Park	WA
Lesueur Island	Nature Reserve	WA
Low Rocks	Nature Reserve	WA
Marri-Jabin (Thamurrurr - Stage 1)	Indigenous Protected Area	NT
Mary River	National Park	NT
Mijing	5(1)(h) Reserve	WA
Mitchell River	National Park	WA
Niiwalarra Islands	National Park	WA
North Kimberley	Marine Park	WA
North Lalang-garram	Marine Park	WA
Ord River	Nature Reserve	WA
Pelican Island	Nature Reserve	WA
Prince Regent	National Park	WA

Protected Area Name	Reserve Type	State
Rowley Shoals	Marine Park	WA
Scott Reef	Nature Reserve	WA
Unnamed WA28968	5(1)(h) Reserve	WA
Unnamed WA41775	5(1)(h) Reserve	WA
Unnamed WA44673	5(1)(h) Reserve	WA
Unnamed WA44677	5(1)(h) Reserve	WA
Uunguu	Indigenous Protected Area	WA

Nationally Important Wetlands

[Resource Information]

Wetland Name	State
Adelaide River Floodplain System	NT
Ashmore Reef	EXT
Cobourg Peninsula System	NT
Daly-Reynolds Floodplain-Estuary System	NT
Finniss Floodplain and Fog Bay Systems	NT
Kakadu National Park	NT
Legune Wetlands	NT
Mary Floodplain System	NT
Mermaid Reef	EXT
Moyle Floodplain and Hyland Bay System	NT
Ord Estuary System	WA
Parry Floodplain	WA
Port Darwin	NT
Prince Regent River System	WA
Shoal Bay - Micket Creek	NT

EPBC Act Referrals

[Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status

Title of referral	Reference	Referral Outcome	Assessment Status
Bayview, The Boulevarde, Darwin, NT	2015/7466		Assessment
Browse to North West Shelf Development, Indian Ocean, WA	2018/8319		Approval
Clarence Strait Offshore Tidal Energy Project	2008/4660		Assessment
Construction of dam wall	2004/1365		Post-Approval
Darwin Pipeline Duplication (DPD) Project	2022/09372		Post-Approval
Darwin Pipeline Duplication DPD Project	2022/9166		Completed
Darwin Ship Lift Project	2021/9068		Post-Approval
East Arm Marine Industry Park, Darwin, NT	2014/7318		Completed
Establishment and operation of a refinery at Darwin, NT	2015/7604		Assessment
Project Crux Cable Lay and Operation	2022/09441		Completed
Project Fitzroy Expansion Offshore Cable Lay	2023/09674		Referral Decision
Proposed City of Weddell	2011/6090		Assessment
Tiwi H2 Project	2022/09347		Assessment
Controlled action			
275 km gas pipeline from Wadeye to existing Darwin gas pipeline	2006/2930	Controlled Action	Post-Approval
2-D seismic survey Scott Reef	2000/125	Controlled Action	Post-Approval
Andranangoo Creek & Lethbridge Bay mineral sand mining	2005/2155	Controlled Action	Completed
Augmentation of the East Point Effluent Rising Main and Extension of East Point Outfall	2009/5113	Controlled Action	Post-Approval
Barramundi Nursery Farm	2005/2378	Controlled Action	Completed
Blacktip Project - Wharf Construction	2007/3293	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Bonaparte Liquified Natural Gas Project	2011/6141	Controlled Action	Post-Approval
Browse FLNG Development, Commonwealth Waters	2013/7079	Controlled Action	Post-Approval
Condensate Processing Facility, East Arm	2006/2734	Controlled Action	Proposed Decision
Conduct an exploration drilling campaign	2010/5718	Controlled Action	Completed
Darwin to Moomba Gas Pipeline	2001/213	Controlled Action	Completed
Decommissioning of Challis Oilfield	2003/942	Controlled Action	Post-Approval
Develop Ichthys gas-condensate field permit area W	2006/2767	Controlled Action	Completed
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
East Arm Wharf Expansion Works	2010/5304	Controlled Action	Post-Approval
Glyde Point and Middle Arm Peninsula Infrastructure Support	2001/334	Controlled Action	Completed
Glyde Point Industrial Estate	2001/336	Controlled Action	Completed
Glyde Point Industrial Estate and Associated Infrastructure	2004/1506	Controlled Action	Completed
Hardwood Plantation	2001/229	Controlled Action	Post-Approval
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Kilimiraka Mineral Sands and Associated Infrastructure (Bathurst Island), NT	2012/6587	Controlled Action	Assessment Approach
Lee Point Master-planned urban development, Darwin, NT	2015/7591	Controlled Action	Post-Approval
Methanol Plant	2001/195	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Middle Arm Peninsula Industrial Area Development	2001/339	Controlled Action	Completed
Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well	2002/755	Controlled Action	Post-Approval
Mt Peake iron, vanadium and titanium mining project & assoc infrastructure, 280kms NNW Alice Springs	2013/7027	Controlled Action	Post-Approval
Muirhead Subdivision	2010/5525	Controlled Action	Post-Approval
Operation of 17 Tiger Helicopters at Robertson Barracks	2004/1459	Controlled Action	Post-Approval
Port Patterson Barramundi Sea Cage Farm	2005/2149	Controlled Action	Completed
Prelude Floating Liquefied Natural Gas Facility and Gas Field Development	2008/4146	Controlled Action	Post-Approval
Project Sea Dragon stage 1 prawn aquaculture project, NT	2015/7527	Controlled Action	Post-Approval
PTTEP AA Floating LNG Facility	2011/6025	Controlled Action	Completed
Replacement of the East Point Outfall	2011/6099	Controlled Action	Assessment Approach
Residential subdivision of Lot 9793 (formerly Lots 9774 and 9779) Lee Point Road	2005/2108	Controlled Action	Post-Approval
Shipping Channel Enhancement	2010/5431	Controlled Action	Completed
Snake Bay Barramundi Sea Cage Farm	2005/2150	Controlled Action	Completed
Talisman Saber 2005 Military Exercise	2004/1819	Controlled Action	Post-Approval
Torosa South Initial Appraisal Drilling	2007/3500	Controlled Action	Completed
Trans-territory Gas Pipeline	2003/1186	Controlled Action	Completed
Tropical Tidal Testing Centre, Clarence Strait, 50km NE Darwin	2014/7299	Controlled Action	Guidelines Issued

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Wuudagu Bauxite Project	2019/8606	Controlled Action	Assessment Approach
Not controlled action			
2D seismic survey, exploration permit NT/P67	2004/1587	Not Controlled Action	Completed
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Controlled Action	Completed
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Controlled Action	Completed
Adele Trend TQ3D Seismic Survey	2001/252	Not Controlled Action	Completed
AEC International Hydrocarbon Well Puffin 6	2000/36	Not Controlled Action	Completed
Andranangoo Mine Site Aircraft Landing Area	2007/3743	Not Controlled Action	Completed
Aquaculture farm	2002/737	Not Controlled Action	Completed
Backpacker-1 Offshore Hydrocarbon Exploration Well	2001/300	Not Controlled Action	Completed
Channel Island Bridge Pipeline Replacement Project	2020/8672	Not Controlled Action	Completed
Construction and operation of Radar Infrastructure	2004/1406	Not Controlled Action	Completed
Coot-1 hydrocarbon exploration well, Permit Area AC/L2 or AC/L3	2001/296	Not Controlled Action	Completed
Core Breeding and Broodstock Maturation Centre development, Point Ceylon, NT	2016/7713	Not Controlled Action	Completed
Cox Peninsular Remediation Project, NT	2015/7587	Not Controlled Action	Completed
Crowley Government Services Inc Bulk Fuel Storage Facility	2021/9015	Not Controlled Action	Completed
Crux-A and Crux-B appraisal wells, Petroleum Permit Area AC/P23	2006/2748	Not Controlled Action	Completed
Crux gas-liquids development in permit AC/P23	2006/3154	Not Controlled Action	Completed
Darwin Port Maintenance Dredging, Darwin Harbour, NT	2017/8122	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Darwin ship lift facility and marine industries project, Darwin Harbour NT	2018/8195	Not Controlled Action	Completed
Drilling of 12 Hydrocarbon Exploration Wells, Permit Area WA-371-P	2006/3005	Not Controlled Action	Completed
Drilling of exploration wells, Permit areas WA-301-P to WA-305-P	2002/769	Not Controlled Action	Completed
Drilling of Marina-1 Exploration Well	2007/3586	Not Controlled Action	Completed
Echuca Shoals-2 Exploration of Appraisal Well	2006/3020	Not Controlled Action	Completed
Exploration Drilling in AC/P17, AC/P18 and AC/P24	2001/359	Not Controlled Action	Completed
Exploration Well AC/P23	2001/234	Not Controlled Action	Completed
Field trials for cultivation of microalga (Botryococcus braunii) to produce hydr	2007/3277	Not Controlled Action	Completed
Huascaran-1 exploration well (WA-292-P)	2001/539	Not Controlled Action	Completed
industrial park and a Defence support hub	2006/3177	Not Controlled Action	Completed
Kaleidoscope exploration well	2001/182	Not Controlled Action	Completed
Manaslu - 1 and Huascaran - 1 Offshore Exploration Wells	2001/235	Not Controlled Action	Completed
Marine Seismic Survey in WA-239-P	2000/24	Not Controlled Action	Completed
Marine Survey for the Australia-ASEAN Power Link AAPL	2020/8714	Not Controlled Action	Completed
Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3	2001/489	Not Controlled Action	Completed
Nexus Drilling Program NT-P66	2007/3745	Not Controlled Action	Completed
P30 Hydrocarbon Exploration Well	2001/293	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Project Sea Dragon Stage 1 Hatchery - Gunn Point, NT	2017/8092	Not Controlled Action	Completed
Puffin Oil wells 7, 8 & 9 development	2005/2336	Not Controlled Action	Completed
Residential Complex - Lots 6575 and 6576	2001/163	Not Controlled Action	Completed
Ridges Iron Ore Project	2010/5494	Not Controlled Action	Completed
Saucepan 1 Exploration Well ACP23	2000/2	Not Controlled Action	Completed
Skua and Swift Oilfields	2006/3195	Not Controlled Action	Completed
Strumbo-1 Gas Exploration Well Permit Area WA-288-P	2002/884	Not Controlled Action	Completed
Subdivision of Two Sites (1712 and 1713) into four Portions	2006/2755	Not Controlled Action	Completed
Thresher-1 Well	2000/84	Not Controlled Action	Completed
WA-295-P Kerr-McGee Exploration Wells	2001/152	Not Controlled Action	Completed
Waterfront Redevelopment	2003/1256	Not Controlled Action	Completed
Wickham Point Interconnect Gas Pipeline	2008/4309	Not Controlled Action	Completed
Not controlled action (particular manner)			
2 (3D) Marine Seismic Surveys	2009/4994	Not Controlled Action (Particular Manner)	Completed
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D Seismic Survey WA-405-P	2009/5104	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D Seismic Survey WA-405-P	2008/4133	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey of Braveheart,Kurrajong,Sunshine and Crocodile	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey within permit area WA-318-P	2007/3879	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Marine Survey	2001/363	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey in permit areas WA-274P and WA-281P	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth Permit Area WA-280-P	2005/2100	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey within permit WA-291	2007/3265	Not Controlled Action (Particular Manner)	Post-Approval
2 geotechnical surveys - preliminary and final	2006/2886	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2008/4437	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2009/4681	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey, Permit AC/P 23	2005/2364	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
3D marine seismic Survey - Maxima 3D MSS	2006/2945	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, Browse Basin, WA	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, near Scott Reef, Browse Basin	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey of AC/P4, AC/P17 and AC/P24	2006/2857	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey WA-406-P Bonaparte Basin	2007/3904	Not Controlled Action (Particular Manner)	Post-Approval
AC/P37 3D Seismic Survey Ashmore Cartier	2007/3774	Not Controlled Action (Particular Manner)	Post-Approval
Aurora MC3D Marine Seismic Survey	2010/5510	Not Controlled Action (Particular Manner)	Post-Approval
Bassett 3D Marine Seismic Survey	2010/5538	Not Controlled Action (Particular Manner)	Post-Approval
Blacktip Gas Project Yelcherr Beach Wharf Construction	2007/3537	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 3D & 2D Seismic Survey, in NT/P82, Timor Sea	2012/6398	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Bonaparte Basin Seabed Mapping Survey	2009/4951	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Seismic and Bathymetric Survey	2012/6295	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Infill Marine Seismic Survey 100km offshore	2008/4442	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Marine Seismic Survey	2005/2322	Not Controlled Action (Particular Manner)	Post-Approval
Canis 3D Marine Seismic Survey	2008/4492	Not Controlled Action (Particular Manner)	Post-Approval
Cartier East and Cartier West 3D Marine Seismic Surveys	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
Caswell MC3D Marine Seismic Survey	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval
Conduct an exploration drilling campaign	2011/5964	Not Controlled Action (Particular Manner)	Post-Approval
DAVROS MC 3D marine seismic survey northwaet of Dampier, WA	2013/7092	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Dredging the outer shipping channels of Darwin Harbour	2013/6988	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Exploration & Appraisal Wells Braveheart-1 & Cornea-3	2009/5160	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Drilling of two appraisal wells	2011/5840	Not Controlled Action (Particular Manner)	Post-Approval
Endurance 3D Marine Seismic Data Acquisition Survey	2007/3667	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign	2011/6047	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign, Browse Basin, WA-341-P, AC-P36 and WA-343-P	2013/6898	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling in Permit Areas WA-402-P & WA-403-P	2010/5297	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Program - Permit areas - WA-314-P, WA-315-P, WA-398-P.	2008/4064	Not Controlled Action (Particular Manner)	Post-Approval
Fishburn2D Marine Seismic Survey	2012/6659	Not Controlled Action (Particular Manner)	Post-Approval
Floyd 3D and Chisel 3D Seismic Surveys	2011/6220	Not Controlled Action (Particular Manner)	Post-Approval
Geoscience Australia - Marine survey in Browse Basin to acquire data to assist assessment of CO2 sto	2013/6747	Not Controlled Action (Particular Manner)	Post-Approval
Gicea 3D Marine Seismic Survey	2008/4389	Not Controlled Action (Particular Manner)	Post-Approval
Gigas 2D Pilot Ocean Bottom Cable Marine Seismic Survey	2007/3839	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Gold 2D Marine Seismic Survey Permit Areas WA375P and WA376P	2009/4698	Not Controlled Action (Particular Manner)	Post-Approval
Ichthys 3D Marine Seismic Survey	2010/5550	Not Controlled Action (Particular Manner)	Post-Approval
Joseph Bonaparte Gulf Seabed mapping survey	2010/5517	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Koolama 2D Seismic Survey Dampier Basin	2010/5420	Not Controlled Action (Particular Manner)	Post-Approval
Kraken, Lusca & Asperus 3D Marine Seismic Survey	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
Malita West 3D Seismic Survey WA-402-P and WA-403-P	2007/3936	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012	2012/6310	Not Controlled Action (Particular Manner)	Post-Approval
Mariner Non-Exclusive 2D Seismic Survey	2011/6172	Not Controlled Action (Particular Manner)	Post-Approval
Nova 3D Seismic Survey	2013/6825	Not Controlled Action (Particular Manner)	Post-Approval
NT/P77 3D Marine Seismic Survey	2009/4683	Not Controlled Action (Particular Manner)	Post-Approval
NT/P80 2010 2D Marine Seismic Survey	2010/5487	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Octantis 3D Marine Seismic Survey, Permit Area AC/P41 off northern Western Australia	2007/3369	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Canning Multi Client 2D Marine Seismic Survey	2010/5393	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Exploration Drilling Campaign	2011/6222	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Gas Exploration Drilling Campaign	2012/6384	Not Controlled Action (Particular Manner)	Post-Approval
Outer Canning exploration drilling program off NW coast of WA	2012/6618	Not Controlled Action (Particular Manner)	Post-Approval
Petrel MC2D Marine Seismic Survey	2010/5368	Not Controlled Action (Particular Manner)	Post-Approval
Phoenix 3D Seismic Survey, Bedout Sub-Basin	2010/5360	Not Controlled Action (Particular Manner)	Post-Approval
Pilot Appraisal Well - Torosa South 1	2008/3991	Not Controlled Action (Particular Manner)	Post-Approval
Removal of Potential Unexploded Ordnance within NAXA	2012/6503	Not Controlled Action (Particular Manner)	Post-Approval
Rosebud 3D Marine Seismic Survey in WA-30-R and TR/5	2012/6493	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Sandalford 3D Seismic Survey	2012/6261	Not Controlled Action (Particular Manner)	Post-Approval
Santos Petrel-7 Offshore Appraisal Drilling Programme (Bonaparte Basin)	2011/5934	Not Controlled Action (Particular Manner)	Post-Approval
Schild MC3D Marine Seismic Survey	2012/6373	Not Controlled Action (Particular Manner)	Post-Approval
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Scott Reef Seismic Research	2006/2647	Not Controlled Action (Particular Manner)	Post-Approval
Searcher bathymetry & geochemical seismic survey, Brawse Basin,Timor Sea,WA	2013/6980	Not Controlled Action (Particular Manner)	Post-Approval
Sonar and Acoustic Trials	2001/345	Not Controlled Action (Particular Manner)	Post-Approval
Thoar 3D Marine Seismic Survey	2010/5668	Not Controlled Action (Particular Manner)	Post-Approval
Tiffany 3D Seismic Survey	2010/5339	Not Controlled Action (Particular Manner)	Post-Approval
Torosa-5 Apraisal Well, WA-30-R	2008/4430	Not Controlled Action (Particular Manner)	Post-Approval
Tow West Atlas wreck from present location to boundary of EEZ	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval
Tridacna 3D Ocean Bottom Cable Marine Seismic Survey	2011/5959	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Veritas Voyager 2D Marine Seismic Survey	2009/5151	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Woodside Southern Browse 3D Seismic Survey, WA	2007/3534	Not Controlled Action (Particular Manner)	Post-Approval
Zeemeermin MC3D seismic survey, Browse Basin, Offshore WA	2009/5023	Not Controlled Action (Particular Manner)	Post-Approval
Zeppelin 3D Seismic Survey	2011/6148	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
Aurora extension MC3D Marine Seismic Survey	2011/5887	Referral Decision	Completed
BRSN08 3D Marine Seismic Survey	2008/4582	Referral Decision	Completed
Experimental Study of Behavioural and Physiological Impact on Fish of Seismic Ex	2006/2625	Referral Decision	Completed
Installation of Telecommunication Facilities	2001/254	Referral Decision	Completed
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	Referral Decision	Completed
Phillips Petroleum Wickham Point LNG facility	2001/391	Referral Decision	Completed
Pilot Appraisal Well - Torosa South-1	2008/3985	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Puffin South-West Development of Oil Reserves	2007/3834	Referral Decision	Completed
Ridges Iron Ore Project	2010/5351	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	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
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	North-west
Canyons linking the Argo Abyssal Plain with the Scott Plateau	North-west
Carbonate bank and terrace system of the Sahul Shelf	North-west
Carbonate bank and terrace system of the Van Diemen Rise	North
Continental Slope Demersal Fish Communities	North-west
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	North-west
Pinnacles of the Bonaparte Basin	North
Pinnacles of the Bonaparte Basin	North-west
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	North-west
Shelf break and slope of the Arafura Shelf	North

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence
Dolphins		
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Breeding	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Calving	Known to occur

Scientific Name	Behaviour	Presence
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging (high density prey)	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Resting	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Calving	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Calving	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat - unknown behaviour	Likely to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Calving	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Foraging	Known to occur
Dugong		
Dugong dugon Dugong [28]	Breeding	Known to occur
Dugong dugon Dugong [28]	Calving	Known to occur
Dugong dugon Dugong [28]	Foraging	Likely to occur
Dugong dugon Dugong [28]	Foraging	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]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Likely 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	Likely to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur

Scientific Name	Behaviour	Presence
Chelonia mydas Green Turtle [1765]	Internesting buffer	Likely to occur
Chelonia mydas Green Turtle [1765]	Mating	Likely to occur
Chelonia mydas Green Turtle [1765]	Nesting	Likely to occur
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Likely to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Internesting	Likely to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting	Likely to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur

Scientific Name	Behaviour	Presence
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
River shark		
Pristis clavata Dwarf Sawfish [68447]	Foraging	Known to occur
Pristis zijsron Green Sawfish [68442]	Foraging	Known to occur
Seabirds		
Ardenna pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata minor Greater Frigatebird [1013]	Breeding	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Breeding	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Resting	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Thalasseus bergii Crested Tern [83000]	Breeding (high	Known to occur

Scientific Name	Behaviour numbers)	Presence
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]	Foraging	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Calving	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Nursing	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 are 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

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

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

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
- 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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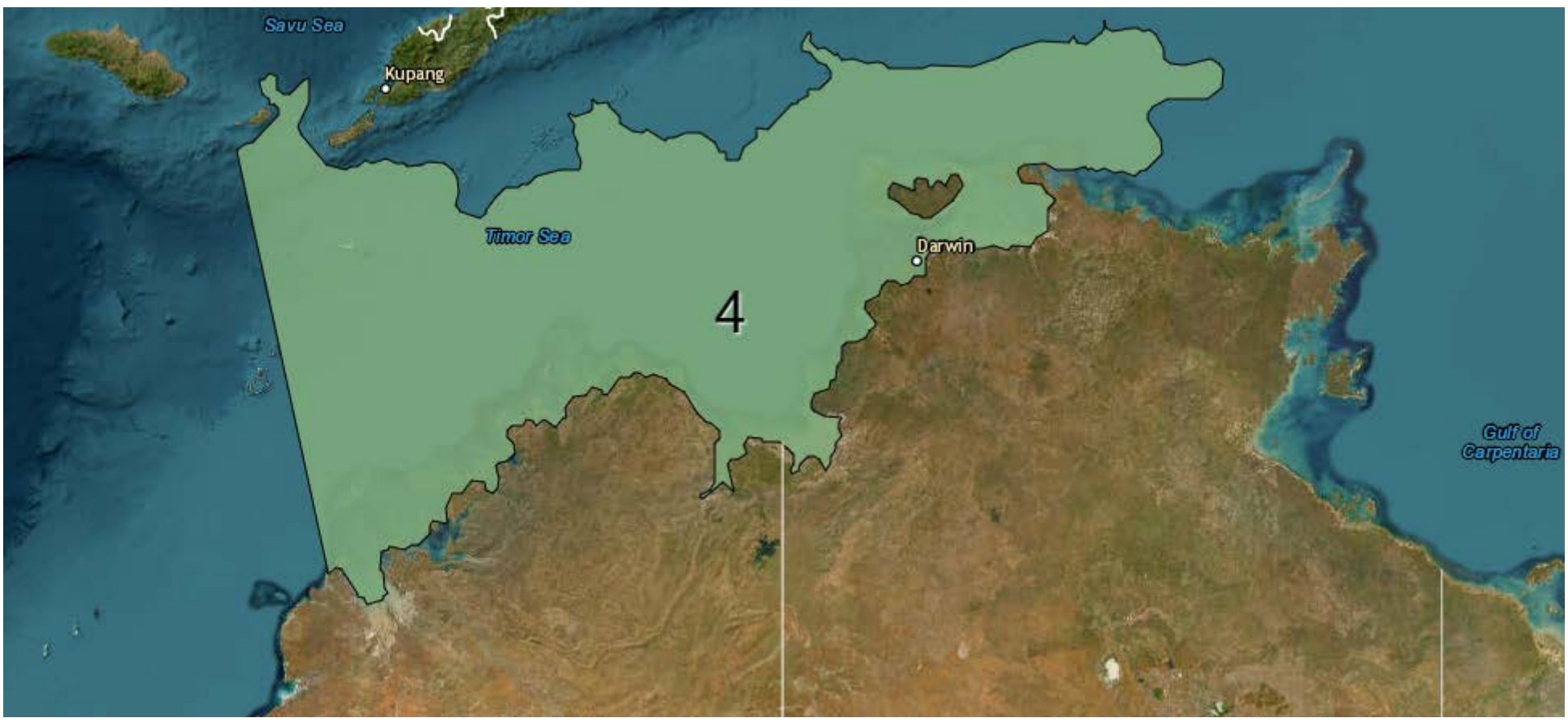
EPBC Act Protected Matters Report

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: 05-Apr-2024

Socio-economic EMBA - eastern half



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:	2
Wetlands of International Importance (Ramsar	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	9
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	87
Listed Migratory Species:	85

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:	89
Commonwealth Heritage Places:	10
Listed Marine Species:	141
Whales and Other Cetaceans:	27
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	1
Australian Marine Parks:	18
Habitat Critical to the Survival of Marine Turtles:	5

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	42
Regional Forest Agreements:	None
Nationally Important Wetlands:	17
EPBC Act Referrals:	232
Key Ecological Features (Marine):	10
Biologically Important Areas:	83
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties		[Resource Information]
Name	State	Legal Status
Kakadu National Park	NT	Declared property

National Heritage Places		[Resource Information]
Name	State	Legal Status
Natural		
Kakadu National Park	NT	Listed place
The West Kimberley	WA	Listed place

Wetlands of International Importance (Ramsar Wetlands)	[Resource Information]
Ramsar Site Name	Proximity
Ashmore reef national nature reserve	Within Ramsar site
Cobourg peninsula	Within Ramsar site
Kakadu national park	Within Ramsar site
Ord river floodplain	Within Ramsar site

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)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, 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.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Endangered	Community likely to occur within area

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		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting 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 tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Epthianura crocea tunneyi Alligator Rivers Yellow Chat, Yellow Chat (Alligator Rivers) [67089]	Endangered	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 known to occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area
Falcunculus frontatus whitei Crested Shrike-tit (northern), Northern Shrike-tit [26013]	Vulnerable	Species or species habitat known to occur within area
Geophaps smithii blaauwi Partridge Pigeon (western) [66501]	Vulnerable	Species or species habitat likely to occur within area
Geophaps smithii smithii Partridge Pigeon (eastern) [64441]	Vulnerable	Species or species habitat known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Endangered	Species or species habitat known 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
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Malurus coronatus coronatus Purple-crowned Fairy-wren (western) [64442]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Melanodryas cucullata melvillensis Tiwi Islands Hooded Robin, Hooded Robin (Tiwi Islands) [67092]	Critically Endangered	Species or species habitat known to occur within area
Mirafra javanica melvillensis Horsfield's Bushlark (Tiwi Islands) [81011]	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
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Breeding known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat known to occur within area
Tyto novaehollandiae melvillensis Tiwi Masked Owl, Tiwi Islands Masked Owl [26049]	Endangered	Species or species habitat known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
FISH		
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
FROG		
Uperoleia daviesae Howard River Toadlet, Davies's Toadlet [85375]	Vulnerable	Species or species habitat known to occur within area
MAMMAL		
Antechinus bellus Fawn Antechinus [344]	Vulnerable	Species or species habitat known to occur within area
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
Conilurus penicillatus Brush-tailed Rabbit-rat, Brush-tailed Tree-rat, Pakooma [132]	Vulnerable	Species or species habitat known to occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Isoodon auratus auratus Golden Bandicoot (mainland) [66665]	Vulnerable	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Macrotis lagotis		
Greater Bilby [282]	Vulnerable	Species or species habitat likely to occur within area
Mesembriomys gouldii gouldii		
Black-footed Tree-rat (Kimberley and mainland Northern Territory), Djintamoonga, Manbul [87618]	Endangered	Species or species habitat known to occur within area
Mesembriomys gouldii melvillensis		
Black-footed Tree-rat (Melville Island) [87619]	Vulnerable	Species or species habitat known to occur within area
Petrogale concinna canescens		
Nabarlek (Top End) [87606]	Endangered	Species or species habitat likely to occur within area
Petrogale concinna concinna		
Nabarlek (Victoria River District) [87605]	Critically Endangered	Species or species habitat likely to occur within area
Petrogale concinna monastria		
Nabarlek (Kimberley) [87607]	Endangered	Species or species habitat known to occur within area
Phascogale pirata		
Northern Brush-tailed Phascogale [82954]	Vulnerable	Species or species habitat known to occur within area
Phascogale tapoatafa kimberleyensis		
Kimberley brush-tailed phascogale, Brush-tailed Phascogale (Kimberley) [88453]	Vulnerable	Species or species habitat known to occur within area
Saccolaimus saccolaimus nudicluniatus		
Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat likely to occur within area
Sminthopsis butleri		
Butler's Dunnart [302]	Vulnerable	Species or species habitat known to occur within area
Trichosurus vulpecula arnhemensis		
Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat known to occur within area
PLANT		
Atalaya brevialata [86125]	Critically Endangered	Species or species habitat known to occur within area
Burmannia championii listed as Burmannia sp. Bathurst Island (R.Fensham 1021) [93461]	Endangered (listed as Burmannia sp. Bathurst Island	Species or species habitat likely to occur within area
Elaeocarpus miegei [65147]	Endangered	Species or species habitat known to occur within area
Hoya australis subsp. oramicola a vine [55436]	Vulnerable	Species or species habitat known to occur within area
Mitrella tiwiensis a vine [82029]	Vulnerable	Species or species habitat likely to occur within area
Stylidium ensatum a triggerplant [86366]	Endangered	Species or species habitat known to occur within area
Tarennoidea wallichii [65173]	Endangered	Species or species habitat known to occur within area
Typhonium jonesii a herb [62412]	Endangered	Species or species habitat known to occur within area
Typhonium mirabile a herb [79227]	Endangered	Species or species habitat known to occur within area
Typhonium taylorii listed as Typhonium taylori [93459]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Xylopia monosperma a shrub [82030]	Endangered	Species or species habitat known to occur within area
REPTILE		
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat known to occur within area
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Cryptoblepharus gurrmul Arafura Snake-eyed Skink [83106]	Endangered	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
Lucasium occultum Yellow-snouted Gecko, Yellow-snouted Ground Gecko [82993]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Tiliqua scincoides intermedia		
Northern Blue-tongued Skink [89838]	Critically Endangered	Species or species habitat known to occur within area
Varanus mertensi		
Mertens' Water Monitor, Mertens's Water Monitor [1568]	Endangered	Species or species habitat known to occur within area
Varanus mitchelli		
Mitchell's Water Monitor [1569]	Critically Endangered	Species or species habitat known to occur within area
SHARK		
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Glyphis garricki		
Northern River Shark, New Guinea River Shark [82454]	Endangered	Breeding known to occur within area
Glyphis glyphis		
Speartooth Shark [82453]	Critically Endangered	Species or species habitat known to occur within area
Pristis clavata		
Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Breeding known to occur within area
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding 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
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Breeding known to occur within area
Apus pacificus Fork-tailed Swift [678]		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 known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons Little Tern [82849]		Breeding known to occur within area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to occur within area
Migratory Marine Species		
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat known 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 may 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	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour 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
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
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known 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 likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
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	Breeding known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Breeding 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]		Breeding 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		
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat known to occur within area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat known to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting 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 known to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius dubius Little Ringed Plover [896]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting known to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting 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
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area
Tringa incana Wandering Tattler [831]		Roosting known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known 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
Attorney-General - Australian Customs Service	
Commonwealth Land - Australian Customs Service [70998]	NT
Attorney-General - Australian Government Solicitor	
Commonwealth Land - Australian Government Solicitor [71135]	NT
Commonwealth Land - Australian Government Solicitor [70092]	NT
Commonwealth Land - Australian Government Solicitor [70089]	NT
Commonwealth Land - Australian Government Solicitor [70444]	NT
Commonwealth Land - Australian Government Solicitor [70996]	NT
Commonwealth Land - Australian Government Solicitor [70332]	NT
Commonwealth Land - Australian Government Solicitor [70450]	NT
Commonwealth Land - Australian Government Solicitor [70093]	NT
Commonwealth Land - Australian Government Solicitor [70208]	NT
Commonwealth Land - Deputy Crown Solicitor [70994]	NT
Commonwealth Land - Deputy Crown Solicitor [70333]	NT
Commonwealth Land - Deputy Crown Solicitor [70334]	NT
Defence	
Defence - AUSTRALIAN ARMY BAND - DARWIN [70042]	NT
Defence - BERRIMAH ONE [70053]	NT
Defence - BRADSHAW FIELD TRAINING AREA [70043]	NT
Defence - DARWIN - AP10 RADAR SITE - LEE POINT [70021]	NT
Defence - DARWIN - AP3 RECEIVING STATION - LEE POINT [70044]	NT
Defence - DARWIN RELOCATIONS CENTRE [70045]	NT
Defence - DARWIN - TRANSMITTING STATION '11 MILE' [70027]	NT
Defence - DEFENCE FORCE CAREERS REFERENCE CENTRE [70046]	NT

Commonwealth Land Name	State
Defence - Esanda Builidng [70048]	NT
Defence - HMAS COONAWARRA (Berrimah) [70051]	NT
Defence - HMAS COONAWARRA (Berrimah) [70049]	NT
Defence - HMAS COONAWARRA (Berrimah) [70050]	NT
Defence - KANGAROO FLATS TRAINING AREA [70057]	NT
Defence - KOWANDI NORTH COMMUNICATION STATION [70060]	NT
Defence - KOWANDI NORTH COMMUNICATION STATION [70059]	NT
Defence - LARRAKEYAH BARRACKS [70061]	NT
Defence - LEANYER BOMBING RANGE [70024]	NT
Defence - LEANYER BOMBING RANGE [70022]	NT
Defence - LEANYER BOMBING RANGE [70023]	NT
Defence - MT GOODWIN RADAR SITE [70063]	NT
Defence - Patrol Boat Base (DARWIN NAVAL BASE) [70041]	NT
Defence - QUAIL ISLAND BOMBING RANGE [70003]	NT
Defence - RAAF BASE DARWIN [70073]	NT
Defence - RAAF BASE DARWIN [70072]	NT
Defence - ROBERTSON BARRACKS (Waler Barracks) [70030]	NT
Defence - SHOAL BAY RECEIVING STATION [70037]	NT
Defence - SHOAL BAY RECEIVING STATION [70036]	NT
Defence - SHOAL BAY RECEIVING STATION [70038]	NT
Defence - STOKES HILL OIL FUEL INSTALLATION [70035]	NT
Defence - WINNELLIE ONE [70076]	NT
Defence - WINNELLIE TWO [70077]	NT
Defence - YAMPI SOUND TRAINING AREA [50145]	WA
Defence - Defence Housing Authority	
Commonwealth Land - Director of Property Services Defence Estate [70714]	NT
Commonwealth Land - Director of Property Services Defence Estate [70715]	NT

Commonwealth Land Name	State
Commonwealth Land - Director of Property Services Defence Estate [70722]	NT
Commonwealth Land - Director of Property Services Defence Estate [71000]	NT
Commonwealth Land - Director of Property Services Defence Estate [70858]	NT
Commonwealth Land - Director of Property Services Defence Estate [70855]	NT
Commonwealth Land - Director of Property Services Defence Estate [70856]	NT
Environment and Heritage	
Commonwealth Land - Kakadu National Park [70850]	NT
Commonwealth Land - Kakadu National Park [71099]	NT
Commonwealth Land - Kakadu National Park [71139]	NT
Commonwealth Land - Kakadu National Park [70835]	NT
Family and Community Services - Department of Community Services & Health	
Commonwealth Land - Department of Community Services & Health [70720]	NT
Finance and Administration	
Commonwealth Land - Department of Administrative Services [70091]	NT
Commonwealth Land - Department of Administrative Services [70210]	NT
Commonwealth Land - Department of Administrative Services [70590]	NT
Immigration and Multicultural and Indigenous Affairs - Department of Immigration Local Government and Ethnic Affairs	
Commonwealth Land - Department of Immigration Local Government & Ethnic Affairs [70336]	NT
Transport and Regional Services	
Commonwealth Land - Department of Transport & Regional Development [70207]	NT
Unknown	
Commonwealth Land - [70090]	NT
Commonwealth Land - [70995]	NT
Commonwealth Land - [70993]	NT
Commonwealth Land - [70447]	NT

Commonwealth Land Name	State
Commonwealth Land - [70580]	NT
Commonwealth Land - [70327]	NT
Commonwealth Land - [70203]	NT
Commonwealth Land - [70206]	NT
Commonwealth Land - [70591]	NT
Commonwealth Land - [70594]	NT
Commonwealth Land - [51845]	WA
Commonwealth Land - [70593]	NT
Commonwealth Land - [51844]	WA
Commonwealth Land - [52276]	ACI
Commonwealth Land - [52278]	ACI
Commonwealth Land - [70204]	NT
Commonwealth Land - [71140]	NT
Commonwealth Land - [70595]	NT
Commonwealth Land - [70205]	NT
Commonwealth Land - [70859]	NT
Commonwealth Land - [52277]	ACI
Commonwealth Land - [51968]	WA
Commonwealth Land - [70338]	NT
Commonwealth Land - [70999]	NT
Commonwealth Land - [70335]	NT
Commonwealth Land - [70337]	NT
Commonwealth Land - [70721]	NT

Commonwealth Heritage Places		[Resource Information]
Name	State	Status
Historic		
Larrakeyah Barracks Headquarters Building	NT	Listed place
Larrakeyah Barracks Precinct	NT	Listed place

Name	State	Status
Larrakeyah Barracks Sergeants Mess	NT	Listed place
RAAF Base Commanding Officers Residence	NT	Listed place
RAAF Base Precinct	NT	Listed place
RAAF Base Tropical Housing Type 2	NT	Listed place
RAAF Base Tropical Housing Type 3	NT	Listed place
Natural		
Ashmore Reef National Nature Reserve	EXT	Listed place
Bradshaw Defence Area	NT	Listed place
Yampi Defence Area	WA	Listed place

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Acrocephalus orientalis Oriental Reed-Warbler [59570]		Species or species habitat known to occur within area overfly marine area
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous minutus Black Noddy [824]		Breeding known to occur within area
Anous stolidus Common Noddy [825]		Breeding known to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area overfly marine area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Ardenna pacifica as Puffinus pacificus Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting 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	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting 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 known to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris subminuta Long-toed Stint [861]		Roosting known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat known to occur within area overfly marine area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area
Charadrius dubius Little Ringed Plover [896]		Roosting known to occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Roosting known to 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]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Breeding known to occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area
Glareola maldivarum Oriental Pratincole [840]		Roosting known to occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Limicola falcinellus Broad-billed Sandpiper [842]		Roosting known to occur within area overfly marine area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Motacilla cinerea Grey Wagtail [642]		Species or species habitat known to occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to 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
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting known to occur within area overfly marine area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Breeding known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area overfly marine 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
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
Stiltia isabella Australian Pratincole [818]		Roosting known to occur within area overfly marine area
Sula dactylatra Masked Booby [1021]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		Breeding known to 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 brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area overfly marine area
Tringa incana as Heteroscelus incanus Wandering Tattler [831]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area overfly marine area
Fish		
Bhanotia fasciolata Corrugated Pipefish, Barbed Pipefish [66188]		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 suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		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
Corythoichthys haematopterus Reef-top Pipefish [66201]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Corythoichthys schultzi Schultz's Pipefish [66205]		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
Festucalex cinctus Girdled Pipefish [66214]		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 dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		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 cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area
Hippichthys parvicarinatus Short-keel Pipefish, Short-keeled Pipefish [66230]		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
[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 known to occur within area
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus fuscus Dusky Sea Snake [1119]		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	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour 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

Scientific Name	Threatened Category	Presence Text
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis atriceps Black-headed Sea Snake [1101]		Species or species habitat may occur within area
Hydrophis coggeri Cogger's Sea Snake [25925]		Species or species habitat may 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 hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		Species or species habitat may occur within area
Hydrophis inornatus Plain Sea Snake [1107]		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

Scientific Name	Threatened Category	Presence Text
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis pacificus Pacific Sea Snake, Large-headed Sea Snake [1112]		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
Hydrophis zweiffei as Enhydrina schistosa Australian Beaked Sea Snake [93514]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Breeding known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Parahydrophis mertoni Arafura Smooth Sea Snake, Northern Mangrove Sea Snake [1090]		Species or species habitat may occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
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

Current Scientific Name	Status	Type of Presence
[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
[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

Current Scientific Name	Status	Type of Presence
Orcaella heinsohni Australian Snubfin Dolphin [81322]		Breeding 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]		Breeding 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
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

Current Scientific Name	Status	Type of Presence
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

Commonwealth Reserves Terrestrial [Resource Information]

Name	State	Type
Kakadu	NT	National Park (Commonwealth)

Australian Marine Parks [Resource Information]

Park Name	Zone & IUCN Categories
Kimberley	Habitat Protection Zone (IUCN IV)
Kimberley	Habitat Protection Zone (IUCN IV)
Oceanic Shoals	Habitat Protection Zone (IUCN IV)
Arafura	Multiple Use Zone (IUCN VI)
Joseph Bonaparte Gulf	Multiple Use Zone (IUCN VI)
Kimberley	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Oceanic Shoals	Multiple Use Zone (IUCN VI)
Kimberley	National Park Zone (IUCN II)
Oceanic Shoals	National Park Zone (IUCN II)
Ashmore Reef	Recreational Use Zone (IUCN IV)
Ashmore Reef	Sanctuary Zone (IUCN Ia)
Cartier Island	Sanctuary Zone (IUCN Ia)
Arafura	Special Purpose Zone (IUCN VI)
Arnhem	Special Purpose Zone (IUCN VI)

Park Name	Zone & IUCN Categories
Joseph Bonaparte Gulf	Special Purpose Zone (IUCN VI)
Arafura	Special Purpose Zone (Trawl) (IUCN VI)
Oceanic Shoals	Special Purpose Zone (Trawl) (IUCN VI)

Habitat Critical to the Survival of Marine Turtles

[Resource Information]

Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus		
Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan		
Chelonia mydas		
Green Turtle [1765]	Nesting	Known to occur
Dermochelys coriacea		
Leatherback Turtle [1768]	Nesting	Known to occur
May - Jul		
Lepidochelys olivacea		
Olive Ridley Turtle [1767]	Nesting	Known to occur
Nov - May		
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Nesting	Known to occur

Extra Information

State and Territory Reserves

[Resource Information]

Protected Area Name	Reserve Type	State
Adele Island	Nature Reserve	WA
Balanggarra	Indigenous Protected Area	WA
Bardi Jawi	Indigenous Protected Area	WA
Blackmore River	Conservation Reserve	NT
Browse Island	Nature Reserve	WA
Casuarina	Coastal Reserve	NT

Protected Area Name	Reserve Type	State
Charles Darwin	National Park	NT
Dambimangari	Indigenous Protected Area	WA
Djukbinj	National Park	NT
Garig Gunak Barlu	National Park	NT
Garig Gunak Barlu	Marine Park	NT
Holmes Jungle	Nature Park	NT
Howard Springs	Nature Park	NT
Keep River	Proposed National Parks Act park or park addition	NT
Knuckey Lagoons	Conservation Reserve	NT
Lalang-garram / Camden Sound	Marine Park	WA
Lalang-garram / Horizontal Falls	Marine Park	WA
Lawley River	National Park	WA
Lesueur Island	Nature Reserve	WA
Low Rocks	Nature Reserve	WA
Marri-Jabin (Thamurrurr - Stage 1)	Indigenous Protected Area	NT
Mary River	National Park	NT
Mijing	5(1)(h) Reserve	WA
Mitchell River	National Park	WA
Niiwalarra Islands	National Park	WA
North Kimberley	Marine Park	WA
North Lalang-garram	Marine Park	WA
Ord River	Nature Reserve	WA
Parry Lagoons	Nature Reserve	WA
Pelican Island	Nature Reserve	WA
Prince Regent	National Park	WA

Protected Area Name	Reserve Type	State
Scott Reef	Nature Reserve	WA
Swan Island	Nature Reserve	WA
Tanner Island	Nature Reserve	WA
Territory Wildlife Park / Berry Springs	Other Conservation Area	NT
Territory Wildlife Park / Berry Springs	Other Conservation Area or Nature Park	NT
Unnamed WA28968	5(1)(h) Reserve	WA
Unnamed WA41775	5(1)(h) Reserve	WA
Unnamed WA44669	5(1)(h) Reserve	WA
Unnamed WA44673	5(1)(h) Reserve	WA
Unnamed WA44677	5(1)(h) Reserve	WA
Uunguu	Indigenous Protected Area	WA

Nationally Important Wetlands	[Resource Information]
Wetland Name	State
Adelaide River Floodplain System	NT
Ashmore Reef	EXT
Cobourg Peninsula System	NT
Daly-Reynolds Floodplain-Estuary System	NT
Finniss Floodplain and Fog Bay Systems	NT
Kakadu National Park	NT
Legune Wetlands	NT
Mary Floodplain System	NT
Mitchell River System	WA
Moyle Floodplain and Hyland Bay System	NT
Murgenella-Cooper Floodplain System	NT
Ord Estuary System	WA
Parry Floodplain	WA

Wetland Name	State
Port Darwin	NT
Prince Regent River System	WA
Shoal Bay - Micket Creek	NT
Yampi Sound Training Area	WA

EPBC Act Referrals [Resource Information]			
Title of referral	Reference	Referral Outcome	Assessment Status
Bayview, The Boulevarde, Darwin, NT	2015/7466		Assessment
Browse to North West Shelf Development, Indian Ocean, WA	2018/8319		Approval
Clarence Strait Offshore Tidal Energy Project	2008/4660		Assessment
Cockatoo Island Multi-User Supply Base, WA	2017/7986		Assessment
Construction of dam wall	2004/1365		Post-Approval
Darwin Pipeline Duplication (DPD) Project	2022/09372		Post-Approval
Darwin Pipeline Duplication DPD Project	2022/9166		Completed
Darwin Ship Lift Project	2021/9068		Post-Approval
East Arm Marine Industry Park, Darwin, NT	2014/7318		Completed
Establishment and operation of a refinery at Darwin, NT	2015/7604		Assessment
Koolan Island Operations	2022/09392		Assessment
Ocean Barramundi Expansion Project	2022/09272		Assessment
Project Crux Cable Lay and Operation	2022/09441		Completed
Project Fitzroy Expansion Offshore Cable Lay	2023/09674		Referral Decision
Proposed City of Weddell	2011/6090		Assessment
Tiwi H2 Project	2022/09347		Assessment

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
275 km gas pipeline from Wadeye to existing Darwin gas pipeline	2006/2930	Controlled Action	Post-Approval
2-D seismic survey Scott Reef	2000/125	Controlled Action	Post-Approval
Andranangoo Creek & Lethbridge Bay mineral sand mining	2005/2155	Controlled Action	Completed
Audacious Oil Field Standalone Development	2001/407	Controlled Action	Completed
Augmentation of the East Point Effluent Rising Main and Extension of East Point Outfall	2009/5113	Controlled Action	Post-Approval
Barramundi Nursery Farm	2005/2378	Controlled Action	Completed
Blacktip Project - Wharf Construction	2007/3293	Controlled Action	Completed
Bonaparte Liquified Natural Gas Project	2011/6141	Controlled Action	Post-Approval
Browse FLNG Development, Commonwealth Waters	2013/7079	Controlled Action	Post-Approval
Condensate Processing Facility, East Arm	2006/2734	Controlled Action	Proposed Decision
Conduct an exploration drilling campaign	2010/5718	Controlled Action	Completed
Darwin to Moomba Gas Pipeline	2001/213	Controlled Action	Completed
Decommissioning of Buffalo Oil Field	2003/984	Controlled Action	Post-Approval
Decommissioning of Challis Oilfield	2003/942	Controlled Action	Post-Approval
Develop Ichthys gas-condensate field permit area W	2006/2767	Controlled Action	Completed
Development of Blacktip Gas Field	2003/1180	Controlled Action	Post-Approval
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
East Arm Wharf Expansion Works	2010/5304	Controlled Action	Post-Approval
Glyde Point and Middle Arm Peninsula Infrastructure Support	2001/334	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Glyde Point Industrial Estate	2001/336	Controlled Action	Completed
Glyde Point Industrial Estate and Associated Infrastructure	2004/1506	Controlled Action	Completed
Hardwood Plantation	2001/229	Controlled Action	Post-Approval
Ichthys Gas Field, Offshore and onshore processing facilities and subsea pipeline	2008/4208	Controlled Action	Post-Approval
Iron ore mine	2006/2522	Controlled Action	Post-Approval
Kilimiraka Mineral Sands and Associated Infrastructure (Bathurst Island), NT	2012/6587	Controlled Action	Assessment Approach
Lee Point Master-planned urban development, Darwin, NT	2015/7591	Controlled Action	Post-Approval
Methanol Plant	2001/195	Controlled Action	Completed
Middle Arm Peninsula Industrial Area Development	2001/339	Controlled Action	Completed
Montara 4, 5, and 6 Oil Production Wells, and Montara 3 Gas Re-Injection Well	2002/755	Controlled Action	Post-Approval
Mt Peake iron, vanadium and titanium mining project & assoc infrastructure, 280kms NNW Alice Springs	2013/7027	Controlled Action	Post-Approval
Muirhead Subdivision	2010/5525	Controlled Action	Post-Approval
Operation of 17 Tiger Helicopters at Robertson Barracks	2004/1459	Controlled Action	Post-Approval
Pluton Irvine Island Iron Ore Project	2011/6064	Controlled Action	Proposed Decision
Port Patterson Barramundi Sea Cage Farm	2005/2149	Controlled Action	Completed
Prelude Floating Liquefied Natural Gas Facility and Gas Field Development	2008/4146	Controlled Action	Post-Approval
Project Sea Dragon stage 1 prawn aquaculture project, NT	2015/7527	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
PTTEP AA Floating LNG Facility	2011/6025	Controlled Action	Completed
Replacement of the East Point Outfall	2011/6099	Controlled Action	Assessment Approach
Residential subdivision of Lot 9793 (formerly Lots 9774 and 9779) Lee Point Road	2005/2108	Controlled Action	Post-Approval
Shipping Channel Enhancement	2010/5431	Controlled Action	Completed
Snake Bay Barramundi Sea Cage Farm	2005/2150	Controlled Action	Completed
Talisman Saber 2005 Military Exercise	2004/1819	Controlled Action	Post-Approval
Tassie Shoal Gas Reforming and Methanol Production Plants - NT/P48	2000/108	Controlled Action	Post-Approval
Tassie Shoal LNG Project	2003/1067	Controlled Action	Post-Approval
Torosa South Initial Appraisal Drilling	2007/3500	Controlled Action	Completed
Trans-territory Gas Pipeline	2003/1186	Controlled Action	Completed
Tropical Tidal Testing Centre, Clarence Strait, 50km NE Darwin	2014/7299	Controlled Action	Guidelines Issued
Wuudagu Bauxite Project	2019/8606	Controlled Action	Assessment Approach
Not controlled action			
2D seismic survey, exploration permit NT/P67	2004/1587	Not Controlled Action	Completed
2D Seismic Survey in Permit Areas WA-318-P & WA-319-P, near Cape Londonderry	2004/1687	Not Controlled Action	Completed
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Controlled Action	Completed
Adele Trend TQ3D Seismic Survey	2001/252	Not Controlled Action	Completed
AEC International Hydrocarbon Well Puffin 6	2000/36	Not Controlled Action	Completed
Andranangoo Mine Site Aircraft Landing Area	2007/3743	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Aquaculture - Barramundi grow out, Yampi Sound	2005/2476	Not Controlled Action	Completed
Aquaculture farm	2002/737	Not Controlled Action	Completed
Audacious-3 oil drilling well	2003/1042	Not Controlled Action	Completed
Backpacker-1 Offshore Hydrocarbon Exploration Well	2001/300	Not Controlled Action	Completed
Barossa-1 (NT/P69), Caldita-2 (NT/P61) exploration wells	2006/2793	Not Controlled Action	Completed
Buffalo In-Fill Production Wells	2001/475	Not Controlled Action	Completed
Caldita-1 Hydrocarbon Exploration Well, NT/P61	2004/1854	Not Controlled Action	Completed
Channel Island Bridge Pipeline Replacement Project	2020/8672	Not Controlled Action	Completed
Construction and operation of Radar Infrastructure	2004/1406	Not Controlled Action	Completed
Controlled Source Electromagnetic 2D Survey	2009/4980	Not Controlled Action	Completed
Coot-1 hydrocarbon exploration well, Permit Area AC/L2 or AC/L3	2001/296	Not Controlled Action	Completed
Core Breeding and Broodstock Maturation Centre development, Point Ceylon, NT	2016/7713	Not Controlled Action	Completed
Cox Peninsular Remediation Project, NT	2015/7587	Not Controlled Action	Completed
Crowley Government Services Inc Bulk Fuel Storage Facility	2021/9015	Not Controlled Action	Completed
Crux-A and Crux-B appraisal wells, Petroleum Permit Area AC/P23	2006/2748	Not Controlled Action	Completed
Crux gas-liquids development in permit AC/P23	2006/3154	Not Controlled Action	Completed
Darwin Port Maintenance Dredging, Darwin Harbour, NT	2017/8122	Not Controlled Action	Completed
Darwin ship lift facility and marine industries project, Darwin Harbour NT	2018/8195	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Drilling of 12 Hydrocarbon Exploration Wells, Permit Area WA-371-P	2006/3005	Not Controlled Action	Completed
Drilling of exploration well Audacious-1 in AC/P17	2000/5	Not Controlled Action	Completed
Drilling of Marina-1 Exploration Well	2007/3586	Not Controlled Action	Completed
Echuca Shoals-2 Exploration of Appraisal Well	2006/3020	Not Controlled Action	Completed
Exploration Drilling in AC/P17, AC/P18 and AC/P24	2001/359	Not Controlled Action	Completed
Exploration Well AC/P23	2001/234	Not Controlled Action	Completed
Field trials for cultivation of microalga (Botryococcus braunii) to produce hydr	2007/3277	Not Controlled Action	Completed
Geo-scientific survey	2005/2004	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
industrial park and a Defence support hub	2006/3177	Not Controlled Action	Completed
Kaleidoscope exploration well	2001/182	Not Controlled Action	Completed
Koolan Island Mine - Reconstruction of seawall and capital dewatering of mine pit,130km northwest of	2016/7848	Not Controlled Action	Completed
Marine Seismic Survey in WA-239-P	2000/24	Not Controlled Action	Completed
Marine Survey for the Australia-ASEAN Power Link AAPL	2020/8714	Not Controlled Action	Completed
Montara-3 Offshore Hydrocarbon Exploration Well Permit Area AC/RL3	2001/489	Not Controlled Action	Completed
Nexus Drilling Program NT-P66	2007/3745	Not Controlled Action	Completed
NT/P68 2007 Two Well Drilling Program	2007/3569	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
P30 Hydrocarbon Exploration Well	2001/293	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Project Sea Dragon Stage 1 Hatchery - Gunn Point, NT	2017/8092	Not Controlled Action	Completed
Puffin Oil wells 7, 8 & 9 development	2005/2336	Not Controlled Action	Completed
Residential Complex - Lots 6575 and 6576	2001/163	Not Controlled Action	Completed
Residential Secondary College	2007/3276	Not Controlled Action	Completed
Ridges Iron Ore Project	2010/5494	Not Controlled Action	Completed
Saucepan 1 Exploration Well ACP23	2000/2	Not Controlled Action	Completed
Skua and Swift Oilfields	2006/3195	Not Controlled Action	Completed
Strumbo-1 Gas Exploration Well Permit Area WA-288-P	2002/884	Not Controlled Action	Completed
Subdivision of Two Sites (1712 and 1713) into four Portions	2006/2755	Not Controlled Action	Completed
Thresher-1 Well	2000/84	Not Controlled Action	Completed
Waterfront Redevelopment	2003/1256	Not Controlled Action	Completed
Wickham Point Interconnect Gas Pipeline	2008/4309	Not Controlled Action	Completed
Not controlled action (particular manner)			
2 (3D) Marine Seismic Surveys	2009/4994	Not Controlled Action (Particular Manner)	Completed
2D and 3D Seismic Survey	2011/6197	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D Seismic Survey WA-405-P	2008/4133	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
2D and 3D Seismic Survey WA-405-P	2009/5104	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey	2009/4728	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey of Braveheart,Kurrajong,Sunshine and Crocodile	2006/2917	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey within permit area WA-318-P	2007/3879	Not Controlled Action (Particular Manner)	Post-Approval
2D or 3D Marine Seismic Survey in Petroleum Permit Area AC/P35	2009/4864	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Marine Survey	2001/363	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic survey	2009/5076	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey in permit areas WA-274P and WA-281P	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey in WA Permit Area TP/22 and Commonwealth Permit Area WA-280-P	2005/2100	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey - Petroleum Exploration Area NT/P68, Eastern Bonaparte Basin	2006/2922	Not Controlled Action (Particular Manner)	Post-Approval
2 geotechnical surveys - preliminary and final	2006/2886	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey	2009/4681	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
3D Marine Seismic Survey	2008/4437	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey, Permit AC/P 23	2005/2364	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic Survey - Maxima 3D MSS	2006/2945	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey	2006/2729	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, Browse Basin, WA	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, near Scott Reef, Browse Basin	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, petroleum exploration permit AC/P33	2006/2918	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey (NT/P68)	2008/4121	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey (NT/P68)	2006/2980	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey of AC/P4, AC/P17 and AC/P24	2006/2857	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey WA-406-P Bonaparte Basin	2007/3904	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
AC/P37 3D Seismic Survey Ashmore Cartier	2007/3774	Not Controlled Action (Particular Manner)	Post-Approval
Acacia East Pit Cutback Mining Project,northern Kimberley, WA	2013/6752	Not Controlled Action (Particular Manner)	Post-Approval
Auralandia 3D marine seismic survey	2011/5961	Not Controlled Action (Particular Manner)	Post-Approval
Aurora MC3D Marine Seismic Survey	2010/5510	Not Controlled Action (Particular Manner)	Post-Approval
Bassett 3D Marine Seismic Survey	2010/5538	Not Controlled Action (Particular Manner)	Post-Approval
Blacktip Gas Project Yelcherr Beach Wharf Construction	2007/3537	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 2D & 3D marine seismic survey	2011/5962	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte 3D & 2D Seismic Survey, in NT/P82, Timor Sea	2012/6398	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Basin Barossa Appraisal Drilling Campaign, NT	2012/6481	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Basin Seabed Mapping Survey	2009/4951	Not Controlled Action (Particular Manner)	Post-Approval
Bonaparte Seismic and Bathymetric Survey	2012/6295	Not Controlled Action (Particular Manner)	Post-Approval
Braveheart 2D Infill Marine Seismic Survey 100km offshore	2008/4442	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Braveheart 2D Marine Seismic Survey	2005/2322	Not Controlled Action (Particular Manner)	Post-Approval
Caldita 3D Marine Seismic Survey - NT/P61, NT/P69, and acreage release area NT06-5	2006/3142	Not Controlled Action (Particular Manner)	Post-Approval
Canis 3D Marine Seismic Survey	2008/4492	Not Controlled Action (Particular Manner)	Post-Approval
Cartier East and Cartier West 3D Marine Seismic Surveys	2009/5230	Not Controlled Action (Particular Manner)	Post-Approval
Caswell MC3D Marine Seismic Survey	2012/6594	Not Controlled Action (Particular Manner)	Post-Approval
Conduct an exploration drilling campaign	2011/5964	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Dillon South-1 Exploration Well Drilling - AC/P4, Territory of Ashmore/Cartier	2013/6849	Not Controlled Action (Particular Manner)	Post-Approval
Dredging the outer shipping channels of Darwin Harbour	2013/6988	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Audacious-5 appraisal well	2008/4327	Not Controlled Action (Particular Manner)	Post-Approval
Drilling of Exploration & Appraisal Wells Braveheart-1 & Cornea-3	2009/5160	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Drilling of two appraisal wells	2011/5840	Not Controlled Action (Particular Manner)	Post-Approval
Endurance 3D Marine Seismic Data Acquisition Survey	2007/3667	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign	2011/6047	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Campaign, Browse Basin, WA-341-P, AC-P36 and WA-343-P	2013/6898	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling in Permit Areas WA-402-P & WA-403-P	2010/5297	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Program - Permit areas - WA-314-P, WA-315-P, WA-398-P.	2008/4064	Not Controlled Action (Particular Manner)	Post-Approval
Fishburn2D Marine Seismic Survey	2012/6659	Not Controlled Action (Particular Manner)	Post-Approval
Floyd 3D and Chisel 3D Seismic Surveys	2011/6220	Not Controlled Action (Particular Manner)	Post-Approval
Geoscience Australia - Marine survey in Browse Basin to acquire data to assist assessment of CO2 sto	2013/6747	Not Controlled Action (Particular Manner)	Post-Approval
Gicea 3D Marine Seismic Survey	2008/4389	Not Controlled Action (Particular Manner)	Post-Approval
Gigas 2D Pilot Ocean Bottom Cable Marine Seismic Survey	2007/3839	Not Controlled Action (Particular Manner)	Post-Approval
Gold 2D Marine Seismic Survey Permit Areas WA375P and WA376P	2009/4698	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Ichthys 3D Marine Seismic Survey	2010/5550	Not Controlled Action (Particular Manner)	Post-Approval
Joseph Bonaparte Gulf Seabed mapping survey	2010/5517	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Kraken, Lusca & Asperus 3D Marine Seismic Survey	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
Malita West 3D Seismic Survey WA-402-P and WA-403-P	2007/3936	Not Controlled Action (Particular Manner)	Post-Approval
Marine Environmental Survey 2012	2012/6310	Not Controlled Action (Particular Manner)	Post-Approval
Nova 3D Seismic Survey	2013/6825	Not Controlled Action (Particular Manner)	Post-Approval
NT/P74 & NT/P75 - 2D marine seismic survey	2008/4316	Not Controlled Action (Particular Manner)	Post-Approval
NT/P77 3D Marine Seismic Survey	2009/4683	Not Controlled Action (Particular Manner)	Post-Approval
NT/P80 2010 2D Marine Seismic Survey	2010/5487	Not Controlled Action (Particular Manner)	Post-Approval
Octantis 3D Marine Seismic Survey, Permit Area AC/P41 off northern Western Australia	2007/3369	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Offshore Exploration Drilling Campaign	2011/6222	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Gas Exploration Drilling Campaign	2012/6384	Not Controlled Action (Particular Manner)	Post-Approval
Panda NT/P76 3D Seismic Acquisition Survey Program	2009/4992	Not Controlled Action (Particular Manner)	Post-Approval
Petrel MC2D Marine Seismic Survey	2010/5368	Not Controlled Action (Particular Manner)	Post-Approval
Pilot Appraisal Well - Torosa South 1	2008/3991	Not Controlled Action (Particular Manner)	Post-Approval
Port Melville marine supply base, Melville Island	2015/7510	Not Controlled Action (Particular Manner)	Post-Approval
Removal of Potential Unexploded Ordnance within NAXA	2012/6503	Not Controlled Action (Particular Manner)	Post-Approval
Rosebud 3D Marine Seismic Survey in WA-30-R and TR/5	2012/6493	Not Controlled Action (Particular Manner)	Post-Approval
Sandalford 3D Seismic Survey	2012/6261	Not Controlled Action (Particular Manner)	Post-Approval
Santos Petrel-7 Offshore Appraisal Drilling Programme (Bonaparte Basin)	2011/5934	Not Controlled Action (Particular Manner)	Post-Approval
Schild MC3D Marine Seismic Survey	2012/6373	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Scott Reef Seismic Research	2006/2647	Not Controlled Action (Particular Manner)	Post-Approval
Searcher bathymetry & geochemical seismic survey, Brawse Basin,Timor Sea,WA	2013/6980	Not Controlled Action (Particular Manner)	Post-Approval
Sonar and Acoustic Trials	2001/345	Not Controlled Action (Particular Manner)	Post-Approval
Songa Venus Drilling and Testing Operations	2009/5122	Not Controlled Action (Particular Manner)	Post-Approval
Songa Venus Drilling Programme, Bonaparte Basin	2009/4990	Not Controlled Action (Particular Manner)	Post-Approval
Sunshine Infill 2D and Mimosa 2D Marine Seismic Surveys	2009/4699	Not Controlled Action (Particular Manner)	Post-Approval
Thoar 3D Marine Seismic Survey	2010/5668	Not Controlled Action (Particular Manner)	Post-Approval
Tiffany 3D Seismic Survey	2010/5339	Not Controlled Action (Particular Manner)	Post-Approval
Torosa-5 Apraisal Well, WA-30-R	2008/4430	Not Controlled Action (Particular Manner)	Post-Approval
Tow West Atlas wreck from present location to boundary of EEZ	2010/5652	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Tridacna 3D Ocean Bottom Cable Marine Seismic Survey	2011/5959	Not Controlled Action (Particular Manner)	Post-Approval
Ursa 3D Marine Seismic Survey	2008/4634	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Zeppelin 3D Seismic Survey	2011/6148	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
2D Marine Seismic Survey	2008/4623	Referral Decision	Completed
3D Seismic Survey (NT/P68)	2006/2949	Referral Decision	Completed
Aurora extension MC3D Marine Seismic Survey	2011/5887	Referral Decision	Completed
BRSN08 3D Marine Seismic Survey	2008/4582	Referral Decision	Completed
Field efficacy trial of the Hisstory bait for feral cats, at Yampi Sound Defence Training Area, Kimb	2017/7977	Referral Decision	Completed
Installation of Telecommunication Facilities	2001/254	Referral Decision	Completed
Nova 3D Seismic Survey, WA 442-NT/P81, Joseph Bonaparte Gulf	2013/6820	Referral Decision	Completed
Phillips Petroleum Wickham Point LNG facility	2001/391	Referral Decision	Completed
Pilot Appraisal Well - Torosa South-1	2008/3985	Referral Decision	Completed
Puffin South-West Development of Oil Reserves	2007/3834	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Ridges Iron Ore Project	2010/5351	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	Referral Decision	Completed
Tidal Power Generation Turbine	2009/5235	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
Ashmore Reef and Cartier Island and surrounding Commonwealth waters	North-west
Carbonate bank and terrace system of the Sahul Shelf	North-west
Carbonate bank and terrace system of the Van Diemen Rise	North
Continental Slope Demersal Fish Communities	North-west
Pinnacles of the Bonaparte Basin	North
Pinnacles of the Bonaparte Basin	North-west
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	North-west
Shelf break and slope of the Arafura Shelf	North
Tributary Canyons of the Arafura Depression	North

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence
Dolphins		
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Breeding	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Breeding likely	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Calving	Known to occur

Scientific Name	Behaviour	Presence
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging (high density prey)	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Foraging likely	Known to occur
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Resting	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Breeding likely	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Calving	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Calving	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Likely to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Foraging (high density prey)	Known to occur
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat	Known to occur

Scientific Name	Behaviour	Presence
Sousa chinensis Indo-Pacific Humpback Dolphin [50]	Significant habitat - unknown behaviour	Likely to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Breeding	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Calving	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Foraging	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Foraging likely	Known to occur
Tursiops aduncus Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Migration likely	Known to occur
Dugong		
Dugong dugon Dugong [28]	Breeding	Known to occur
Dugong dugon Dugong [28]	Calving	Known to occur
Dugong dugon Dugong [28]	Foraging	Likely to occur
Dugong dugon Dugong [28]	Foraging	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]	Foraging	Known to occur

Scientific Name	Behaviour	Presence
Chelonia mydas Green Turtle [1765]	Foraging	Likely to occur
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting	Likely to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Likely to occur
Chelonia mydas Green Turtle [1765]	Mating	Likely to occur
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Likely to occur
Dermochelys coriacea Leatherback Turtle [1768]	Internesting	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Likely to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Likely to occur

Scientific Name	Behaviour	Presence
Lepidochelys olivacea Olive Ridley Turtle [1767]	Foraging	Known to occur
Lepidochelys olivacea Olive Ridley Turtle [1767]	Internesting	Likely to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting	Likely to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
River shark		
Pristis clavata Dwarf Sawfish [68447]	Foraging	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Juvenile	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Nursing	Known to occur
Pristis clavata Dwarf Sawfish [68447]	Pupping	Known to occur
Pristis pristis Freshwater Sawfish [60756]	Foraging	Known to occur
Pristis pristis Freshwater Sawfish [60756]	Nursing	Known to occur
Pristis pristis Freshwater Sawfish [60756]	Nursing	Likely to occur
Pristis zijsron Green Sawfish [68442]	Foraging	Known to occur

Scientific Name	Behaviour	Presence
Pristis zijsron Green Sawfish [68442]	Pupping	Known to occur
Seabirds		
Ardenna pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata minor Greater Frigatebird [1013]	Breeding	Known to occur
Onychoprion anaethetus Bridled Tern [82845]	Breeding	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding (high numbers)	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Breeding	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Resting	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Thalasseus bergii Crested Tern [83000]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
Thalasseus bergii Crested Tern [83000]	Breeding (high numbers)	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]	Foraging	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Calving	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Nursing	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 are 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

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

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

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
- 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: 05-Apr-2024

Socio-economic EMBA - western half

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:	1
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	9
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	57
Listed Migratory Species:	78

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:	2
Listed Marine Species:	130
Whales and Other Cetaceans:	32
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	11
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:	5
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	150
Key Ecological Features (Marine):	6
Biologically Important Areas:	38
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places [Resource Information]

Name	State	Legal Status
Natural		
The West Kimberley	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)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, 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.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula	Endangered	Community likely to occur within area

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		

Scientific Name	Threatened Category	Presence Text
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	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 tenuirostris Great Knot [862]	Vulnerable	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
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area
Erythrura gouldiae Gouldian Finch [413]	Endangered	Species or species habitat known to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Fregata andrewsi Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Foraging, feeding or related behaviour known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known 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
Limosa limosa Black-tailed Godwit [845]	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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may 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	Breeding known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely 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 known to occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat may occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area
FISH		
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to 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

Scientific Name	Threatened Category	Presence Text
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat may occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat known to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat may occur within area
Trichosurus vulpecula arnhemensis Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat may occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	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 known to occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area

Scientific Name	Threatened Category	Presence Text
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
[Lepidochelys olivacea](#) Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Congregation or aggregation known to occur within area
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
[Tiliqua scincoides intermedia](#) Northern Blue-tongued Skink [89838]	Critically Endangered	Species or species habitat known to occur within area
[Varanus mertensi](#) Mertens' Water Monitor, Mertens's Water Monitor [1568]	Endangered	Species or species habitat may occur within area
[Varanus mitchelli](#) Mitchell's Water Monitor [1569]	Critically Endangered	Species or species habitat may 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
[Glyphis garricki](#) Northern River Shark, New Guinea River Shark [82454]	Endangered	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

Scientific Name	Threatened Category	Presence Text
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
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
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Fregata andrewsi Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Foraging, feeding or related behaviour known to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known 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
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Sterna dougallii Roseate Tern [817]		Breeding likely to occur within area
Sternula albifrons Little Tern [82849]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		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 known 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

Scientific Name	Threatened Category	Presence Text
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
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour 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 likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Dugong dugon Dugong [28]		Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Scientific Name	Threatened Category	Presence Text
Eubalaena australis as Balaena glacialis australis		
Southern Right Whale [40]	Endangered	Species or species habitat may 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
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Congregation or aggregation known 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 likely to occur within area
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

Scientific Name	Threatened Category	Presence Text
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		
Cecropis daurica		
Red-rumped Swallow [80610]		Species or species habitat may occur within area
Cuculus optatus		
Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area
Hirundo rustica		
Barn Swallow [662]		Species or species habitat known to occur within area
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	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 alba Sanderling [875]		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
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	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
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Tringa totanus Common Redshank, Redshank [835]		Species or species habitat known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Heritage Places		[Resource Information]
Name	State	Status
Natural		
Mermaid Reef - Rowley Shoals	WA	Listed place
Scott Reef and Surrounds - Commonwealth Area	EXT	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
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
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 alba Sanderling [875]		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
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Chalcites osculans as Chrysococcyx osculans		
Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area
Charadrius leschenaultii		
Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus		
Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area
Charadrius ruficapillus		
Red-capped Plover [881]		Species or species habitat known to occur within area overfly marine 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 andrewsi		
Christmas Island Frigatebird, Andrew's Frigatebird [1011]	Endangered	Foraging, feeding or related behaviour known to occur within area
Fregata ariel		
Lesser Frigatebird, Least Frigatebird [1012]		Breeding known to occur within area
Fregata minor		
Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat known to 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 known to occur within area

Scientific Name	Threatened Category	Presence Text
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Species or species habitat known to occur within area overfly marine area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
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 known to 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

Scientific Name	Threatened Category	Presence Text
Numenius phaeopus Whimbrel [849]		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
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding 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
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Species or species habitat known to occur within area overfly marine 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
Sterna dougallii Roseate Tern [817]		Breeding likely to occur within area

Scientific Name	Threatened Category	Presence Text
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
Stiltia isabella Australian Pratincole [818]		Species or species habitat known to occur within area overfly marine area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Sula sula Red-footed Booby [1023]		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 brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area overfly marine area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
Tringa totanus Common Redshank, Redshank [835]		Species or species habitat known to occur within area overfly marine area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Species or species habitat known to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Fish		
[Acentronura larsonae](#) Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
[Bhanotia fasciolata](#) Corrugated Pipefish, Barbed Pipefish [66188]		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
[Choeroichthys suillus](#) Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
[Corythoichthys amplexus](#) Fijian Banded Pipefish, Brown-banded Pipefish [66199]		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
[Corythoichthys intestinalis](#) Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
[Corythoichthys schultzi](#) Schultz's Pipefish [66205]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
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
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
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
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[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]		Foraging, feeding or related behaviour likely to occur within area
Reptile		
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
[Aipysurus duboisii](#) Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus fuscus Dusky Sea Snake [1119]		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	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding 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	Foraging, feeding or related behaviour known to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis coggeri Cogger's Sea Snake [25925]		Species or species habitat may 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 hardwickii as Lapemis hardwickii Spine-bellied Sea Snake [93516]		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

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
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Congregation or aggregation known to 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
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

Current Scientific Name	Status	Type of Presence
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 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
Indopacetus pacificus Longman's Beaked Whale [72]		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

Current Scientific Name	Status	Type of Presence
Mesoplodon ginkgodens Gingko-toothed Beaked Whale, Gingko-toothed Whale, Gingko Beaked Whale [59564]		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
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

Current Scientific Name	Status	Type of Presence
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
Kimberley	Habitat Protection Zone (IUCN IV)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Eighty Mile Beach	Multiple Use Zone (IUCN VI)
Kimberley	Multiple Use Zone (IUCN VI)
Montebello	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	National Park Zone (IUCN II)
Christmas Island	National Park Zone (IUCN II)
Kimberley	National Park Zone (IUCN II)
Mermaid Reef	National Park Zone (IUCN II)
Argo-Rowley Terrace	Special Purpose Zone (Trawl) (IUCN VI)

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
Aug - Sep		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur

Scientific Name	Behaviour	Presence
Dec - Jan		
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
May - Jul		
Lepidochelys olivacea Olive Ridley Turtle [1767]	Nesting	Known to occur
Nov - May		
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State
Bardi Jawi	Indigenous Protected Area	WA
Lacepede Islands	Nature Reserve	WA
Rowley Shoals	Marine Park	WA
Scott Reef	Nature Reserve	WA
Unnamed WA37168	5(1)(h) Reserve	WA

Nationally Important Wetlands [Resource Information]

Wetland Name	State
Mermaid Reef	EXT

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status
Browse to North West Shelf Development, Indian Ocean, WA	2018/8319		Approval
Gorgon Gas Development	2003/1294		Post-Approval
Project Highclere Cable Lay and Operation	2022/09203		Completed
Controlled action			
2-D seismic survey Scott Reef	2000/125	Controlled Action	Post-Approval
Browse FLNG Development, Commonwealth Waters	2013/7079	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Conduct an exploration drilling campaign	2010/5718	Controlled Action	Completed
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 Angel gas and condensate field, North West Shelf	2004/1805	Controlled Action	Post-Approval
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
Echo-Yodel Production Wells	2000/11	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
Nava-1 Cable System	2001/510	Controlled Action	Completed
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pluto Gas Project Including Site B	2006/2968	Controlled Action	Post-Approval
Torosa South Initial Appraisal Drilling	2007/3500	Controlled Action	Completed
Not controlled action			
'Goodwyn A' Low Pressure Train Project	2003/914	Not Controlled Action	Completed
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Controlled Action	Completed
APX-West Fibre-optic telecommunications cable system, WA to Singapore	2013/7102	Not Controlled Action	Completed
Carnarvon 3D Marine Seismic Survey	2004/1890	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

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Development of Halyard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed
Development of Mutineer and Exeter petroleum fields for oil production, Permit	2003/1033	Not Controlled Action	Completed
Drilling of an exploration well Gats-1 in Permit Area WA-261-P	2004/1701	Not Controlled Action	Completed
Drilling of exploration wells, Permit areas WA-301-P to WA-305-P	2002/769	Not Controlled Action	Completed
Echo A Development WA-23-L, WA-24-L	2005/2042	Not Controlled Action	Completed
Exploration of appraisal wells	2006/3065	Not Controlled Action	Completed
Hess Exploration Drilling Programme	2007/3566	Not Controlled Action	Completed
Huascaran-1 exploration well (WA-292-P)	2001/539	Not Controlled Action	Completed
INDIGO West Submarine Telecommunications Cable, WA	2017/8126	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
Maia-Gaea Exploration wells	2000/17	Not Controlled Action	Completed
Manaslu - 1 and Huascaran - 1 Offshore Exploration Wells	2001/235	Not Controlled Action	Completed
Marine Survey for the Australia-ASEAN Power Link AAPL	2020/8714	Not Controlled Action	Completed
North Rankin B gas compression facility	2005/2500	Not Controlled Action	Completed
Pipeline System Modifications Project	2000/3	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Searipple gas and condensate field development	2000/89	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
sub-sea tieback of Perseus field wells	2004/1326	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
WA-295-P Kerr-McGee Exploration Wells	2001/152	Not Controlled Action	Completed
Western Flank Gas Development	2005/2464	Not Controlled Action	Completed
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 Seismic Survey	2005/2146	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey in permit areas WA-274P and WA-281P	2004/1521	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey Permit Area WA-352-P	2008/4628	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey within permit WA-291	2007/3265	Not Controlled Action (Particular Manner)	Post-Approval
2 geotechnical surveys - preliminary and final	2006/2886	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
3D Marine Seismic Survey (WA-482-P, WA-363-P), WA	2013/6761	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 in WA 457-P & WA 458-P, North West Shelf, offshore WA	2013/6862	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic Survey - Maxima 3D MSS	2006/2945	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, Browse Basin, WA	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, near Scott Reef, Browse Basin	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval
3D sesmic survey	2006/2781	Not Controlled Action (Particular Manner)	Post-Approval
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

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Aurora MC3D Marine Seismic Survey	2010/5510	Not Controlled Action (Particular Manner)	Post-Approval
Australia to Singapore Fibre Optic Submarine Cable System	2011/6127	Not Controlled Action (Particular Manner)	Post-Approval
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081	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
Caswell MC3D Marine Seismic Survey	2012/6594	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
Conduct an exploration drilling campaign	2011/5964	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
DAVROS MC 3D marine seismic survey northwaet of Dampier, WA	2013/7092	Not Controlled Action (Particular Manner)	Post-Approval
Decommissioning of the Legendre facilities	2010/5681	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Deep Water Drilling Program	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	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 Manner)	Post-Approval
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Effect of marine seismic sounds to demersal fish and pearl oysters, north-west WA	2018/8169	Not Controlled Action (Particular Manner)	Post-Approval
Endurance 3D Marine Seismic Data Acquisition Survey	2007/3667	Not Controlled Action (Particular Manner)	Post-Approval
Exploration drilling of Zeus-1 well	2008/4351	Not Controlled Action (Particular Manner)	Post-Approval
Exploration Drilling Program - Permit areas - WA-314-P, WA-315-P, WA-398-P.	2008/4064	Not Controlled Action (Particular Manner)	Post-Approval
Fletcher-Finucane Development, WA26-L and WA191-P	2011/6123	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Foxhound 3D Non-Exclusive Marine Seismic Survey	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval
Geoscience Australia - Marine survey in Browse Basin to acquire data to assist assessment of CO2 sto	2013/6747	Not Controlled Action (Particular Manner)	Post-Approval
Gigas 2D Pilot Ocean Bottom Cable Marine Seismic Survey	2007/3839	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
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
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	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
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2009/4801	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2008/4630	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
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Klimt 2D Marine Seismic Survey	2007/3856	Not Controlled Action (Particular Manner)	Post-Approval
Koolama 2D Seismic Survey Dampier Basin	2010/5420	Not Controlled Action (Particular Manner)	Post-Approval
Kraken, Lusca & Asperus 3D Marine Seismic Survey	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
Laying a submarine optical fibre telecommunications cable, Perth to Singapore and Jakarta	2014/7332	Not Controlled Action (Particular Manner)	Post-Approval
Mariner Non-Exclusive 2D Seismic Survey	2011/6172	Not Controlled Action (Particular Manner)	Post-Approval
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
Offshore Canning Multi Client 2D Marine Seismic Survey	2010/5393	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Drilling Campaign	2011/5830	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to Darwin NT	2014/7223	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
Outer Canning exploration drilling program off NW coast of WA	2012/6618	Not Controlled Action (Particular Manner)	Post-Approval
Phoenix 3D Seismic Survey, Bedout Sub-Basin	2010/5360	Not Controlled Action (Particular Manner)	Post-Approval
Pilot Appraisal Well - Torosa South 1	2008/3991	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
Reindeer gas reservior development, Devil Creek, Carnarvon Basin - WA	2007/3917	Not Controlled Action (Particular Manner)	Post-Approval
Repsol 3d & 2D Marine Seismic Survey	2012/6658	Not Controlled Action (Particular Manner)	Post-Approval
Rose 3D Seismic Program	2008/4239	Not Controlled Action (Particular Manner)	Post-Approval
Rosebud 3D Marine Seismic Survey in WA-30-R and TR/5	2012/6493	Not Controlled Action (Particular Manner)	Post-Approval
Santos Winchester three dimensional seismic survey - WA-323-P & WA-330-P	2011/6107	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Schild Phase 11 MC3D Marine Seismic Survey, Browse Basin	2013/6894	Not Controlled Action (Particular Manner)	Post-Approval
Scott Reef Seismic Research	2006/2647	Not Controlled Action (Particular Manner)	Post-Approval
Stag 4D & Reindeer MAZ Marine Seismic Surveys, WA	2013/7080	Not Controlled Action (Particular Manner)	Post-Approval
Stag Off-bottom Cable Seismic Survey	2007/3696	Not Controlled Action (Particular Manner)	Post-Approval
Tidepole Maz 3D Seismic Survey Campaign	2007/3706	Not Controlled Action (Particular Manner)	Post-Approval
Torosa-5 Apraisal Well, WA-30-R	2008/4430	Not Controlled Action (Particular Manner)	Post-Approval
Tridacna 3D Ocean Bottom Cable Marine Seismic Survey	2011/5959	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 3D marine seismic survey	2010/5695	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Veritas Voyager 2D Marine Seismic Survey	2009/5151	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
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 Manner)	Post-Approval
Wheatstone 3D MAZ Marine Seismic Survey	2011/6058	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2007/3941	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2008/4134	Not Controlled Action (Particular Manner)	Post-Approval
Woodside Southern Browse 3D Seismic Survey, WA	2007/3534	Not Controlled Action (Particular Manner)	Post-Approval
Zeemeermin MC3D seismic survey, Browse Basin, Offshore WA	2009/5023	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
3D Seismic Survey	2008/4219	Referral Decision	Completed
Aurora extension MC3D Marine Seismic Survey	2011/5887	Referral Decision	Completed
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed
Experimental Study of Behavioural and Physiological Impact on Fish of Seismic Ex	2006/2625	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Pilot Appraisal Well - Torosa South-1	2008/3985	Referral Decision	Completed
Rose 3D Seismic acquisition survey	2008/4220	Referral Decision	Completed
Seismic Data Acquisition, Browse Basin	2010/5475	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 Argo Abyssal Plain with the Scott Plateau	North-west
Continental Slope Demersal Fish Communities	North-west
Glomar Shoals	North-west
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	North-west
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	North-west

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence
Dolphins		
Orcaella heinsohni		
Australian Snubfin Dolphin [81322]	Foraging likely	Known to occur
Sousa chinensis		
Indo-Pacific Humpback Dolphin [50]	Foraging	Likely to occur
Tursiops aduncus		
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Foraging likely	Known to occur
Tursiops aduncus		
Indo-Pacific/Spotted Bottlenose Dolphin [68418]	Migration likely	Known to occur
Dugong		
Dugong dugon		
Dugong [28]	Foraging	Likely to occur
Marine Turtles		

Scientific Name	Behaviour	Presence
Caretta caretta Loggerhead Turtle [1763]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Likely to occur
Chelonia mydas Green Turtle [1765]	Internesting	Likely 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]	Nesting	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	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]	Nesting	Known to occur
Seabirds		
Ardenna pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur

Scientific Name	Behaviour	Presence
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Fregata minor Greater Frigatebird [1013]	Breeding	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Resting	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Breeding	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Resting	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Sula sula Red-footed Booby [1023]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	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]	Foraging	Known to occur
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Migration	Known to occur

Scientific Name	Behaviour	Presence
Megaptera novaeangliae Humpback Whale [38]	Calving	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur
Megaptera novaeangliae Humpback Whale [38]	Nursing	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 are 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

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

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

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
- 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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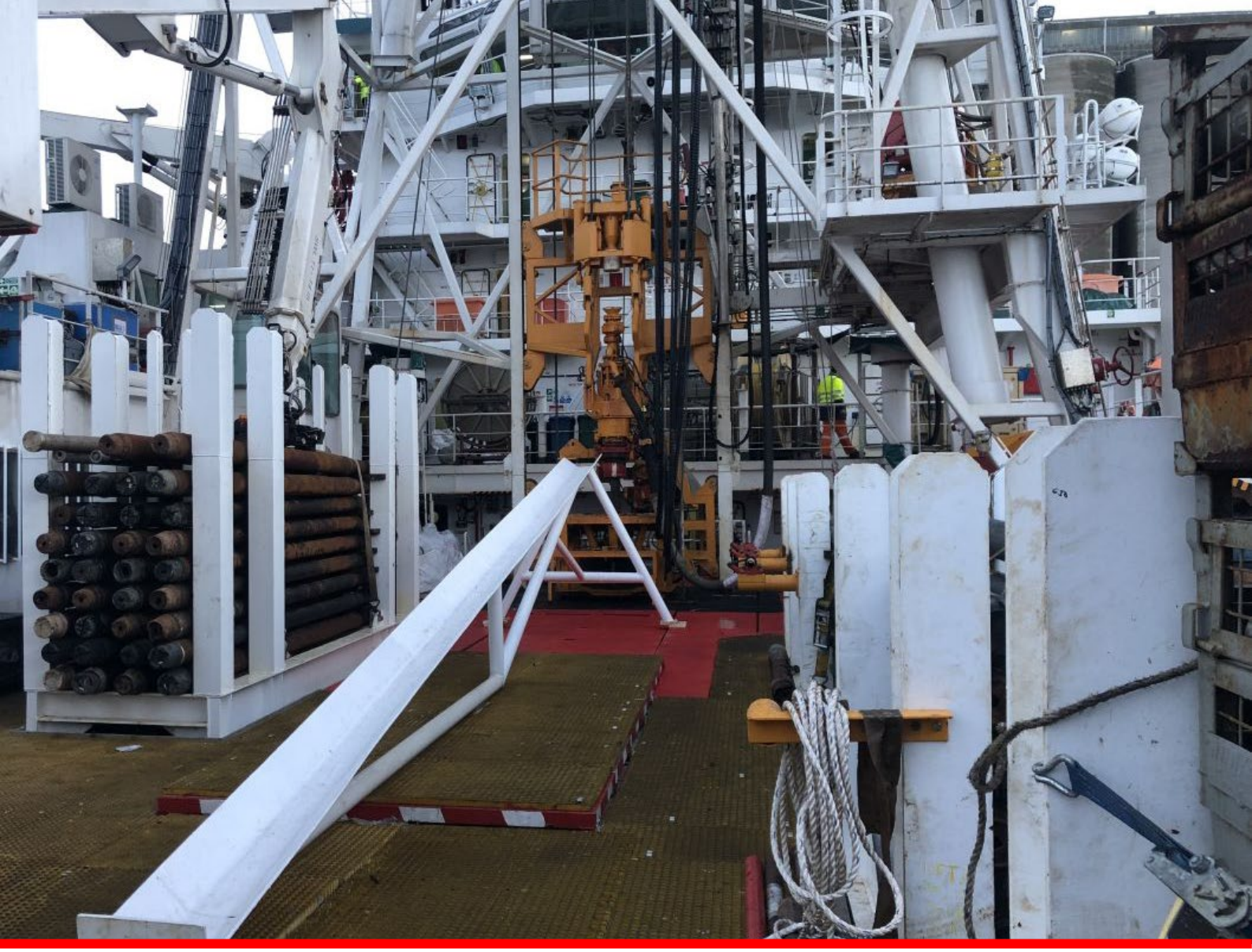
Appendix 11
Existing Environment in the Spill EMBA



APPENDIX 11

Existing Environment of the Spill EMBA

June 2024

Rev 0

eog resources

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11 Description of the Existing Environment of the Spill EMBA

In accordance with OPGGS(E) Regulation 21(2), the 'environment that may be affected' (EMBA) by the activity is described in this section, together with its values and sensitivities. While each hazard associated with the activity has its own unique EMBA, the largest one has been chosen for this chapter so as to describe all possible values and sensitivities, which is a surface release of crude oil from a loss of well control (LoWC). Spill modelling of this event used the NOPSEMA Bulletin #1 Oil Spill Modelling (NOPSEMA, 2019) hydrocarbon contact values of four oil phases (surface, dissolved, entrained and accumulated shoreline) that pose differing environmental risks to define the outer extent of the EMBA (see Table 5.1 in Section 5.1.2 of Chapter 5).

The low contact values used to inform the extent of the spill EMBA are useful for establishing scientific monitoring parameters and identifying potential socio-economic impacts (the socio-economic EMBA); however, they may not be at concentrations that are ecologically significant (NOPSEMA, 2019). Therefore, in addition to the socio-economic EMBA, an ecological EMBA has also been derived from the stochastic spill modelling using hydrocarbon thresholds that are identified by NOPSEMA Bulletin #1 (NOPSEMA, 2019) (see Table 5.1 in Section 5.1.2 of Chapter 5) as having the potential to cause impacts to ecological receptors. This is simply referred to as the 'spill EMBA' or interchangeably throughout this appendix as the 'EMBA' (Figure 11.1).

This spill EMBA has been established through hydrocarbon spill modelling (see Section 8.6 for MDO and Section 8.7 for crude oil). The EMBA is generated from stochastic modelling and therefore does not represent the possible outcome from a single spill scenario. The spill EMBA represents the compilation of possible outcomes and encompasses the area predicted to be affected from 100 simulations of the scenario per season (summer, winter, transition). Because of this, the spill EMBA is very large, covering areas that may not be affected by any single spill event.

The modelling also reports hydrocarbon contact for a given grid cell even if hydrocarbon concentrations reach this very low threshold for only one time step (2 hours) within the entire duration of the model run (6 hours for MDO and 77 days for crude oil). Because of this, the spill EMBA from a single spill event would be considerably smaller than the spill EMBA presented for the loss of MDO or a LoWC (which is an amalgamation of 100 simulations). Additionally, the spill EMBA does not consider mitigation measures that would be applied in the event of an MDO spill or LoWC, which would act the reduce the extent of the EMBA.

The 'environment' described in this EP is as per the definition in the OPGGS(E) regulations:

- Ecosystems and their constituent parts, including people and communities;
- Natural and physical resources;
- The qualities and characteristics of locations, places and areas;
- The heritage value of places; and
- The social, economic and cultural features of these matters.

The maps within this appendix contain the following note regarding the spill EMBA:

'The EMBA illustrated in this map represents the combined modelling results of 100 individual hydrocarbon spill simulations for each of three metocean seasons (summer, winter and transition), resulting in 300 spill simulations. Each individual spill simulates a loss of well control that releases 786,858 m^3 of crude oil over 77 days. Each spill simulation occurs is subject to various winds and ocean currents. The 300 individual spill simulations are then combined to identify the largest envelope in which a single spill could occur at any time. The EMBA is not representative of a single spill; an individual spill would affect a significantly smaller area. The modelled EMBA is based on the lowest reportable hydrocarbon thresholds.'

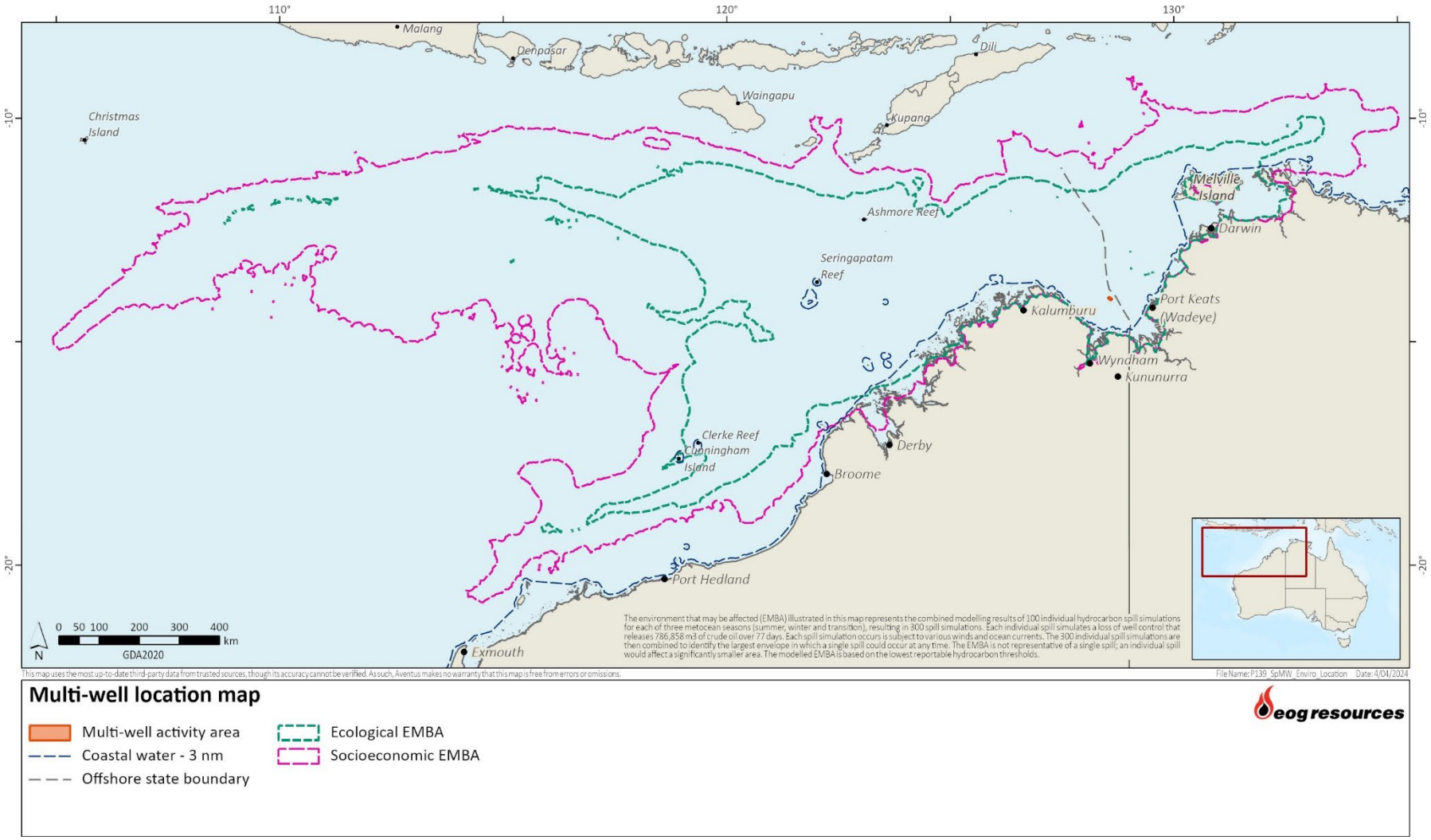


Figure 11.1 The LoWC spill EMBA

The key sources of information used in developing this chapter include the:

- EPBC Act Protected Matters Search Tool (PMST) database (DCCEEW, 2024a), conducted for the socio-economic and the ecological portion of the spill EMBA in on the 5th of April 2024 (**Appendix 10**);
    - The PMST search results of the socio-economic spill EMBA are split into 'east' and 'west' in **Appendix 10** because the PMST search does not allow for a search as large as the entire socio-economic spill EMBA.
    - The results of the PMST report have been screened against GIS data sets and current literature to remove any MNES identified in the PMST report that are outside the area of interest.
- Species Profile and Threats (SPRAT) Database (DCCEEW, 2024b);
- The Northwest Marine Bioregional Plan Bioregional Profile (DEWHA, 2008b);
- Marine bioregional plan for the North Marine Region (DSEWPC, 2012);
- National Conservation Values Atlas (NCVA) (DCCEEW, 2024c);
- Shoreline Ecological Assessments (Aerial & Ground Surveys) (PTTEP, 2009);
- Species recovery plans, conservation advice and scientific publications; and
- Seabed Habitats and Hazards of the JBG and Timor Sea, Northern Australia (Przeslawski *et al.,* 2011).

The relevant values and sensitivities considered in this chapter are inclusive of but not limited to the matters protected under Part 3 of the EPBC Act.

11.1 Regional Context

The spill EMBA occurs within both the NWMR and the NMR. The marine bioregional plans for the NWMR (DEWHA, 2008b) and NMR (DSEWPC, 2012) have been used in conjunction with other relevant management plans, reports, and published papers to inform the description of the existing environment.

11.1.1 Northwest Marine Region

The NWMR comprises Commonwealth waters from the Western Australia-Northern Territory (WA-NT) border to Kalbarri, south of Shark Bay, WA (DEWHA, 2008b).

The NWMR is characterised by the large area of continental shelf and continental slope, highly variable tidal regions and very high cyclone incidence (DEWHA, 2008b).

The NWMR is characterised by a wide continental shelf with water depths generally less than 70 metres, complex geomorphology with features including shelves, shoals, banks and terraces and valleys, currents driven largely by strong winds and tides and complex weather and a tropical monsoonal climate (DEWHA, 2008b).

11.1.2 North Marine Region

The NMR comprises Commonwealth waters from west Cape York Peninsula to the WA-NT border. The marine environment of the NMR is known for its high diversity of tropical species but relatively low endemism, in contrast to other bioregions. This region is highly influenced by tidal flows and less by ocean currents. The region is dominated by monsoonal climatic patterns characterised by a pronounced wet season and a generally dry season. Tropical cyclones are a dominant feature in the wet season (DEWHA 2008b).

11.1.3 Provincial Bioregions

Based on the Integrated Marine and Coastal Regionalisation of Australia (IMCRA) Version 4.0, the spill EMBA is situated within the Northern Shelf Province, Northwest Shelf Transition, Northwest Shelf Province, Timor Province and the Northwest Transition bioregions. The socio-economic EMBA intersects all the above bioregions as well as the Northwest Province, Christmas Island Province and the Timor Transition bioregions, which is illustrated in Figure 11.2**.**

Northwest Shelf Transition

The Northwest Shelf transition is a provincial bioregion situated within the NWMR and NMR extending from the Tiwi Islands in the NT to Cape Leveque in WA, covering an area of 305,463 km^2. The Indonesian Throughflow is the dominant oceanographic feature and dominates the majority of the water column. The strength of the Throughflow and its influence in the bioregion varies seasonally in association with the North-west Monsoon (DEWHA, 2008b).

The vast majority of the bioregion is located on the continental shelf with water depths generally in the range 10 to 100 m. The provincial bioregion has a complex seafloor topography with a diversity of features including submerged terraces, carbonate banks, pinnacles, reefs and sand banks. The carbonate banks and pinnacles of the Joseph Bonaparte Gulf are distinctly different in morphology and character to other parts of the region and are considered to support a high diversity of marine species (DEWHA, 2008b).

The biological communities of the North-west Shelf Transition are typical of Indo-west Pacific tropical flora and fauna and occur across a range of soft-bottom and harder substrate habitats. The inshore waters off the Kimberley are where the Western Australian population of humpback whales mate and

calve. The bioregion is important for commercial fisheries and supports both defence activities and the petroleum industry (DEWHA, 2008b).

Northwest Shelf Province

This provincial bioregion is located primarily on the continental shelf between Northwest Cape and Cape Bougainville. It varies in width from about 50 km at Exmouth Gulf to more than 250 km off Cape Leveque. Approximately half of the bioregion has water depths of only 50 to 100 m. The bioregion is a dynamic oceanographic environment, influenced by strong tides, cyclonic storms, long-period swells and internal tides. Its waters derive from the Indonesian Throughflow, are warm and oligotrophic, and circulate throughout the bioregion via branches of the South Equatorial and Eastern Gyral Currents (DEWHA, 2008b).

Fish communities are diverse and both benthic and pelagic fish communities appear to be closely associated with different depth ranges. Humpback whales migrate through the bioregion and Exmouth Gulf is an important resting area, particularly for mothers and calves on their southern migration. A number of important seabird breeding sites are located in the bioregion (but adjacent to Commonwealth waters), including Eighty Mile Beach, the Lacepede Islands (an Important Bird Area (IBA)), and Montebello and Barrow islands. The bioregion is important for the petroleum industry and the location of commercial fishing operations. The nationally significant ports of Dampier and Port Hedland operate in this bioregion (DEWHA, 2008b).

Northwest Transition

The Northwest Transition is a provincial bioregion located off the shelf between the Dampier Archipelago and Lacepede Islands covering a total area of 184 424 km2. The area includes shelf break and continental slope and the majority of the Argo Abyssal Plain included in the NWMR. Key topographic features include the Mermaid, Clerke and Imperieuse Reefs, all of which are marine reserves and together constitute the Rowley Shoals.

Surface circulation of Indonesian Throughflow waters occurs both via direct southward movement of the Throughflow itself, and recirculation of Throughflow waters via the South Equatorial Current. Cyclone incidence is high in this bioregion during summer months (DEWHA, 2008b).

Little is known about benthic biological communities in the deeper parts of the provincial bioregion, although high levels of species diversity and endemism have been identified among demersal fish communities on the continental slope. The Rowley Shoals are biodiversity hotspots in the bioregion and the steep change in slope around them attracts a range of pelagic migratory species including billfish, sharks, tuna and cetaceans. Commercial fishers operate within the bioregion and it may increase in importance for the petroleum industry in the future (DEWHA, 2008b).

Northwest Province

The Northwest Province is located on the continental shelf between Northwest Cape and Cape Bougainville, with half the bioregion located in water depths of 50 m to 100 m. It varies in width from approximately 50 km at Exmouth Gulf to more than 250 km off Cape Leveque in the Kimberley. The bioregion is a dynamic oceanographic environment, influenced by strong tides, cyclonic storms, long-period swells and internal tides. Waters derive from the Indonesian Throughflow, are warm and oligotrophic, and circulate throughout the bioregion via branches of the South Equatorial and Eastern Gyral Currents (DEWHA, 2008b).

Christmas Island Province

This provincial bioregion surrounds Christmas Island and covers a total area of 277,180 km^2. It contains the fourth largest abyssal plain/deep ocean floor area and smallest area of slope of all the bioregions (DEH, 2005). Water depths range from 0 m to 6,545 m and support a suite of marine species typical of

Indian Ocean tropical reefs. The recorded marine species diversity includes 88 coral species and over 600 fish species, including the whale shark and several other shark species, as well as hybrid fish. Green turtles and hawksbill turtles are found in offshore waters of the bioregion (DNP, 2014).

Northern Shelf Province

The Northern Shelf Province extends over the continental shelf from the eastern shore of Melville Island to West Cape York and is the largest of all the shelf provincial bioregions in the Region. It comprises the Gulf of Carpentaria in the east and the south-western Arafura Sea in the west, a covering a total area of 556,350 km^2. The provincial bioregion is characterised by relatively featureless sandy and muddy continental shelf and basin, turbid coastal waters, and submerged patch or barrier reefs around 30 m to 50 m water depth. Offshore features of the Arafura Shelf include canyons, terraces and the Arafura Sill (DEWHA, 2008b).

Of all the provincial bioregions of the Region, the Northern Shelf Province is the best sampled for demersal fish and invertebrates. Most data are associated with scientific studies and sampling of prawns and fish trawling. Localised upwellings offshore, around islands and offshore reefs, are also known to be hotspots for marine biodiversity in the provincial bioregion (DEWHA, 2008b).

Timor Province

This provincial bioregion covers almost 15% of the NWMR predominantly covering the continental slope and abyss between Broome and Cape Bougainville in WA. Water depth ranges from about 200 m near the shelf break to 5,920 m over the Argo Abyssal Plain. In addition to the Argo Abyssal Plain, the major geomorphic features are the Scott Plateau, the Ashmore Terrace, part of the Rowley Terrace and the Bowers Canyon. Important features of the bioregion include Ashmore Reef, Cartier Island, Seringapatam Reef and Scott Reef (DEWHA, 2008b).

The bioregion is dominated by warm, oligotrophic waters of the Indonesian Throughflow. In this bioregion the thermocline in the water column is pronounced and associated with the generation of internal tides. The variety of geomorphic features in the Timor Province, coupled with the variation in bathymetry, results in several distinct habitats and biological communities. The reefs and islands of the bioregion are regarded as particular hotspots for biodiversity. A high level of endemicity exists in demersal fish communities of the continental slope in the Timor Province and two distinct communities have been identified associated with the upper slope and mid slope (DEWHA, 2008b).

The bioregion supports commercial fisheries, and the petroleum industry (DEWHA, 2008b).

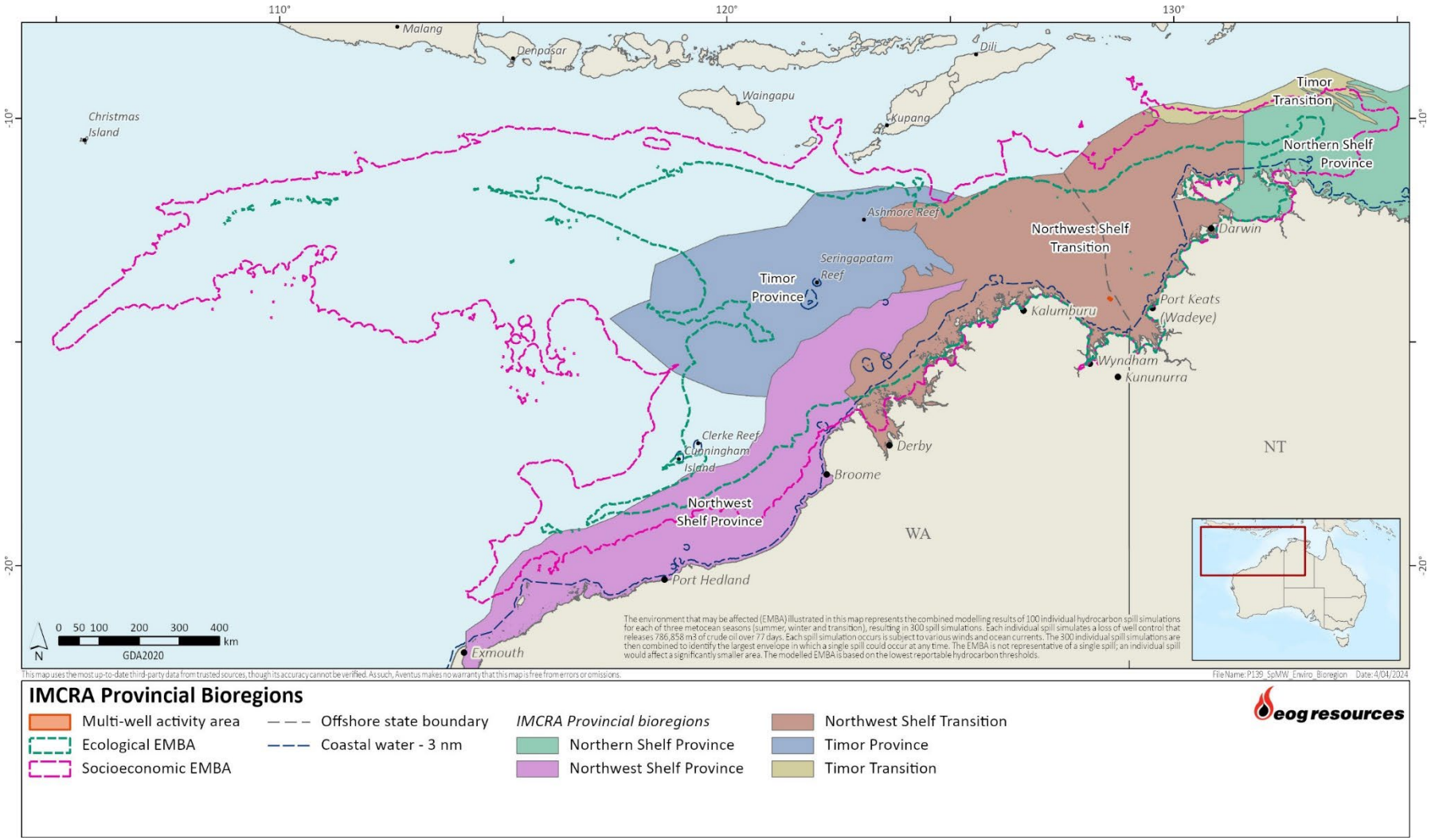


Figure 11.2 Provincial bioregions intersected by the spill EMBA

11.1.4 Mesoscale Bioregions

The following mesoscale bioregions are intersected by the spill EMBA and are presented in Figure 11.3:

- Anson Beagle;
- Arafura;
- Bonaparte Gulf;
- Cambridge-Bonaparte;
- Canning;
- Cobourg;
- Kimberley;
- King Sound;
- NorthWest Shelf;
- Oceanic Shoals;
- Tiwi; and
- Van Diemen's Gulf.

The socio-economic spill EMBA intersects all the above listed mesoscale bioregions, as well as Pilbara (offshore).

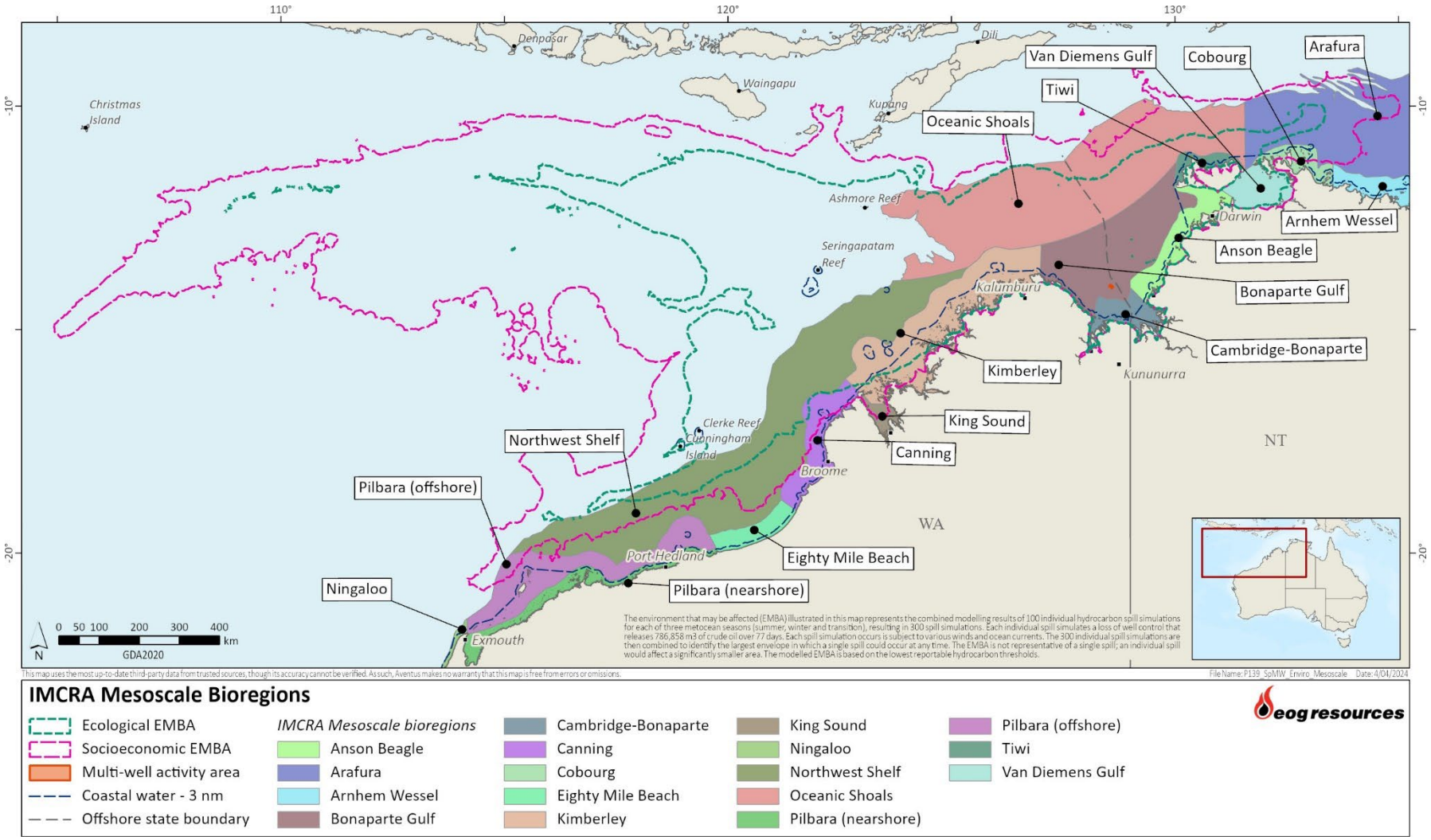


Figure 11.3 Mesoscale bioregions intersected by the spill EMBA

11.1.5 Climate

The northwest of Australia has a tropical climate with hot and humid summers and warm winters. There are two distinct seasons known as the northwest monsoon, which occurs from late October to mid-March ('wet season'); and the southeast monsoon, which occurs from May to mid-October ('dry season').

Air Temperature

Mean air temperatures range from a minimum of 11°C in winter to a maximum of 36°C in summer (Condie *et al.,* 2006). During summer, hot and dry wind from the north-east, which comes from the desert, can become really intense, with air temperatures reaching above 40°C.

Rainfall

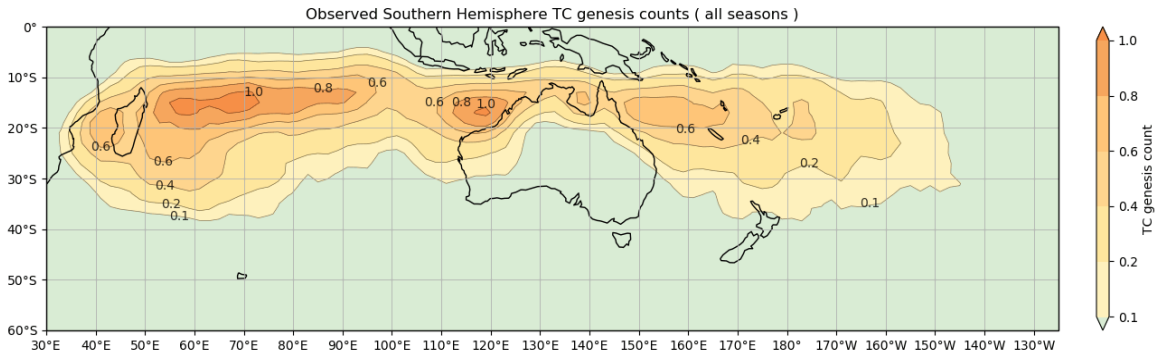
Regular and high rainfall is a characteristic of the northwest monsoon, mainly over coastal areas and during tropical cyclones. This is caused by large amounts of moisture being gathered as the monsoon crosses the sea from the Asian high-pressure belt on its way to the intertropical convergence zone, which drifts southward close to, or over, northern Australia. On the contrary, the southeast monsoon originates from the southern hemisphere high-pressure belt and is relatively dry and cool (DSEWPC, 2012). Low rainfall and humidity are associated with the southeast monsoon.

Historical rainfall data in the region shows the highest mean monthly rainfall occurs from January to March (BoM, 2024b).

Cyclones

Cyclones are common in the region resulting in severe storms with gale force winds and a rapid rise in water levels. The cyclone season typically occurs between November and April (BoM, 2024c). Cyclones result in severe storms with gale force winds and a rapid rise in water levels. Cyclones in the Australian region are influenced by several factors, and in particular variations in the El Niño –Southern Oscillation, generally more tropical cyclones occur across the coast during La Niña years than during El Niño years. On average about eleven cyclones form in the Australian region (90-160° E) each cyclone season (BoM, 2024c).

The average number of tropical cyclones through the Australian region and surrounding waters in El Niño, La Niña, neutral years and using all years of data is presented in Figure 11.4. The data is based on a 48-year period from the 1969/70 to 2017/18 tropical cyclone season.



Source: BoM (2022)

Figure 11.4 Average number of tropical cyclones in Australia from 1969 to 2018

Wind

Winds typically vary seasonally, with a tendency for south-westerly winds during September–March and south-easterly from May–July (Condie *et al.,* 2006). Transitional wind periods, during which either pattern may predominate, can be experienced in April–May and September of each year. September–March winds are more variable and are driven by high pressure cells that pass from west to east over the Australian continent. During May–July the relative position of the high-pressure cells moves further north, leading to prevailing easterly winds blowing from the mainland (Pearce *et al.,* 2003).

Seasonally averaged winds in the NWMR at 10 m above sea level during January, March, May, July, September and November are presented in Figure 11.5.

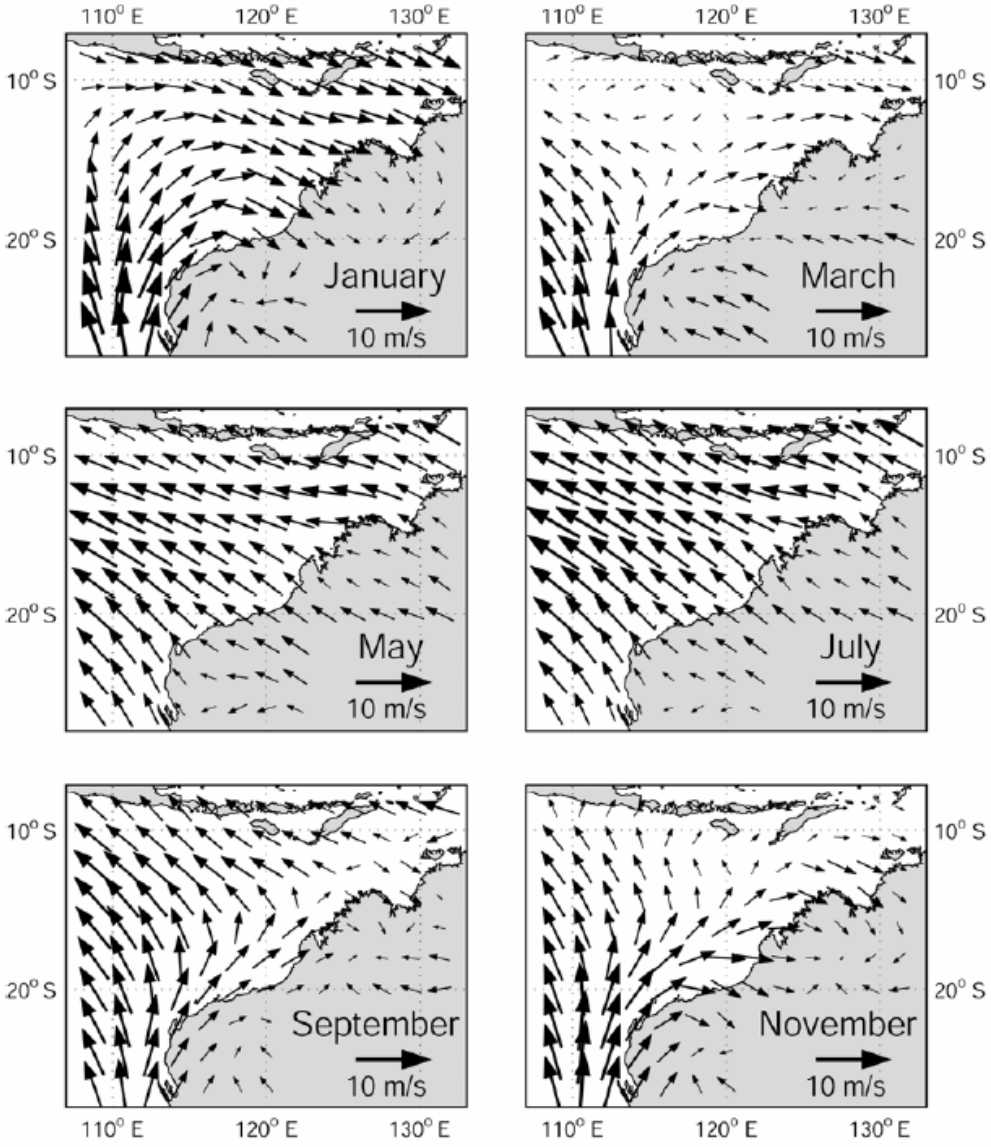


Figure 11.5 Seasonally averaged winds in the Northwest Marine Region

11.1.6 Oceanography

The oceanography of the spill EMBA is described within this section.

Currents

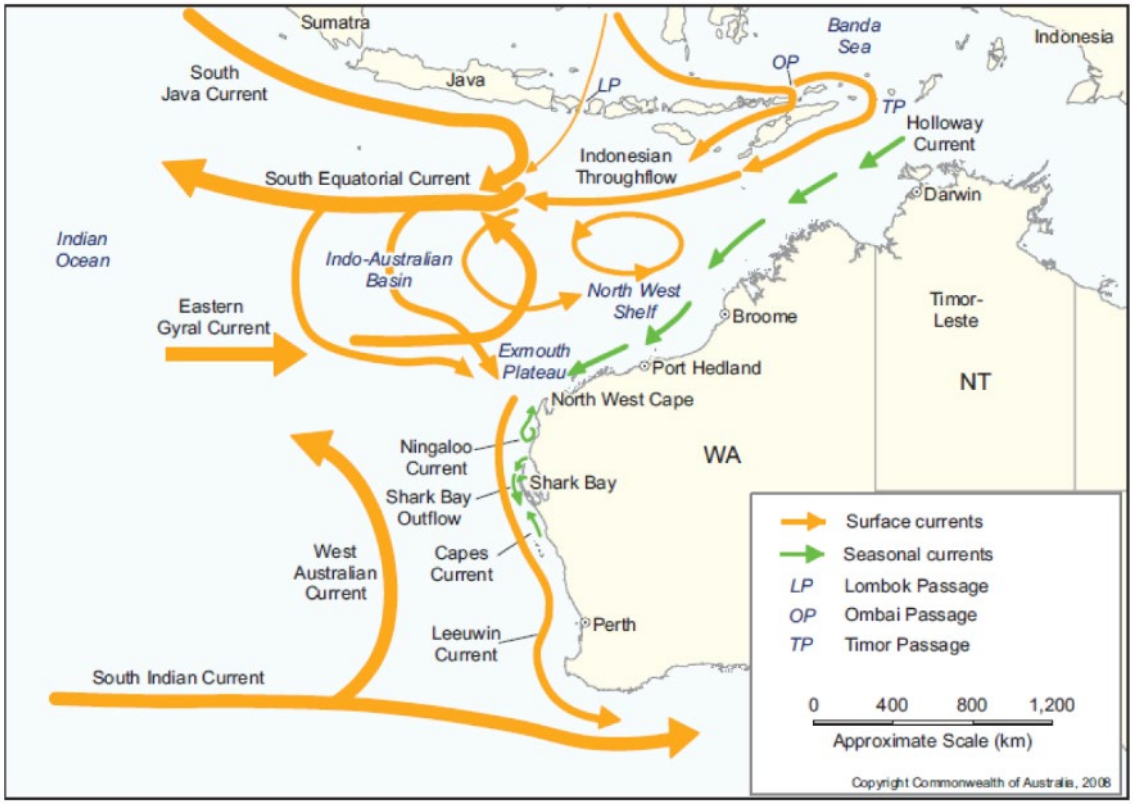
Broad-scale ocean circulation of the North Australian Shelf is dominated by the Indonesian Throughflow current system. The NWMR is influenced by a complex system of ocean currents that vary between seasons and years, which generally result in warm, nutrient-poor and low salinity surface waters (DEWHA, 2008b). Two ocean and coastal surface currents in the WA region are significant in shaping marine environmental conditions and climate. Forming on the NWS, the Leeuwin Current exerts a major influence on the distribution of marine life and WA's weather. The Indonesian Throughflow is a system of currents that carries water westward from the Pacific to the Indian Ocean through the deep passages and straits of the Indonesian Archipelago where warm, equatorial waters flow from one ocean to another, that influence the character of the Leeuwin Current (CSIRO, 2022).

During the wet season (December to March), monsoon winds push some of the waters of the Indonesian Throughflow eastwards, extending as far as the Gulf of Carpentaria. At the end of the Northwest monsoon (March-April), the pressure gradient is released, which releases a south-westerly flow of water across the shelf during autumn and winter, known as the Holloway Current (DEWHA, 2008b).

Currents in the NMR are driven largely by strong winds and tides, with only minor influences from oceanographic currents such as the Indonesian Throughflow and the South Equatorial Current. The net tidal flows that occur over time drive longer-term transport patterns through the region. The movement of tidal waters across the northern Australian marine environment is complex due to the barrier of islands and submerged reefs in the Torres Strait that hinder tidal energy entering from the Coral Sea (DSEWPC, 2012).

Surface currents that have some minor influence in the NMR include the Indonesian Throughflow and the South Equatorial Current. The Indonesian Throughflow brings warm water of lower salinity from the tropical western Pacific Ocean between the Indonesian islands to the Indo-Australian basin in the north-west of the region. The influence of the South Equatorial Current in the region is marginal, although the strength of its influence varies with the season (DSEWPC, 2012).

Figure 11.6 illustrates the major ocean currents in north-western Australian waters.



Source: DEWHA, 2008b

Figure 11.6 Ocean currents along the Northwest Australian continental shelf

Tides

The tides of the region are mixed and predominantly semi-diurnal (two high tides and two low tides per day), with well-developed spring to neap tidal variation (DEWHA, 2008b). The Kimberley region within the NWMR has some of the largest tides in Australia, along a coastline adjoining an open ocean. Tides increase in amplitude from with an increase in amplitude from south to north, which corresponds with the increasing width of the shelf (Holloway, 1983).

Tides and winds strongly influence water flow in the coastal zone and over the inner to mid-shelf, whereas flows over the outer-shelf, slope, rise and deeper waters are influenced by large scale regional circulation (DEWHA, 2008b).

Tides are semi-diurnal (two high tides and two low tides each day) and generally quite large; up to 10 m during spring tide and less than 3 m in the neap tides for the Kimberley region (DEWHA, 2008b). Water flows in the deeper waters are influenced more by large scale regional water circulation than tides and winds that influence the coastal regions. Tides contribute to the vertical mixing of surface water layers and sediments, but this is more evident in shallow waters than deep waters (DEWHA, 2008b).

The JBG is subject to semi-diurnal tides with two high and low tides per day, and has the largest tidal energy observed anywhere in the world (>7 m) (Rothlisberg *et al.,* 2005). Within the Bonaparte Gulf (situated in the Northwest Shelf Transition provincial bioregion), tides range from 2-3 m offshore (microtidal) rising to 3-4 m inshore (mesotidal).

Waves

In the JBG, the Southern Ocean swell is higher in winter than in summer as a result of northerly migration of swell-generating storms. The wave period and significant wave height generated by this swell is highly dependent on the exact location within the basin. For example, the JBG is protected from the Southern Ocean swell; therefore, swells affecting the area are limited to those generated by cyclones or prolonged storm winds (Maxwell *et al.,* 2004). The region is considered a moderate-energy environment except when influenced by tropical cyclones which generate short-term but major fluctuations in sea levels. Swells generated may have periods of 6-18 seconds and wave heights of 0.5-9 m and are dependent on the size, intensity, speed and relative location of the cyclone.

One of the most unique features of the NWMR is the occurrence of internal waves. Internal waves are dynamic, episodic events, which are strongly influenced by topography and generated by internal tides (DEWHA, 2008b). Internal tides occur at the thermocline, where the warm, low salinity waters of the Indonesian Throughflow overlay colder, more saline, deeper ocean waters. Internal tides are large in scale, frequently occurring across an ocean basin and forced by the gravitational pull of the moon and sun. An internal tide can rise and fall at a different rate to the surface tide but are typically occur semi-diurnal (twice daily) (Holloway *et al.,* 1997) and may travel either towards the shore, or away from the shore across the shelf and out into deeper water (DEWHA, 2008b).

Water Quality

The Indonesian Throughflow brings in oligotrophic waters (low in nutrients) from the western Pacific Ocean through to the Indian Ocean (DEWHA, 2008b). Exceptions in the region occur in the event of local or regional upwelling activity at the shelf break, where deeper, cooler nutrient-rich water is brought to the surface (DEWHA, 2008b). These upwelling activities include, but are not limited to, internal wave and tide regimes, horizontal shear due to strong tidal currents and tropical cyclones. However, understanding of the nature and spatial distribution of biological productivity in the region is limited (DEWHA, 2008b).

Major inputs of fine silt sediments from the Ord, Victoria and Keep River systems occur during the wet season, creating vast areas of high turbidity, particularly in the southern part of the Gulf. The sediments are deposited to form sand bars and mud flats which are themselves the source of high turbidity throughout the year as sediments are resuspended by tidal movements. Though there is only limited marine and nearshore water quality data available, as there are no major developments or population centres near the multi-well location, the potential for existing pollution is limited.

A study conducted by Holloway et al in 1985 into the mechanisms of nitrogen supply in the NWS indicated the NWMR is an oligotrophic (low in nutrients) environment. Nutrient enrichment of the shelf occurs through river runoff, tidal mixing, internal tides, low frequency circulation, upwelling, and tropical cyclones that induce oceanic mixing and further upwelling (Holloway *et al.,* 1985).

Ambient Ocean Sound

Physical and biological processes contribute to natural background sound. Physical processes include that of wind, waves, rain and earthquakes, whilst biological noise sources include vocalisations of marine mammals and other marine species.

Wind is a major contributor to noise between 100 Hz and 30 kHz and can reach 85-95 dB re 1µPa^2/Hz under extreme conditions (WDCS, 2004). Rain may produce short periods of high underwater sound with a flat frequency spectra to levels of 80 dB re 1µPa^2/Hz and magnitude 4 earthquakes have been reported to have spectral levels reaching 119 dB re 1µPa^2/Hz at frequency ranges of 5-15 Hz.

Turnpenny and Nedwell (1994) found that in sensitive species such as the cod, continuous ambient sound alone resulted in auditory masking, and that sound had to be 20 dB above ambient sound to be audible. A comparison of biological and anthropological sounds in the marine environment is provided in Table 5.5 of Section 5.2.2 of Chapter 5.

11.1.7 Physical Environment

The physical environment of the spill EMBA is described in this section.

Bathymetry

Water depths in the NWMR range from 0 to 5,980 m. The NWMR is relatively shallow, with greater than 40% of the total area in water depths of less than 200 m and greater than 50% in depths of less than 500 m (Baker *et al.,* 2008). Water depths in the spill EMBA range from 6,000 m (offshore) to <10 m (inshore).

Bathymetry in parts of the south of the JBG is strongly influenced by the strong tidal movement and channels of the Ord, Keep, Victoria and Fitzmaurice rivers. A series of extensive sandbars, known as the King Shoals and Medusa Banks, have been generated in the southwest by the strong outflows of sediment-laden water from the Cambridge Gulf. Similar sandbars can be found in the southeast of the JBG. Bathymetry of the spill EMBA is presented in Figure 11.7.

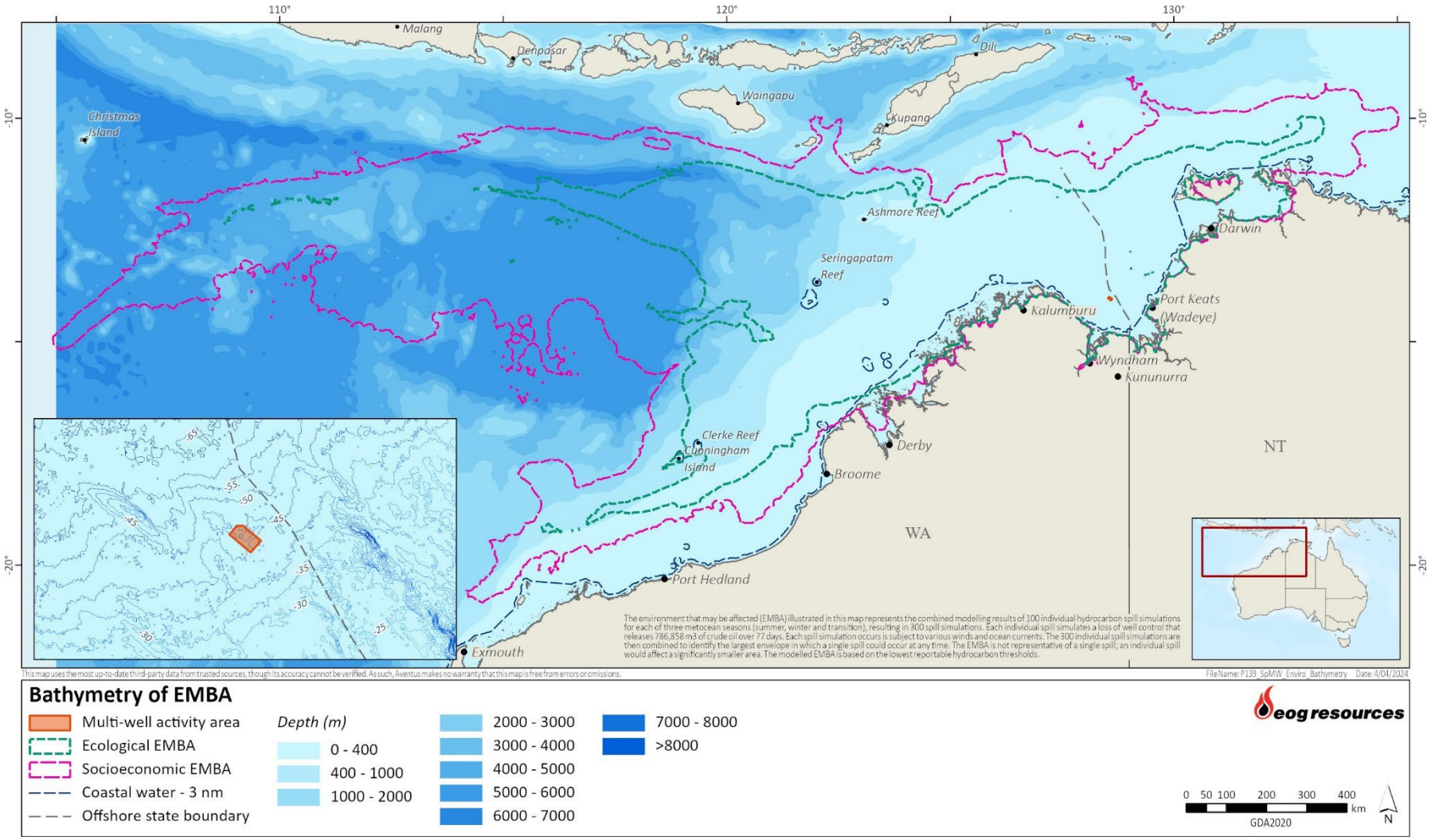


Figure 11.7 Bathymetry of the spill EMBA

Geomorphology

The seafloor of the NWMR comprises an extensive area of continental shelf, slope, rise and abyssal plain/deep ocean floor. Most of the region consists of continental slope (61%) or continental shelf (28%) and a range of features such as canyons, plateau, terraces, ridges, reefs, banks and shoals. Over half of the total area of banks and shoals in Australian marine jurisdiction occurs in the NWMR, including 39% of terraces and 56% of deeps, holes and valleys (DSEWPC, 2012).

Sediment texture and composition displays a zoning with depth, and sand and gravel dominatethe shelf area whilst mud dominates the lower slope and abyssal plain/deep ocean floor.

Calcium carbonate concentrations throughout the region are generally highest along the shelf to the shelf edge and are associated with reefs (Baker *et al.,* 2008).

Ten key geomorphic features have been identified in the JBG (Przeslawski *et al.,* 2011). The inner gulf comprises mostly shelf with sand banks and valleys. The outer gulf and Timor Sea mostly comprise of basin with banks/shoals, terraces and pinnacles separated by deep hole/valley features and escarpment.

The benthic environment of the JBG is linked to its geomorphic features, with the majority of the area characterised by infaunal plains, with some localised reefs and outcrops supporting sponge gardens. Seabed morphology in parts of the JBG is influenced by the strong tidal movement and channels of the Ord, Keep, Victoria and Fitzmaurice rivers. A series of extensive sandbars, known as the King Shoals and Medusa Banks (approximately 70 km and 65 km south respectively of the multi-well location), have been generated by the strong outflows of sediment-laden water from Cambridge Gulf. Similar sandbars can be found in the south-east of the JBG. The multi-well location is located entirely within the ‘shelf’ geomorphic feature, which is typically characterised by extensive sediment plains and high sediment deposition from the coastal rivers to the south (Figure 11.8).

The NMR seafloor comprises a wide continental shelf with water depths generally less than 70 m although water depths range from approximately 10 m to a maximum known depth of 357 m (DSEWPC, 2012). It contains the Van Diemen Rise, characterised by complex geomorphology with features including shelves, shoals, banks, terraces and valleys like the Malita Shelf Valley, which provides a significant connection between the Joseph Bonaparte Gulf and the Timor Trough. In addition, numerous limestone pinnacles up to tens of kilometres in length and width, lie within the Bonaparte Basin (DSEWPC, 2012).

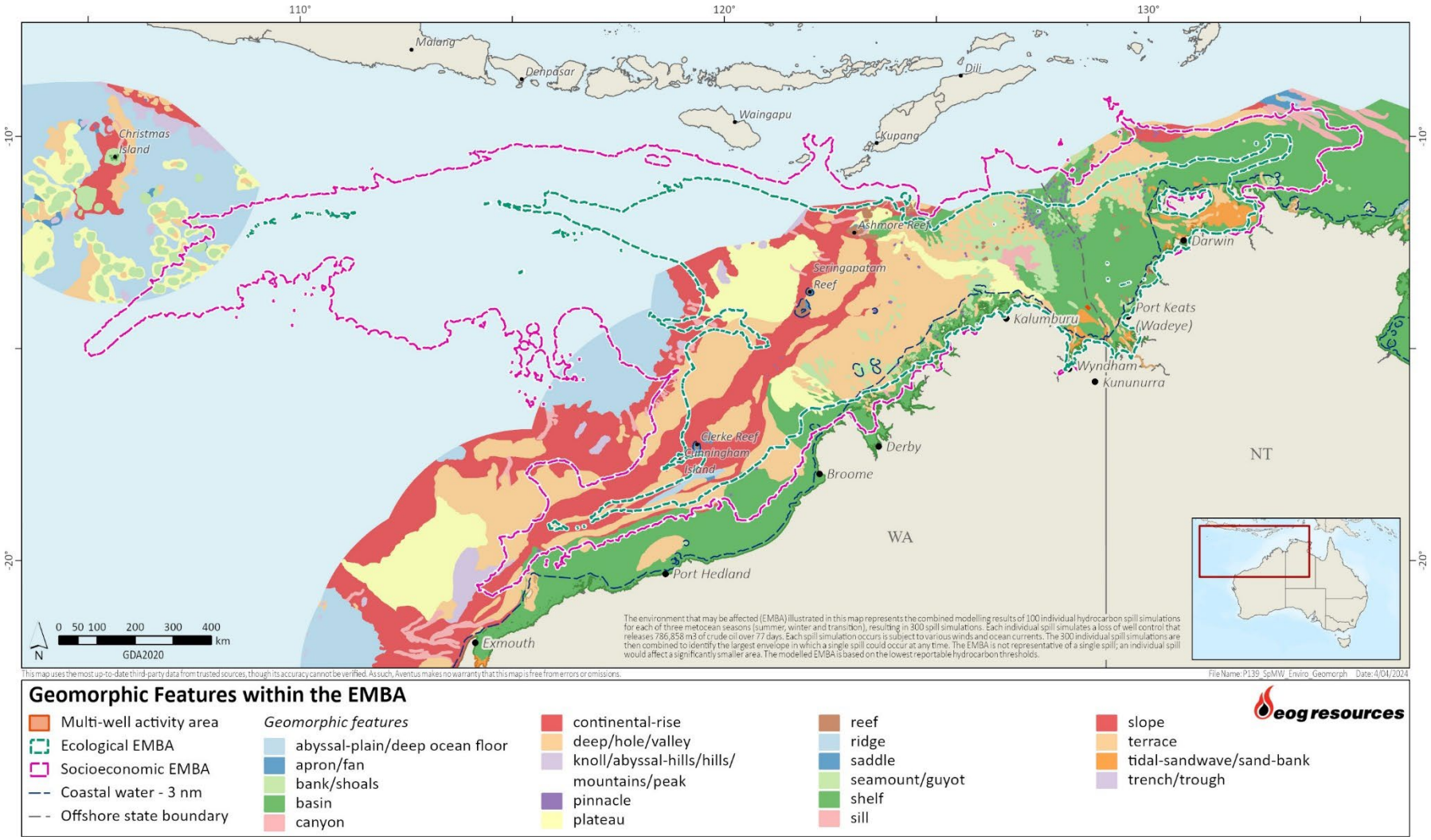


Figure 11.8 Geomorphic features of the spill EMBA

Sedimentology

The sedimentology of the NWMR is varied due to the diversity of physical features from coral reefs to major canyons that act as conduits for sediment and nutrient transport (DSEWPC, 2012). The region is made up of a tropical carbonate shelf dominated by sand and gravel to 15° latitude, while the outer shelf/ slope zone is dominated by mud (Baker *et al.,* 2008). It has a relatively homogenous rise and abyssal plain/ deep ocean floor that is dominated by non-carbonate mud because it occurs below the carbonate compensation depth (Baker *et al.,* 2008).

Major contributors to sediment mobilisation in the NWMR include storm events, tropical cyclones; internal tides; and ocean currents, including the Leeuwin current (Baker *et al.,* 2008). Sediments of the middle shelf region are predominantly influenced by tidal processes, including internal tides (Baker *et al.,* 2008).

Sedimentology in the NMR is also varied, with physical features including shallow canyons, which mainly consist of calcium carbonate, based sediments, as well as limestone pinnacles and reefs (DEWHA, 2008b).

The continental shelf in the JBG is the widest in Australia, extending up to 400 km from the shore. The sedimentology of the JBG is unique, with most of the inner shelf being characterised by relatively flat expanses of soft sediment seabed with localised rocky outcrops, gravel deposits and sands banks. The soft sediments in the region typically consist of sandy and muddy substrate, occasionally made up of patches of coarser sediments (Baker *et al*., 2008). The inner shelf section of the JBG receives significant loads of sediments from several large rivers including the Daly and Victoria rivers (Przeslawski *et al*., 2011).

The distribution of seabed sediments in the JBG, and in particular within the Sahul Shelf, reflects the present-day oceanographic condition and displays a distinct seaward fining pattern (Lees 1992, in Baker *et al*., 2008). Sediment sampling undertaken by ERM) in 2010 and 2011 (within WA-6-R and NT/RL1, more than 100 km north of the multi-well location location) confirms that the area is mainly dominated by sand, with similar proportions of smaller gravel, silt and clay (ERM, 2011).The top layer of sediment in the JBG from ~3 km to 35 km offshore is expected to be greater than 1 m in depth and consists of sand and gravel with variable proportions of clay. This material is primarily alluvium, derived from sedimentary sandstones and basal conglomerate. Sonar images indicate some minor paleochannels in this area containing mega-ripple or sand waves. These sediments are generally unconsolidated coarse sand, fine gravel interspersed with areas of flat and featureless seabed containing very soft to firm gravelly clays (Woodside, 2004).

The main drainage channels for the Victoria River System occur from approximately 35 km to 58 km offshore. This area is dynamic as currents and tidal influence are constantly changing the seabed features in the area. Due to the dynamic nature of the channels, the thickness of the top layer of sediment is expected to be variable. A top layer greater than one metre in depth and consisting of sands and gravels with variable proportions of clay is expected from 59 km to 65 km offshore, with some minor paleochannels occurring. The influence of alluvial inputs diminishes from around 60 km offshore to the Blacktip Wellhead Platform (WHP), which is located approximately 20 km northwest of the multi-well location. This top layer increases to greater than two metres in depth from 66 km offshore and the sediments range from loose silty/clayey sands from 66 km to 75 km and very soft clayey silt and silty clay from 75 km offshore to the Blacktip WHP location (Woodside, 2004). Again, the seabed alternates between flat and featureless seabed containing very soft to firm silty clay and an area of hummocky seabed containing mega-ripple or sand waves, though the seabed is generally flat to gently sloping from about 66 km offshore to the Blacktip WHP location (Woodside, 2004).

11.2 Coastal Environments

The physical coastal environment described in this section is defined by the potential extent of dispersion of low threshold entrained hydrocarbons predicted under the LoWC spill scenario (i.e., the socio-economic EMBA), as illustrated in Figure 11.1.

Shoreline habitats are defined as those habitats that are adjacent to the water along the mainland and islands that occur above the Lowest Astronomical Tide (LAT), and most often in the intertidal zone. Table 11.1 provides a description of the shoreline types according to shoreline receptors (areas defined in this EP to inform oil spill response planning purposes and are referred to as 'sectors') that are intersected by the socio-economic EMBA. Descriptions of the shoreline habitats for each sector are derived from the Australian Coastal Geomorphology Smartline database.

In general, these coastlines and islands (excluding Darwin) are very remote and sparsely populated. Levels of human development and disturbance are correspondingly low around most of the coast (Chatto and Parks, 2006).

Maps of the coastal habitats of the shoreline sectors intersected by the spill EMBA are provided in Figure 11.9 to Figure 11.23. These maps note the maximum probability of shoreline loading from a LoWC.

The following section broadly categorises shoreline habitats as the following biological communities that were identified to occur within the socio-economic EMBA: sandy beaches, rocky shorelines, tidal flats, mangroves and islands.

11.2.1 Sandy Beaches

Sandy beaches are the dominant shoreline type on the eastern coast of the JBG with only occasional rocky headlands and river estuaries leading to the ocean. These environments are remote and have had limited anthropogenic presence (Christiansen *et al.,* 2010). The beaches provide roosting and nesting habitat for sand nesting birds and turtles, such as plovers and flatback turtles, respectively.

For the purposes of this description, sandy beaches include areas of mixed sandy shore/mixed sandy sediments on bedrock, sand beach/alluvium/shore/dune/foredunes (Table 11.1).

Sandy beaches provide habitat to a variety of burrowing invertebrates and subsequently provide foraging grounds for shorebirds (Garnet and Crowley, 2000). The number of species and densities of benthic macroinvertebrates that occur in the sand are typically inversely correlated with sediment grain-size and exposure to wave action, and positively correlated with sedimentary organic content and the amount of detached and attached macrophytes (Wildsmith *et al.,* 2005). However, the distributions of these fauna among habitats will also reflect differences in the suite of environmental variables that characterize those habitats (Wildsmith *et al.,* 2005).

Sandy beaches are found scattered throughout the coastline of northwest WA and the NT with large areas on the western side of the Dampier Archipelago, north and south of Broome (approximately 140 km in length) (Figure 11.10), Derby-West Kimberley (10.6 km) (Figure 11.11), Mitchell River (23.9 km) (Figure 11.12), Wyndham-East Kimberley sector (150 km) (Figure 11.13), Ashmore Reef/Cartier Island (14.5 km) (Figure 11.14), Scott Reef/Browse Island (~2 km) (Figure 11.15), north of Cox-Finniss (25.8 km) (Figure 11.19) and Litchfield (4.8 km) (Figure 11.20).

11.2.2 Rocky Shorelines

Rocky shores can include pebbles/cobbles, boulders and rocky limestone cliffs (often at the landward edge of reef platforms). Rocky outcrops typically consist of hard bedrock, but some of the coastline has characteristic limestone karsted cliffs with an undercut notch. Rocky shorelines can vary from habitats where there is bedrock protruding from soft sediments to cliff like structures that form

headlands. Rocky shorelines are an important foraging area for seabirds and habitat for invertebrates found in the intertidal splash zone (Morton and Britton cited in Jones, 2004). For the purposes of this description, rocky shorelines include areas of hard bedrock/cliff (> 5 m)/hard rocky shore, rocky shore and soft bedrock (Table 11.1).

Rocky shorelines are the dominant shoreline type on the western coast of the JBG that is intersected by the socio-economic EMBA. Hard bedrock shorelines are also found in all of the shoreline sectors except for Ashmore Reef/Cartier Island (Figure 11.14), Scott Reef/Browse Island (Figure 11.15) and Victoria-Daly (Figure 11.16). The longest length of coastline consisting of hard bedrock cliffs and shore are found in the following shoreline sectors: Derby-West Kimberley (2,261 km) (Figure 11.11) and Mitchell River (3,837 km) (Figure 11.12).

While there are some stretches of sandy beaches on the west coast of the JBG, they are confined to the sheltered bays and inlets. The exposed rocky shores would be exposed to wave action from the surrounding gulfs and as such are likely to provide habitat for intertidal algae and shell species.

11.2.3 Tidal Flats

Tidal flats (also referred to as mudflats) are comprised of layers of fine mud due to the ongoing deposition of estuarine silts, which combines with deposition of fine sands by tidal movements. For the purposes of this description, tidal flats include areas of tidal flats (sand, mud, sediments)/mangroves, marshy sediment flats/marshy saline sediment flats, saline mudflats and muddy sediments /alluvium/sediment flats (Table 11.1).

These areas provide important habitat for mud and sand-dwelling invertebrates such as crabs, prawns, shells and worms and sheltered habitat for larval and juvenile fishes. Due to the diversity of infauna, they are also an important foraging habitat for various shorebird species including egrets, plovers and oystercatchers.

the spill EMBA intersects tidal flats (sand, mud, sediment) which are found in all of the shoreline sectors except for Ashmore Reef/Cartier Island (Figure 11.14) and Scott Reef/Browse Island (Figure 11.15). The longest length of coastline consisting of tidal flats are found in the following shoreline sectors: Derby-West Kimberley (100 km) (Figure 11.11), Mitchell River (55 km) (Figure 11.12), and Wyndham-East Kimberley (1,062 km) (Figure 11.13).

Tidal sediments flats (inferred from mangroves) are predominantly found in the NT from the Victoria-Daly coastline extending up to and including West Arnhem (Figure 11.16 to Figure 11.22).

Marshy sediment flats including marshy saline sediment flats are commonly found along the Cox-Finniss sector (Figure 11.19) toward and including the West Arnhem sector (NT) (Figure 11.22).

11.2.4 Mangroves

Mangroves commonly occur in sheltered coastal areas in tropical and sub-tropical latitudes (Kathiresan and Bingham, 2001). Mangroves are found wherever suitable conditions are present including wave-dominated settings of deltas, beach/dune coasts, limestone barrier islands and ria/archipelago shores (Semeniuk, 1993). For the purposes of this description, mangroves include areas of tidal flats (sand, mud, sediments)/mangroves and marshy sediment flats/marshy saline sediment flats (Table 11.1).

Mangroves are important primary producers and have a number of ecological and economic values, including reducing coastal erosion and providing habitat for a variety of epibenthic, infaunal and meiofaunal invertebrates (Kathiresan and Bingham, 2001). Crustaceans known to inhabit the mud in mangrove systems include fiddler crabs, mud crabs, shrimps and barnacles, while water channels of the system support various finfish. Mangroves and their associated invertebrate-rich mudflats are also

an important habitat for migratory shorebirds from the northern hemisphere, as well as some avifauna that are restricted to mangroves as their sole habitat (Garnet and Crowley, 2000).

Mangrove habitat intersected by the socio-economic EMBA typically occur along the banks of the major rivers and estuarine environments of the southern JBG including at Quoin Island (126 km southeast of the multi-well location) and Clump Island (133 km southeast) and along the southern coastline of Dorcherty Island (95 km east), including the Tiwi Islands and Vernon Islands (located 345 km in the most north-easterly extent of the spill EMBA) (see Figure 11.23).

Shoreline ecological aerial and ground surveys were conducted from Darwin in the NT to Broome in WA in response to the Montara oil spill during 2009 (Pearce & Duke, 2013). A distance of approximately 5,100 km of shoreline was surveyed, analysed and mapped to quantitatively characterise coastal ecological features. Mangroves were found to grow along 63% of the surveyed shoreline and salt marshes occurred over 24% of the shoreline.

11.2.5 Islands

Several rocky and sandy islands are located within the socio-economic EMBA that provide intertidal and shoreline habitats for a variety of marine fauna and ecological communities, including many small islands along the north Kimberley coast, Browse Island, including sand islands at Ashmore Reef and Cartier Island (as described in Sections 11.3.1 and 11.4.7), the Tiwi Islands (including Melville and Bathurst Islands (Figure 11.23) and Vernon Islands, as described in Sections 11.3.1). For the purposes of this description, islands include reef/coral outer with sandy shore (Table 11.1).

Table 11.1 Description of shoreline receptors by type in the spill EMBA

EMBA shoreline sector	Description of shoreline by type														
	Alluvial sediment/plain	Beach sediment/ridges	Colluvium	Tidal flats (sand, mud, sediment)/Mangroves	Hard bedrock/Cliff (>5 m)/Hard rocky shore	Marshy sediment flats/Marshy saline sediment flats	Mixed sandy shore/Mixed sandy sediments on bedrock	Muddy sediments/alluvium/sediment flats	Reef/Coral outer with sandy shore	Rocky shore	Saltpans/saline mudflats	Sandy beach/alluvium/shore/dune/foredune	Sediment plain/sediment deposits	Soft bedrock	Unclassified
Broome		X		X	X		X		X		X	X			X
Derby-West Kimberley		X		X	X				X		X				X
Mitchell River	X	X		X	X						X	X		X	X
Wyndham-East Kimberley	X	X		X	X						X	X	X	X	X
Victoria-Daly		X		X							X	X	X		X
Thamarrurr		X		X	X							X	X	X	
Daly	X			X	X							X	X	X	
Cox-Finniss	X	X		X	X	X	X	X		X	X	X	X	X	X
Litchfield				X	X	X	X	X		X	X	X		X	X
South Alligator				X	X	X	X	X			X	X	X	X	
West Arnhem	X		X	X	X	X		X			X	X	X	X	X
Bathurst and Melville Islands	X		X	X	X	X	X	X			X	X	X	X	

EMBA shoreline sector	Description of shoreline by type														
	Alluvial sediment/plain	Beach sediment/ridges	Colluvium	Tidal flats (sand, mud, sediment)/Mangroves	Hard bedrock/Cliff (>5 m)/Hard rocky shore	Marshy sediment flats/Marshy saline sediment flats	Mixed sandy shore/Mixed sandy sediments on bedrock	Muddy sediments/alluvium/sediment flats	Reef/Coral outer with sandy shore	Rocky shore	Saltpans/saline mudflats	Sandy beach/alluvium/shore/dune/foredune	Sediment plain/sediment deposits	Soft bedrock	Unclassified
Scott Reef/Browse Island									X			X			
Ashmore Reef/Cartier Island									X			X			

Key:

X = shoreline type present.

Unclassified is defined as the 13,045 km of shoreline of the EMBA that has no known coastal geomorphological classification.

Source: Australian Coastal Geomorphology Smartline. Note GoogleEarth Pro imagery was used in the absence of GIS data for unclassified areas.

Note: a detailed list of receptors mapped against the Western Australia Marine Oil Pollution Risk Assessment (WAMOPRA) sectors is presented in table E.2 in appendix E of the OPEP.

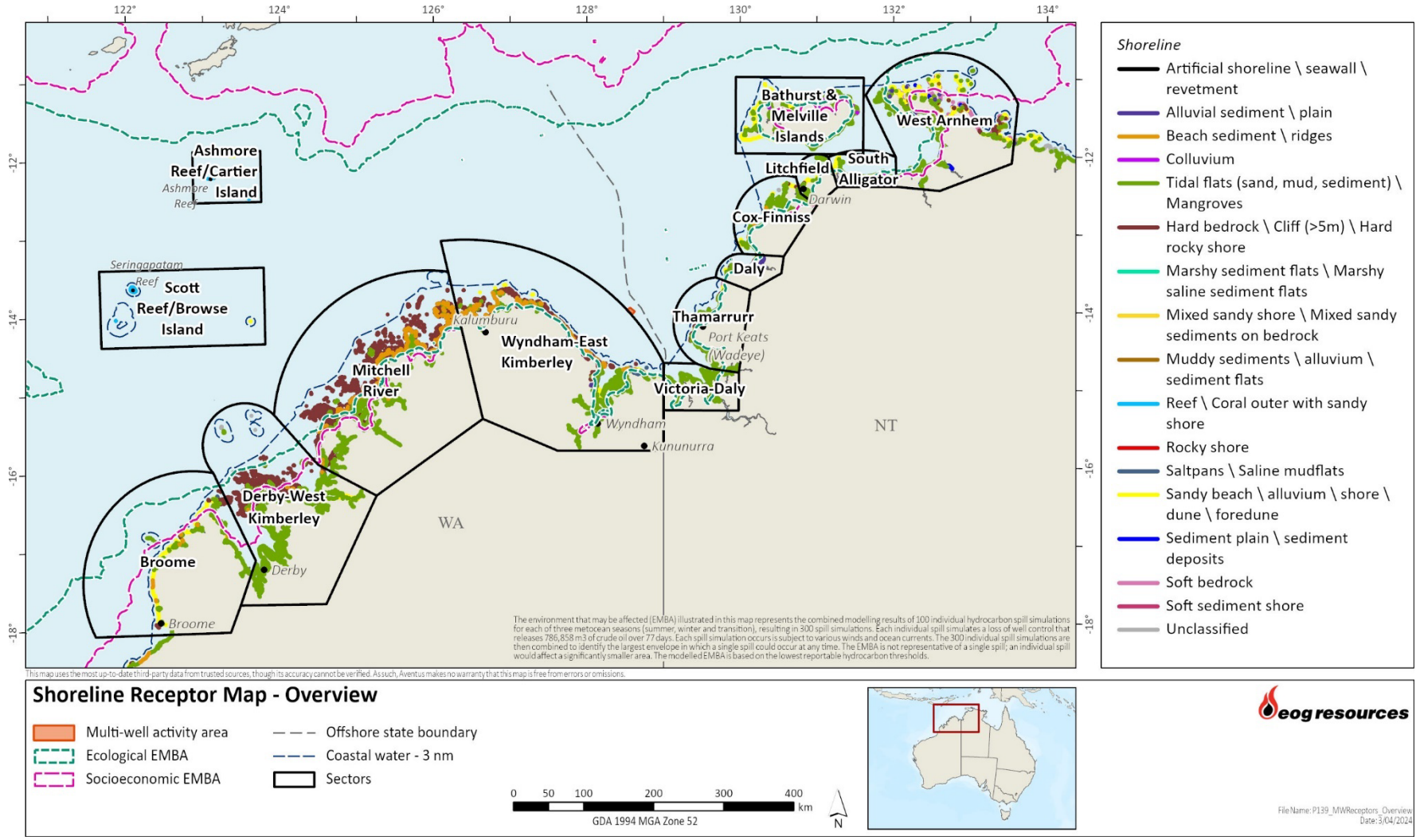
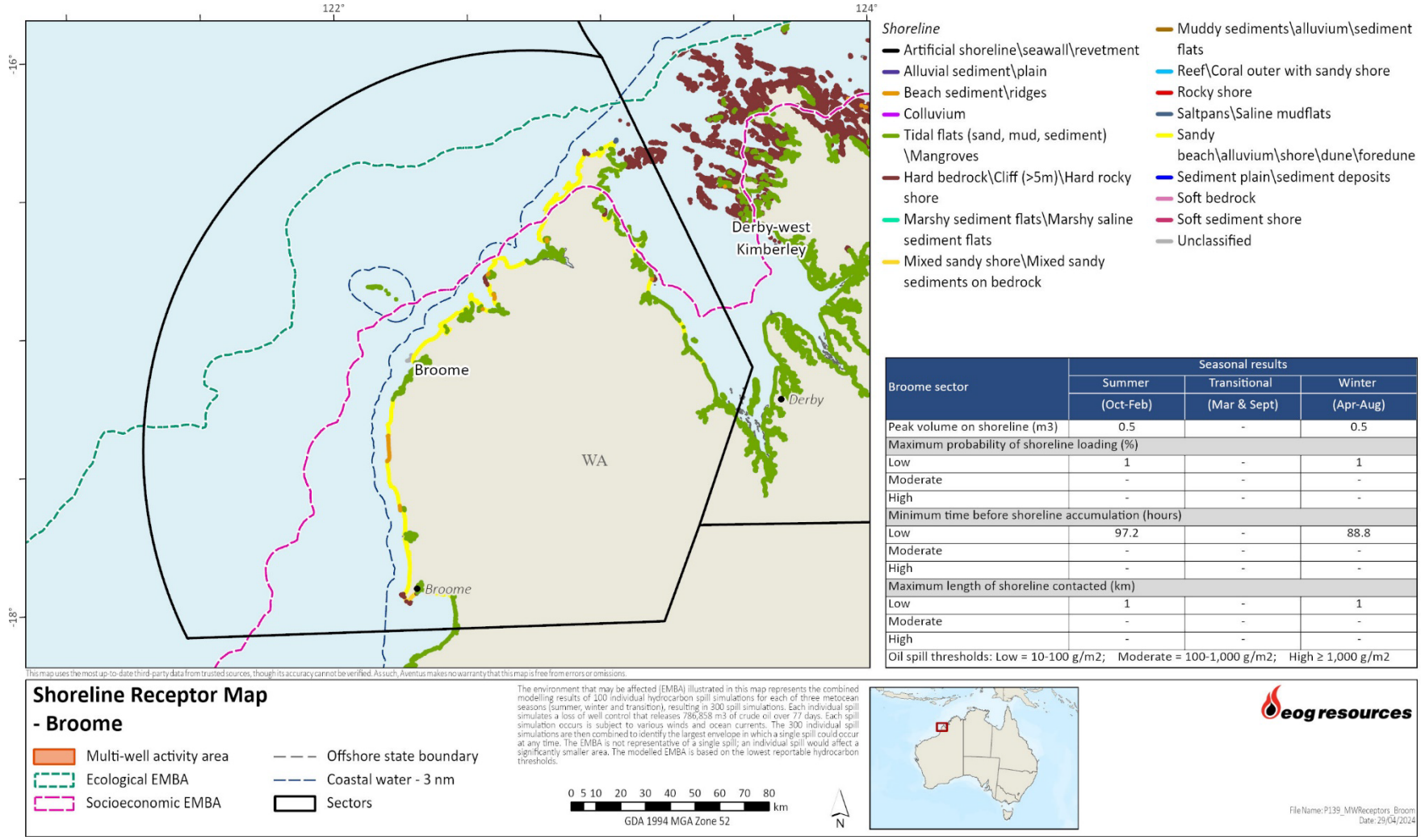
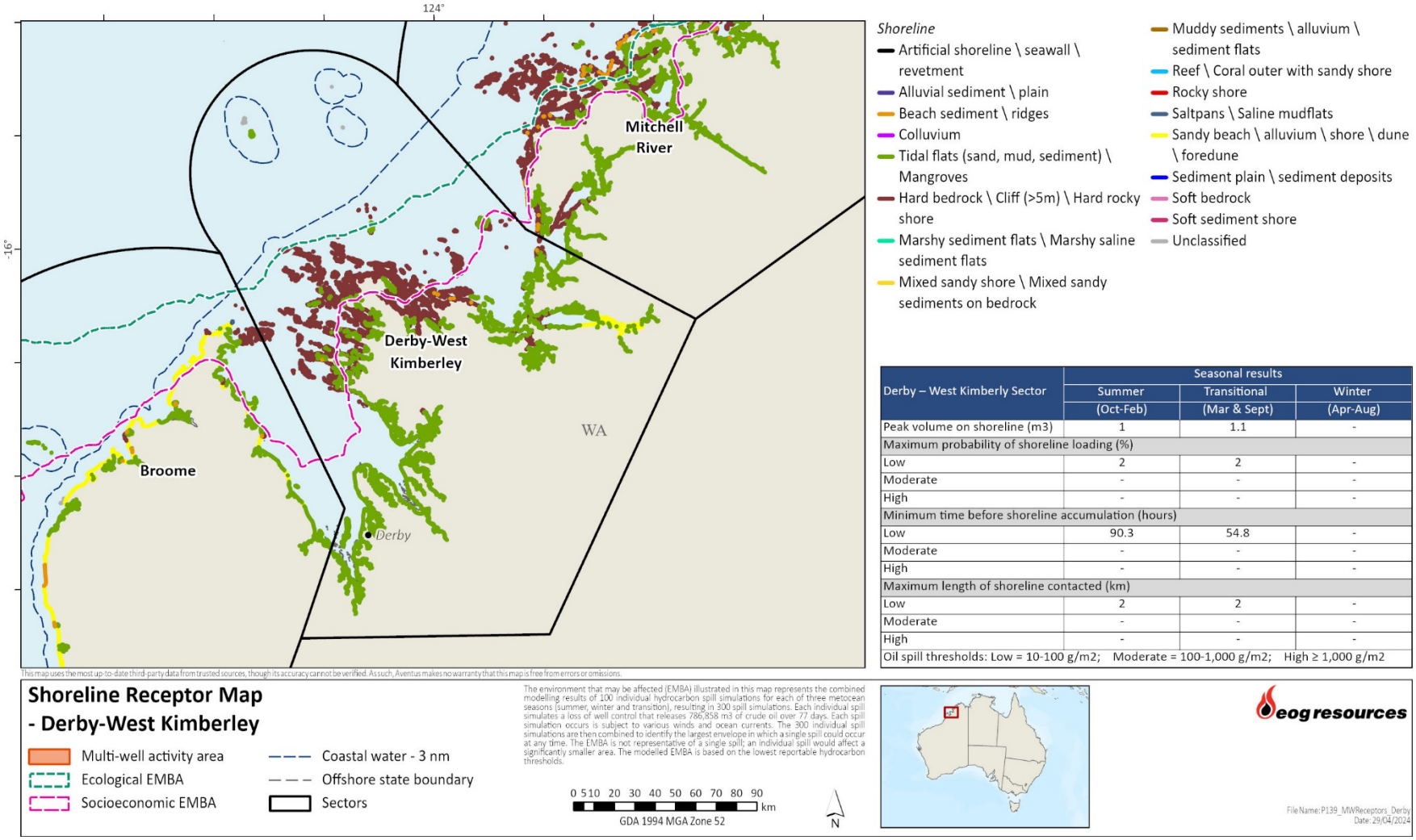


Figure 11.9 Overview of the shoreline receptors intersected by the spill EMBA



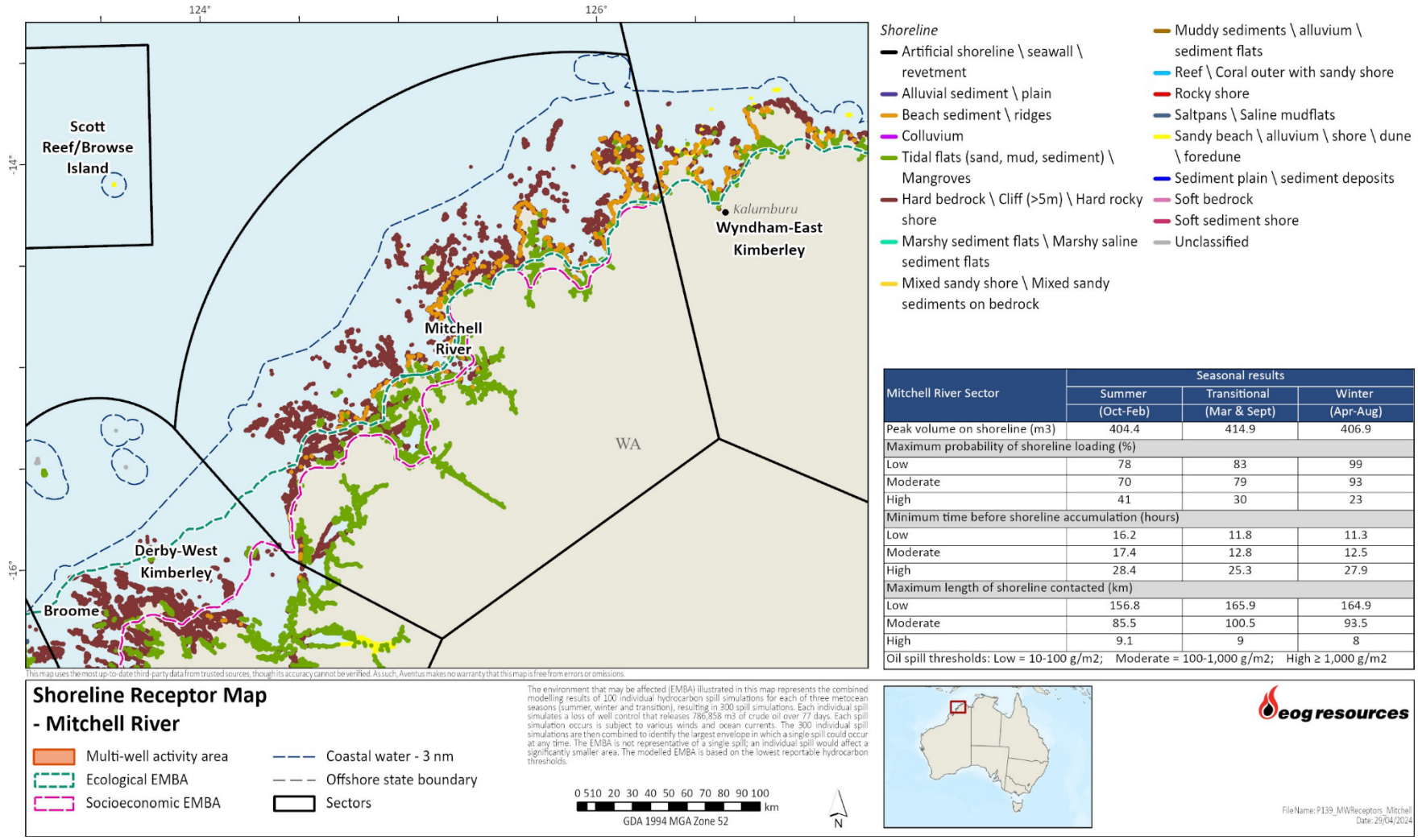
Broome sector	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	0.5	-	0.5
Maximum probability of shoreline loading (%)			
Low	1	-	1
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	97.2	-	88.8
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	1
Moderate	-	-	-
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Figure 11.10 Spill EMBA shoreline sector - Broome



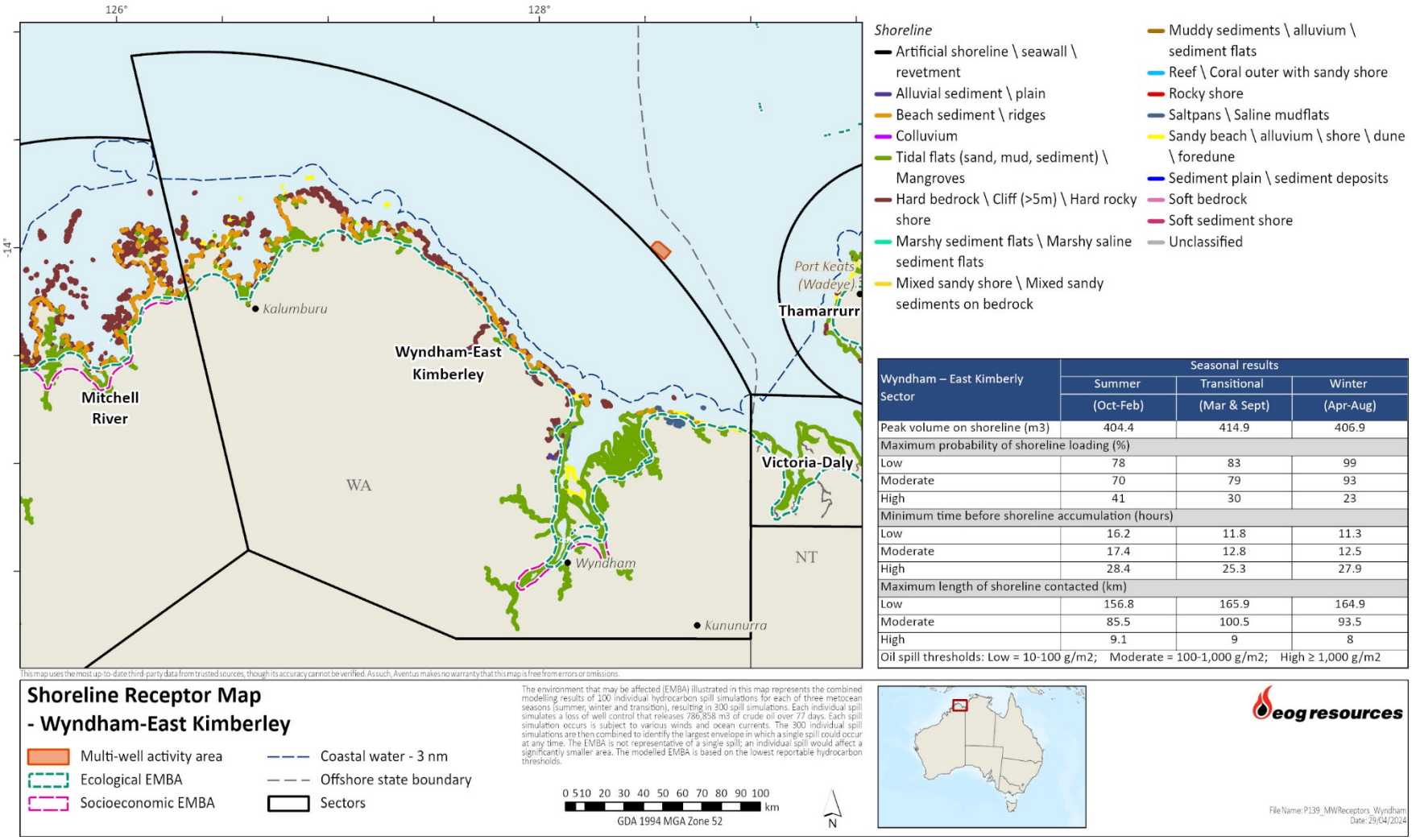
Derby – West Kimberly Sector	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	1	1.1	-
Maximum probability of shoreline loading (%)			
Low	2	2	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	90.3	54.8	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	2	2	-
Moderate	-	-	-
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Figure 11.11 Spill EMBA shoreline sector - Derby-West Kimberley



Mitchell River Sector	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	404.4	414.9	406.9
Maximum probability of shoreline loading (%)			
Low	78	83	99
Moderate	70	79	93
High	41	30	23
Minimum time before shoreline accumulation (hours)			
Low	16.2	11.8	11.3
Moderate	17.4	12.8	12.5
High	28.4	25.3	27.9
Maximum length of shoreline contacted (km)			
Low	156.8	165.9	164.9
Moderate	85.5	100.5	93.5
High	9.1	9	8
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Figure 11.12 Spill EMBA shoreline sector - Mitchell River

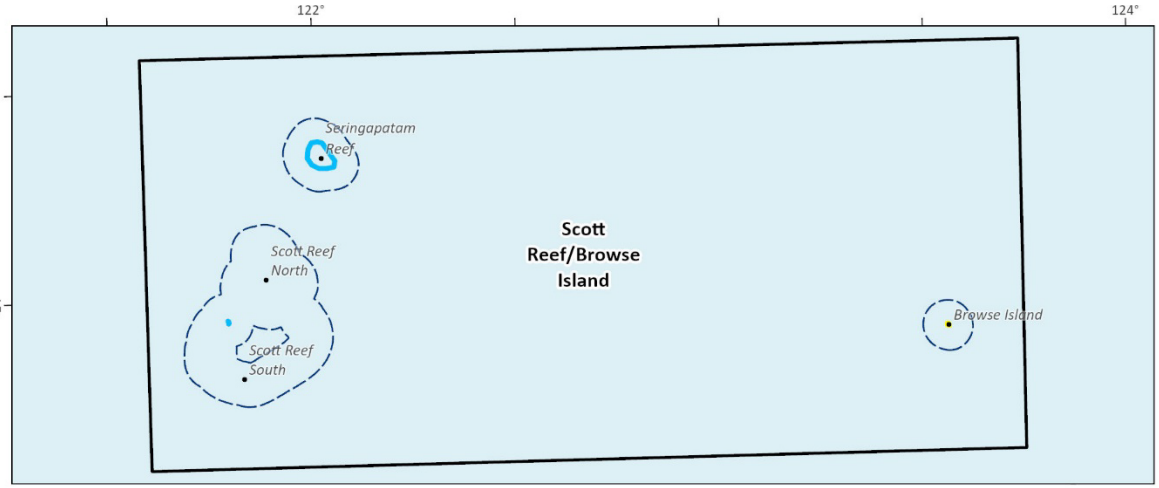


Wyndham – East Kimberly Sector	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	404.4	414.9	406.9
Maximum probability of shoreline loading (%)			
Low	78	83	99
Moderate	70	79	93
High	41	30	23
Minimum time before shoreline accumulation (hours)			
Low	16.2	11.8	11.3
Moderate	17.4	12.8	12.5
High	28.4	25.3	27.9
Maximum length of shoreline contacted (km)			
Low	156.8	165.9	164.9
Moderate	85.5	100.5	93.5
High	9.1	9	8
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Figure 11.13 Spill EMBA shoreline sector - Wyndham-East Kimberley

Hibernia Reef	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	-	-	7.8
Maximum probability of shoreline loading (%)			
Low	-	-	6.0
Moderate	-	-	3.0
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	-	-	70.6
Moderate	-	-	87.2
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	-	8.0
Moderate	-	-	1.0
High	-	-	-
Cartier Island			
Peak volume on shoreline (m3)	-	-	11,2
Maximum probability of shoreline loading (%)			
Low	-	-	11
Moderate	-	-	5
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	-	-	66.08
Moderate	-	-	67.13
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	-	9.0
Moderate	-	-	3.0
High	-	-	-
Ashmore Reef			
Peak volume on shoreline (m3)	-	-	14.4
Maximum probability of shoreline loading (%)			
Low	-	-	7
Moderate	-	-	3
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	-	-	69.75
Moderate	-	-	80.88
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	-	19.1
Moderate	-	-	3
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Figure 11.14 Spill EMBA shoreline sector - Ashmore Reef & Cartier Island



Shoreline
- Reef \ Coral outer with sandy shore
- Sandy beach \ alluvium \ shore \ dune \ foredune

Seringapatam Reef	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	3.5	3.4	0.7
Maximum probability of shoreline loading (%)			
Low	8	4	2
Moderate	1	1	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	70.3	68.6	56.5
Moderate	97.6	94.2	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	4	6	1
Moderate	2	1	-
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Browse Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	64.4	57.2	14.3
Maximum probability of shoreline loading (%)			
Low	23	38	22
Moderate	20	27	11
High	1	7	-
Minimum time before shoreline accumulation (hours)			
Low	48.5	40.6	37
Moderate	50.5	47.3	37.9
High	91.9	59.7	-
Maximum length of shoreline contacted (km)			
Low	4	4	4
Moderate	4	4	4
High	3	3	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Scott Reef North	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	12.4	1.3	2
Maximum probability of shoreline loading (%)			
Low	10	1	5
Moderate	3	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	64.1	66.3	63.8
Moderate	64.1	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	14.1	2	4
Moderate	6	-	-
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Scott Reef South	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	57.5	4.8	3.5
Maximum probability of shoreline loading (%)			
Low	12	3	7
Moderate	7	2	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	62.1	43.3	74.8
Moderate	63.5	44.4	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	29.2	6	6
Moderate	18.1	1	-
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

This map uses the most up-to-date third-party data from trusted sources, though its accuracy cannot be verified. As such, Aventus makes no warranty that this map is free from errors or omissions.

Shoreline Receptor Map
- Scott Reef and Browse Island

- Ecological EMBA
- Socioeconomic EMBA
- Coastal water - 3 nm
- Sectors

The environment that may be affected (EMBA) illustrated in this map represents the combined modelling results of 100 individual hydrocarbon spill simulations for each of three metocean seasons (summer, winter and transition), resulting in 300 spill simulations. Each individual spill simulates a loss of well control that releases 786,858 m3 of crude oil over 77 days. Each spill simulation occurs is subject to various winds and ocean currents. The 300 individual spill simulations are then combined to identify the largest envelope in which a single spill could occur at any time. The EMBA is not representative of a single spill; an individual spill would affect a significantly smaller area. The modelled EMBA is based on the lowest reportable hydrocarbon thresholds.

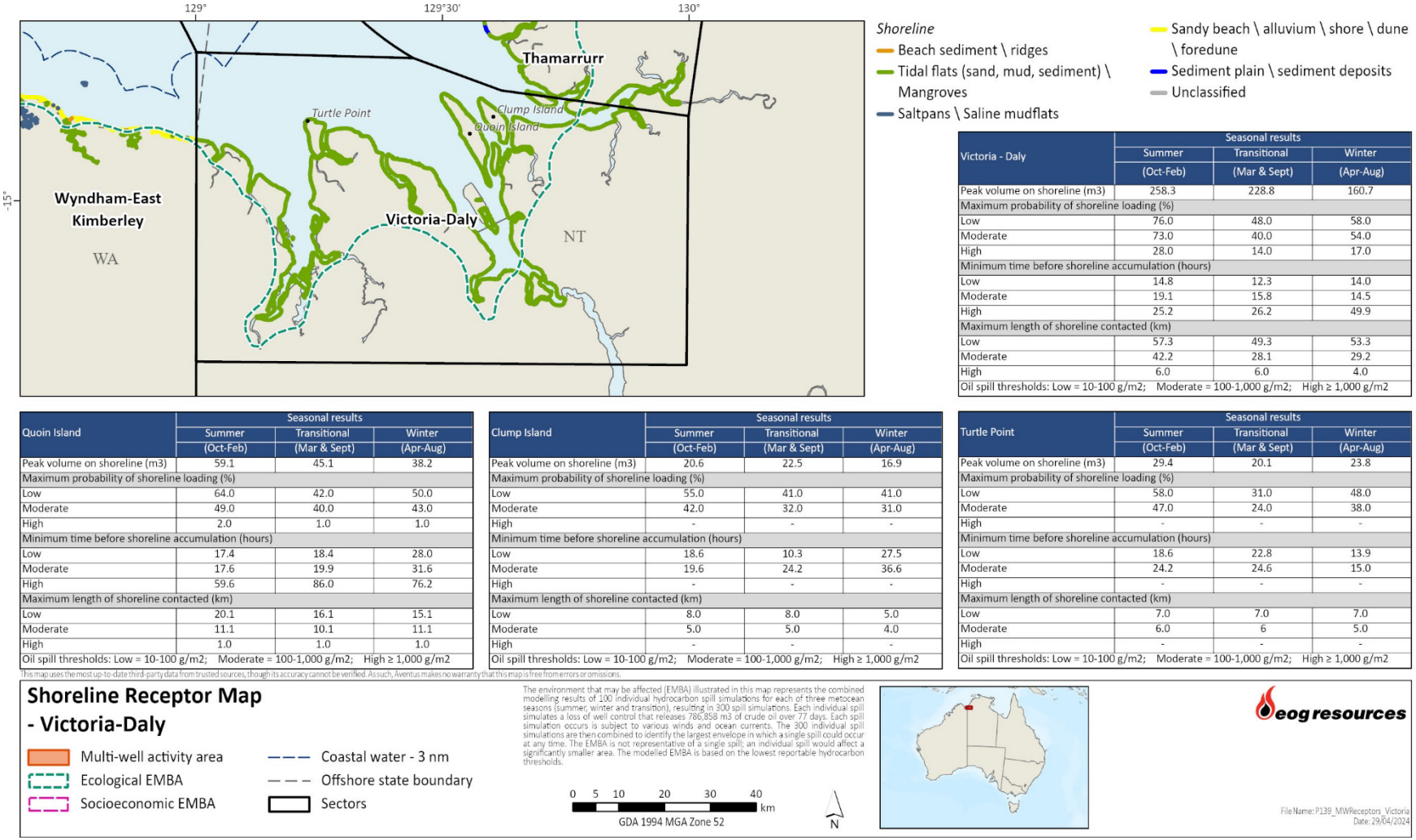
0 5 10 20 30 40 50 60 km

GDA 1994 MGA Zone 52

N

File Name: P139_MWReceptors_Scott
Date: 29/04/2024

Figure 11.15 Spill EMBA shoreline sector - Scott Reef & Browse Island



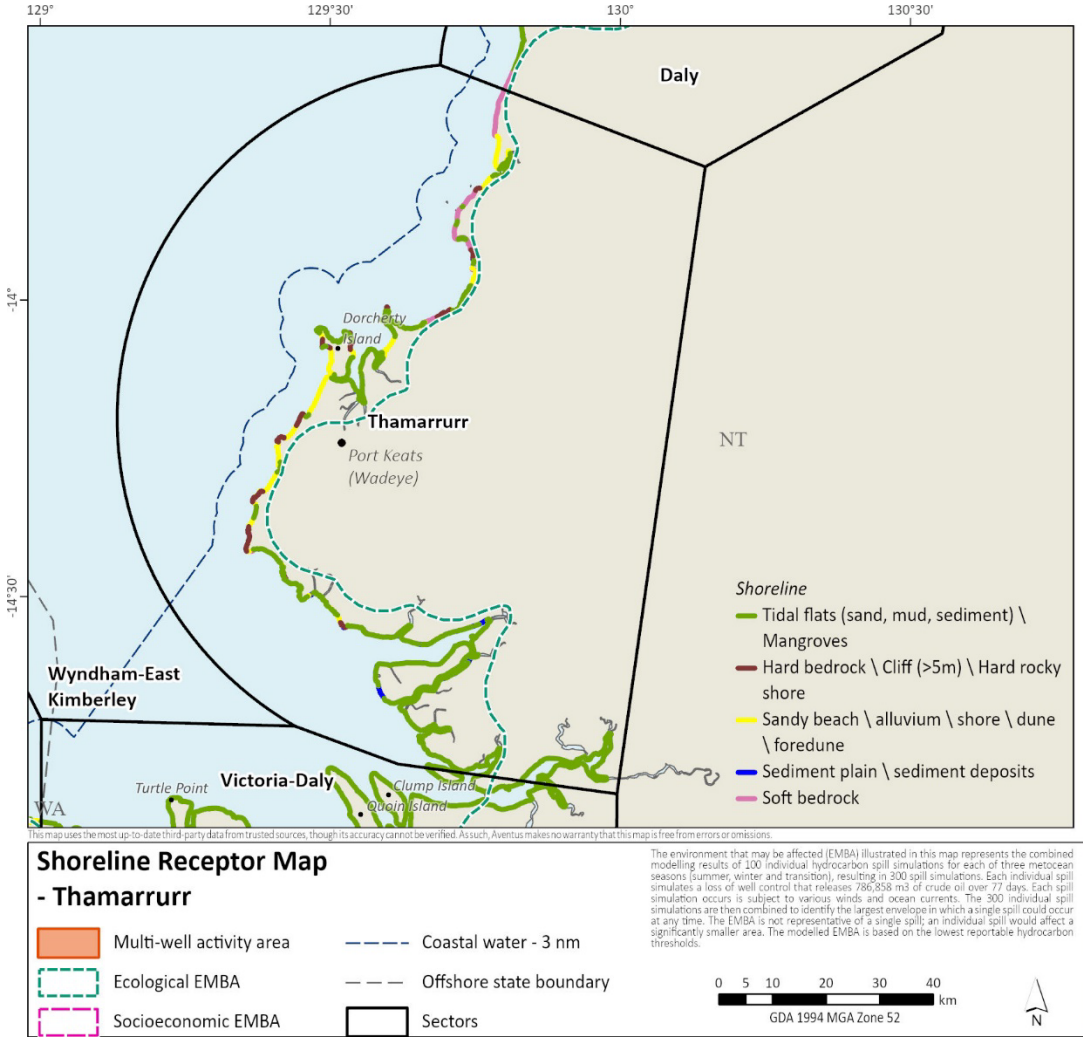
Victoria - Daly	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	258.3	228.8	160.7
Maximum probability of shoreline loading (%)			
Low	76.0	48.0	58.0
Moderate	73.0	40.0	54.0
High	28.0	14.0	17.0
Minimum time before shoreline accumulation (hours)			
Low	14.8	12.3	14.0
Moderate	19.1	15.8	14.5
High	25.2	26.2	49.9
Maximum length of shoreline contacted (km)			
Low	57.3	49.3	53.3
Moderate	42.2	28.1	29.2
High	6.0	6.0	4.0
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Quoin Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	59.1	45.1	38.2
Maximum probability of shoreline loading (%)			
Low	64.0	42.0	50.0
Moderate	49.0	40.0	43.0
High	2.0	1.0	1.0
Minimum time before shoreline accumulation (hours)			
Low	17.4	18.4	28.0
Moderate	17.6	19.9	31.6
High	59.6	86.0	76.2
Maximum length of shoreline contacted (km)			
Low	20.1	16.1	15.1
Moderate	11.1	10.1	11.1
High	1.0	1.0	1.0
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Clump Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	20.6	22.5	16.9
Maximum probability of shoreline loading (%)			
Low	55.0	41.0	41.0
Moderate	42.0	32.0	31.0
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	18.6	10.3	27.5
Moderate	19.6	24.2	36.6
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	8.0	8.0	5.0
Moderate	5.0	5.0	4.0
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Turtle Point	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	29.4	20.1	23.8
Maximum probability of shoreline loading (%)			
Low	58.0	31.0	48.0
Moderate	47.0	24.0	38.0
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	18.6	22.8	13.9
Moderate	24.2	24.6	15.0
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	7.0	7.0	7.0
Moderate	6.0	6	5.0
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

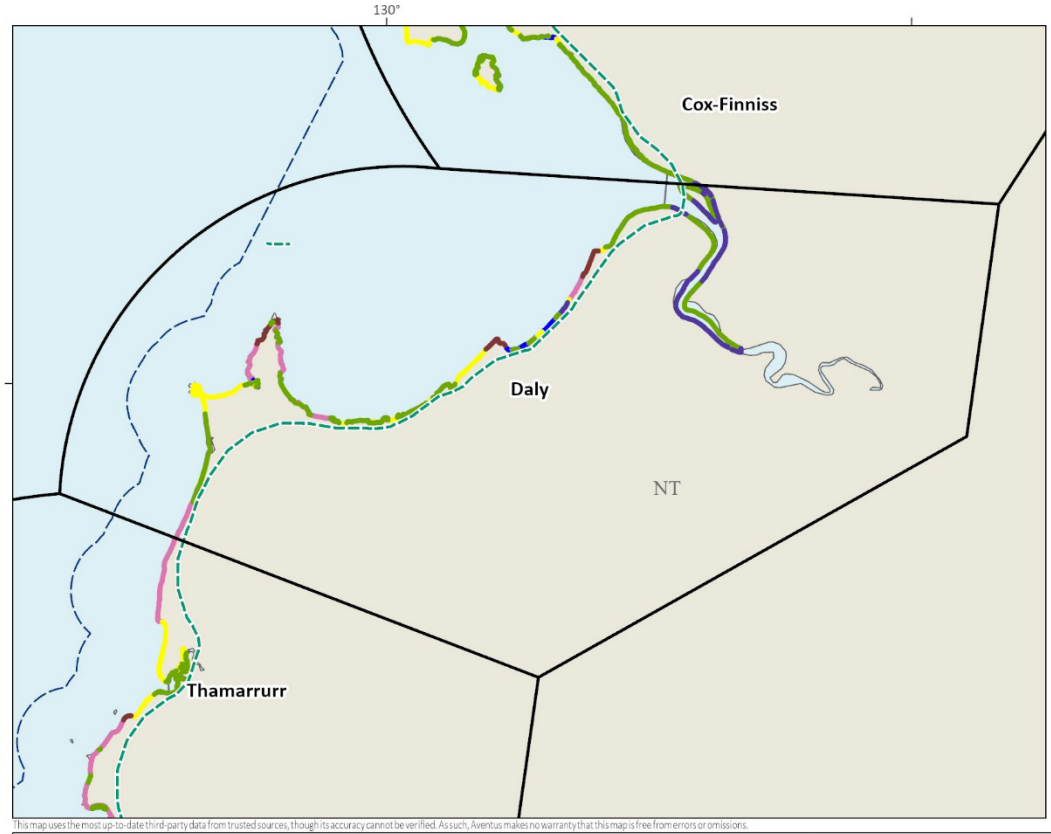
Figure 11.16 Spill EMBA shoreline sector - Victoria-Daly



Dorcherty Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	134.8	23.2	22.5
Maximum probability of shoreline loading (%)			
Low	66	21	26
Moderate	54	13	19
High	12	2	-
Minimum time before shoreline accumulation (hours)			
Low	17.4	23	38.5
Moderate	19.3	25.2	39.5
High	50.5	72.1	-
Maximum length of shoreline contacted (km)			
Low	12.1	7	6
Moderate	8	6	6
High	2	1	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Thamarrurr	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	271.2	164.9	155.6
Maximum probability of shoreline loading (%)			
Low	80	45	41
Moderate	74	41	35
High	31	21	16
Minimum time before shoreline accumulation (hours)			
Low	11.6	15.7	31.2
Moderate	14.5	22.8	37.2
High	18.9	29.8	56.1
Maximum length of shoreline contacted (km)			
Low	60.3	47.2	46.2
Moderate	40.2	27.1	30.2
High	7	4	3
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Figure 11.17 Spill EMBA shoreline sector - Thamarrurr



Shoreline

- Artificial shoreline \ seawall \ revetment
- Alluvial sediment \ plain
- Beach sediment \ ridges
- Colluvium
- Tidal flats (sand, mud, sediment) \ Mangroves
- Hard bedrock \ Cliff (>5m) \ Hard rocky shore
- Marshy sediment flats \ Marshy saline sediment flats
- Mixed sandy shore \ Mixed sandy sediments on bedrock
- Muddy sediments \ alluvium \ sediment flats
- Reef \ Coral outer with sandy shore
- Rocky shore
- Saltpans \ Saline mudflats
- Sandy beach \ alluvium \ shore \ dune \ foredune
- Sediment plain \ sediment deposits
- Soft bedrock
- Soft sediment shore
- Unclassified

Daly Sector	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	199.6	4.9	7
Maximum probability of shoreline loading (%)			
Low	57	9	8
Moderate	41	1	3
High	2	-	-
Minimum time before shoreline accumulation (hours)			
Low	18.3	63.5	53
Moderate	25.8	93.2	71
High	46.1	-	-
Maximum length of shoreline contacted (km)			
Low	32.2	5	5
Moderate	24.1	1	2
High	6	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Shoreline Receptor Map - Daly

- Multi-well activity area
- Ecological EMBA
- Socioeconomic EMBA
- Coastal water - 3 nm
- Offshore state boundary
- Sectors

The environment that may be affected (EMBA) illustrated in this map represents the combined modelling results of 100 individual hydrocarbon spill simulations for each of three metocean seasons (summer, winter and transition), resulting in 300 spill simulations. Each individual spill simulates a loss of well control that releases 786,858 m3 of crude oil over 77 days. Each spill simulation occurs is subject to various winds and ocean currents. The 300 individual spill simulations are then combined to identify the largest envelope in which a single spill could occur at any time. The EMBA is not representative of a single spill; an individual spill would affect a significantly smaller area. The modelled EMBA is based on the lowest reportable hydrocarbon thresholds.

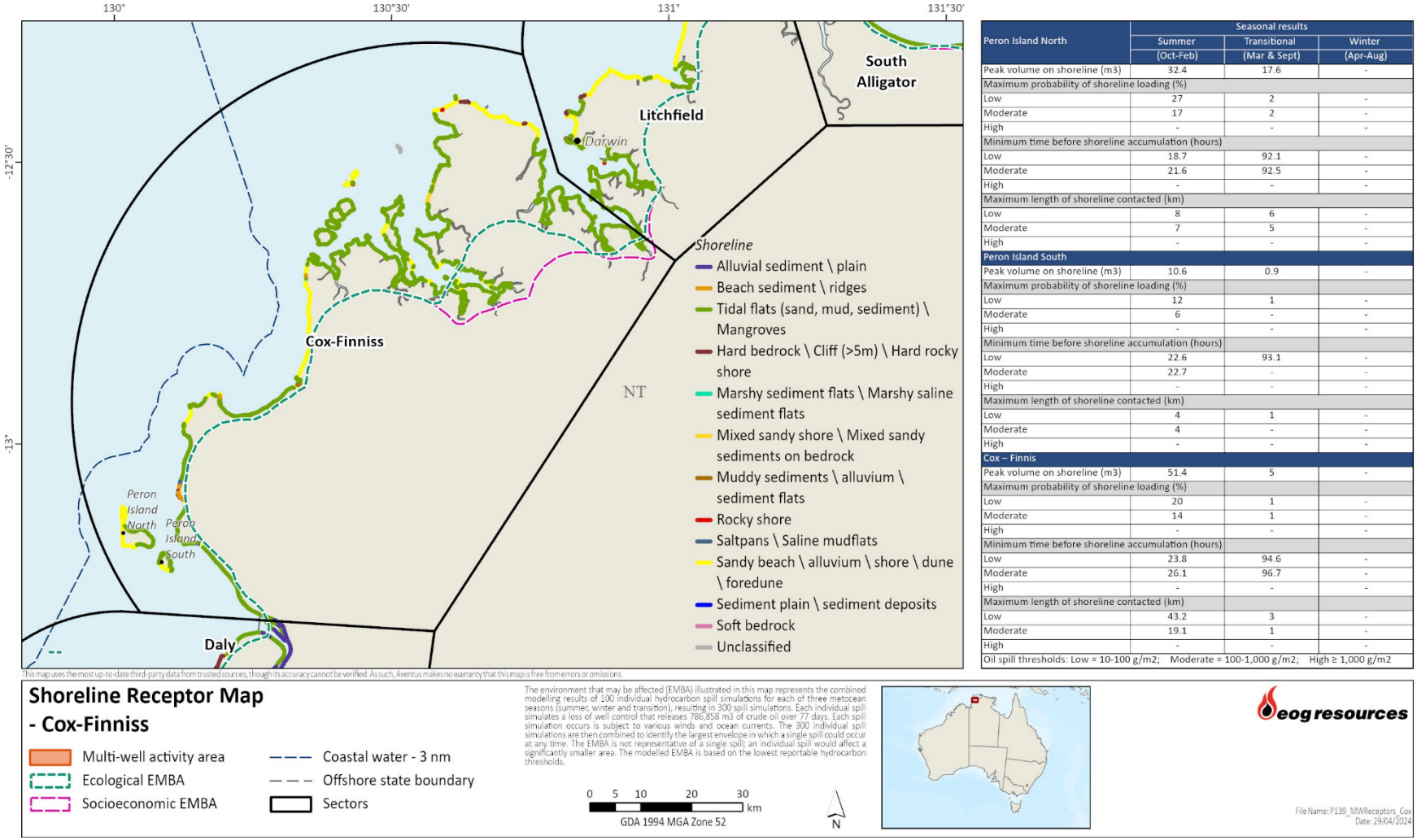
0 5 10 20 km

GDA 1994 MGA Zone 52

N

File Name: P139_MWReceptors_Daly
Date: 29/04/2024

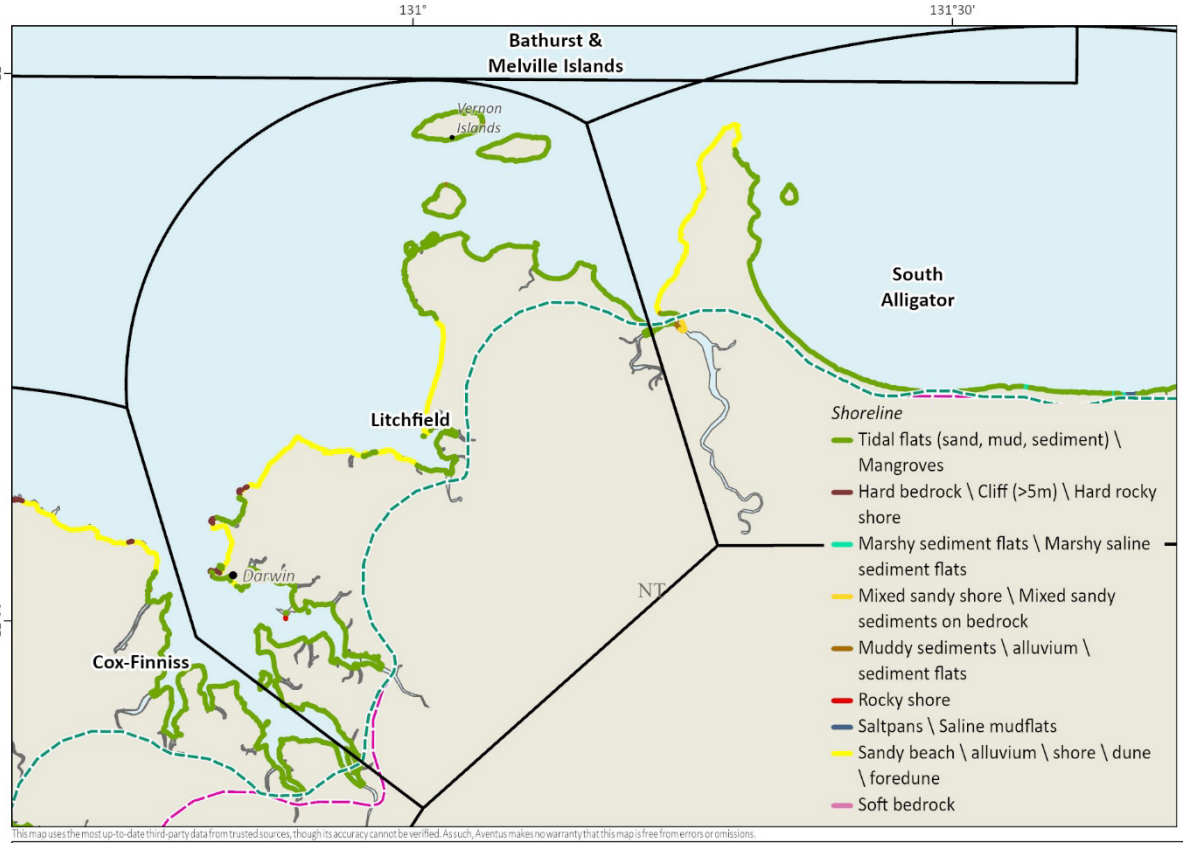
Figure 11.18 Spill EMBA shoreline sector – Daly



Peron Island North	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	32.4	17.6	-
Maximum probability of shoreline loading (%)			
Low	27	2	-
Moderate	17	2	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	18.7	92.1	-
Moderate	21.6	92.5	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	8	6	-
Moderate	7	5	-
High	-	-	-
Peron Island South			
Peak volume on shoreline (m3)	10.6	0.9	-
Maximum probability of shoreline loading (%)			
Low	12	1	-
Moderate	6	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	22.6	93.1	-
Moderate	22.7	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	4	1	-
Moderate	4	-	-
High	-	-	-
Cox – Finnis			
Peak volume on shoreline (m3)	51.4	5	-
Maximum probability of shoreline loading (%)			
Low	20	1	-
Moderate	14	1	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	23.8	94.6	-
Moderate	26.1	96.7	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	43.2	3	-
Moderate	19.1	1	-
High	-	-	-

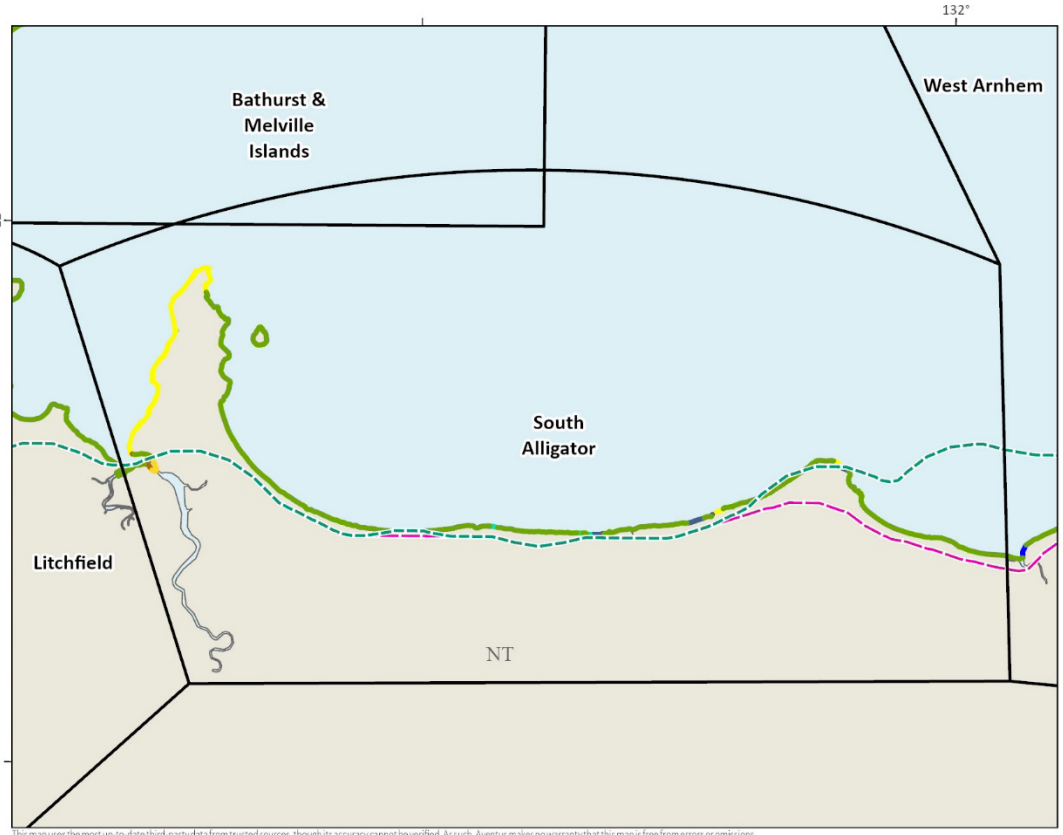
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2

Figure 11.19 Spill EMBA shoreline sector - Cox-Finniss



Darwin	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	2.6	-	-
Maximum probability of shoreline loading (%)			
Low	8	-	-
Moderate	3	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	48.1	-	-
Moderate	51.7	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	-	-
Moderate	1	-	-
High	-	-	-
Vernon Islands			
Peak volume on shoreline (m3)	26.4	7.2	-
Maximum probability of shoreline loading (%)			
Low	18	1	-
Moderate	11	1	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	30.5	97.1	-
Moderate	39.2	97.5	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	14.1	5	-
Moderate	8	3	-
High	-	-	-
Litchfield			
Peak volume on shoreline (m3)	2	-	-
Maximum probability of shoreline loading (%)			
Low	8	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	60.3	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	-	-
Moderate	-	-	-
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Figure 11.20 Spill EMBA shoreline sector – Litchfield



Shoreline

- Artificial shoreline \ seawall \ revetment
- Alluvial sediment \ plain
- Beach sediment \ ridges
- Colluvium
- Tidal flats (sand, mud, sediment) \ Mangroves
- Hard bedrock \ Cliff (>5m) \ Hard rocky shore
- Marshy sediment flats \ Marshy saline sediment flats
- Mixed sandy shore \ Mixed sandy sediments on bedrock
- Muddy sediments \ alluvium \ sediment flats
- Reef \ Coral outer with sandy shore
- Rocky shore
- Saltpans \ Saline mudflats
- Sandy beach \ alluvium \ shore \ dune \ foredune
- Sediment plain \ sediment deposits
- Soft bedrock
- Soft sediment shore
- Unclassified

South Alligator Sector	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	3.1	-	-
Maximum probability of shoreline loading (%)			
Low	8	-	-
Moderate	4	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	54.2	-	-
Moderate	57.8	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	5	-	-
Moderate	1	-	-
High	-	-	-
Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2			

Shoreline Receptor Map - Broome

Ecological EMBA
Socioeconomic EMBA
Sectors

The environment that may be affected (EMBA) illustrated in this map represents the combined modelling results of 100 individual hydrocarbon spill simulations for each of three metocean seasons (summer, winter and transition), resulting in 300 spill simulations. Each individual spill simulates a loss of well control that releases 786,858 m3 of crude oil over 77 days. Each spill simulation occurs is subject to various winds and ocean currents. The 300 individual spill simulations are then combined to identify the largest envelope in which a single spill could occur at any time. The EMBA is not representative of a single spill; an individual spill would affect a significantly smaller area. The modelled EMBA is based on the lowest reportable hydrocarbon thresholds.

0 5 10 20 km
GDA 1994 MGA Zone 52

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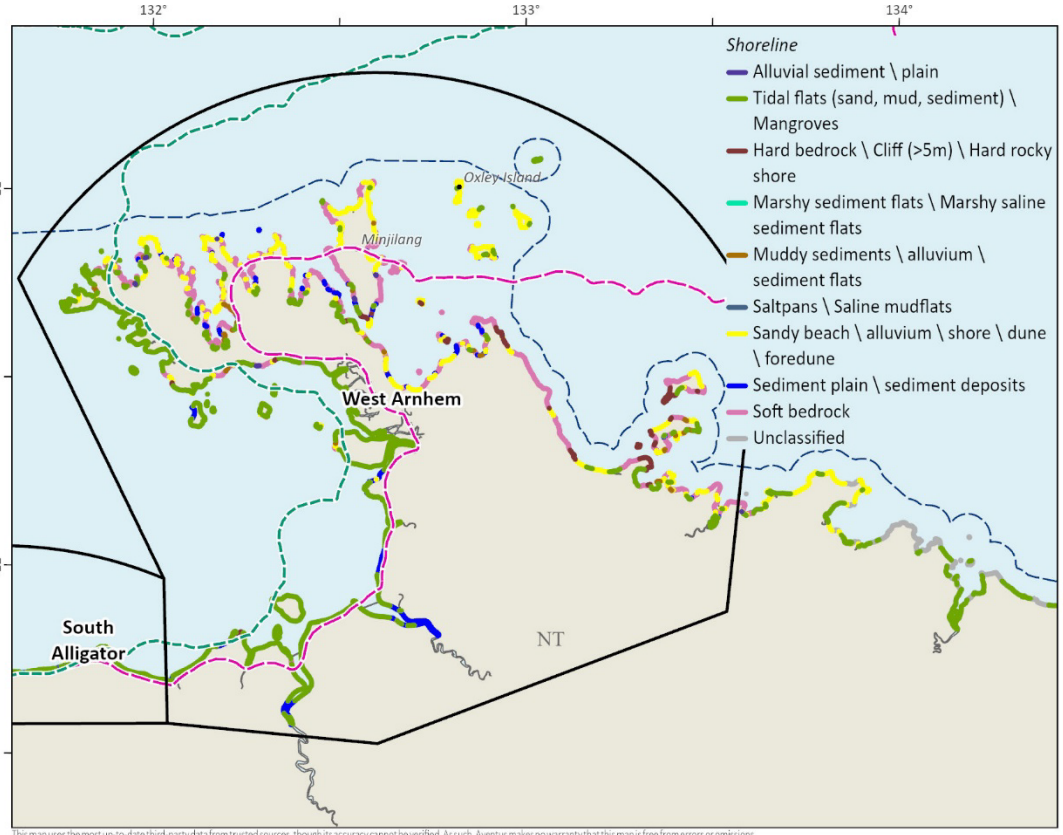
File Name: P139_MWReceptors_SthAlligator
Date: 29/04/2024

Figure 11.21 Spill EMBA shoreline sector - South Alligator

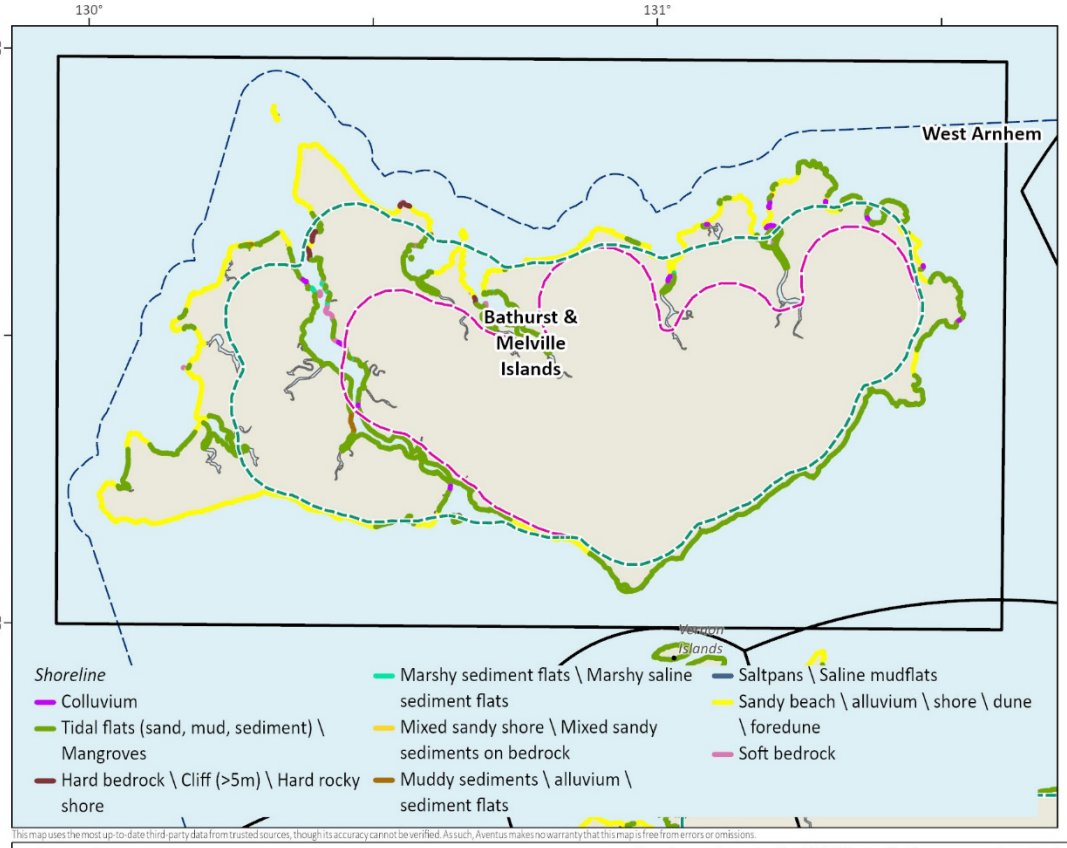


Minjilang	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	1.1	-	-
Maximum probability of shoreline loading (%)			
Low	3	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	70.83	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-

Oxley Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	0.5	-	-
Maximum probability of shoreline loading (%)			
Low	2	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	81.3	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2

Figure 11.22 Spill EMBA shoreline sector - West Arnhem



Bathurst Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	12.2	-	-
Maximum probability of shoreline loading (%)			
Low	4	-	-
Moderate	3	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	69.1	-	-
Moderate	71.8	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	17.1	-	-
Moderate	3	-	-
High	-	-	-

Melville Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m3)	4.2	-	-
Maximum probability of shoreline loading (%)			
Low	9	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	62	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	8	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m2; Moderate = 100-1,000 g/m2; High ≥ 1,000 g/m2

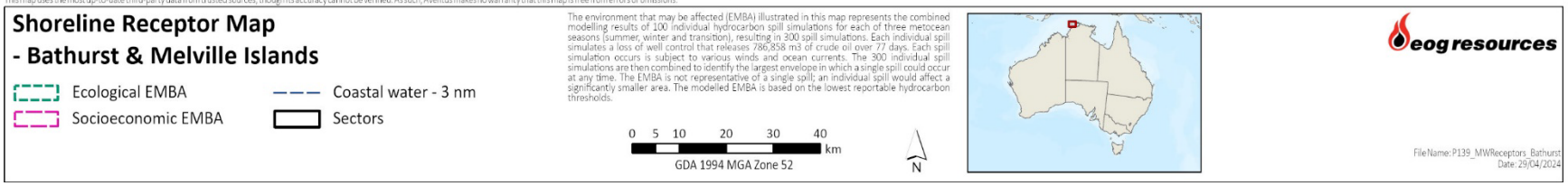


Figure 11.23 Spill EMBA shoreline sector - Melville and Bathurst islands

11.3 Biological Environment

The sources listed at the start of this chapter have been used in the preparation of this section. Additionally, BIAs are identified for those species that may occur in the spill EMBA. BIAs are spatially defined areas, defined by the DCCEEW based on expert scientific knowledge, where aggregations of individuals of a species are known, or likely, to display biologically important behaviour such as breeding, foraging, resting or migration (DCCEEW, 2024a). The BIAs do not represent a species' full distribution range.

11.3.1 Benthic Assemblages

The benthic environment of the JBG is linked to its geomorphic features, with the majority of the area characterised by infaunal plains, with some localised reefs and outcrops supporting sponge gardens. Przeslawski et al (2011) provides an overview of the benthic environment associated with the different geomorphic features within the EMBA (see Figure 11.8), which are outlined below.

- Slope – the majority of the Northwest marine bioregion consists of either continental slope or continental shelf. Biological productivity is reliant upon seasonal changes in the strength of surface and subsurface currents.

- Shelf – sediment plains that are swept by strong tidal currents and are subject to large influxes of suspended sediment and freshwater, particularly during the wet season. Support diverse infaunal communities that play a key ecological role by contributing to nutrient cycling and sediment turnover (bioturbation) at the local scale. Low abundance of crustaceans, echinoderms and sessile epifauna are expected.

- Banks/shoals - elevated features with a relatively high proportion of hard substrate that support patches of moderately dense octocoral and sponge gardens which in turn provide habitat for other epifauna and cryptofauna. Banks support high numbers of epifaunal species. Infaunal species richness is moderately high in bank sediments. Very few macroalgae (including Halimeda) or reef-forming hard corals were recorded. Carbonate banks and shoals occur predominantly in the JBG (Baker *et al.,* 2008), with the Glomar Shoals and Rowley Shoals situated within the NWS region. Many shoals identified within the socio-economic EMBA are also found offshore in the NT region including the Timor Sea (see Table 11.2 and Figure 11.24).

- Basin - low-relief expanses of unconsolidated sediment, and the available biological data suggests that these habitats are dominated by infauna with limited epifauna.

- Canyons – the canyons on the slope of the Argo Abyssal Plain and Scott Plateau and to the north of Scott Reef (in the NWMR) are a unique seafloor feature associated with small periodic upwellings that enhance biological productivity and aggregations of marine life (DEWHA, 2008b). The tributary canyons of the Arafura Depression located in the NMR are a key ecological feature (KEF) known to support both benthic and pelagic habitats including a diverse range of invertebrates (e.g., sponges, corals, sea anemones, tunicates, worms, crustaceans, brittle stars and feather stars).

- Cliffs and coral reefs - within the EMBA, offshore coral reefs include Ashmore reef and Hibernia Reef, Cartier Island, Browse Island, the Vernon Islands, with many other islands in coastal waters supporting fringing coral reefs. Submerged cliffs and coral reefs of the Kimberley and atolls and reefs on the edge of the continental shelf support a high diversity of benthic filter-feeders and producers.

- Deep/hole/valley - dominated by flat soft sediment expanses. Support low-moderate numbers of epifaunal species and include many debris-swept channels, which in places expose small patches of underlying rock that support moderate densities of sessile animals.
- Tidal-sandwave/sand bank – high disturbance, soft substrate, limited biota.
- Pinnacles – limestone pinnacles of the of the Bonaparte Depression are thought to be associated with enhance local biological productivity due to the movement of water around these features to facilitate mixing of nutrients and sediments. Associated communities include sessile benthic invertebrates including hard and soft corals and sponges (DEWHA, 2008b).

Infaunal communities

The offshore marine environment off WA (from Busselton) to the Northern Territory (NT) border is dominated by soft sediment seabeds; sandy and muddy substrates, occasionally interspersed with hard substrates covered with sand veneers, and rarely, exposed hard substrate. In shallow waters, non-coral benthic invertebrates may form part of the mosaic of benthic organisms found on hard substrates, alongside macrophytes and coral colonies. As light reduces with water depth, non-coral benthic invertebrates are the dominant community, albeit at low densities.

Infauna are animals that inhabit sandy or muddy surface layers of the ocean floor these may include deposit feeders, filter-feeders, grazers and predators. The distribution of infauna and benthic invertebrate species is influenced by many physical parameters (e.g., water temperature, dissolved oxygen, pH, salinity) and biological (e.g., primary productivity, acclimatisation) factors.

Within the EMBA deep offshore areas such as the Northwest Transition support infauna such as sediment burrowing polychaetes and isopods.

Crustaceans

See EP Chapter 5 Section 5.4.1. Crustaceans are found throughout the EMBA primarily in the inner shelf (30 m to 60 m water depth) and the continental slope (between 200 m to 1000 m) of the NWS region, although little is known about the benthic environment in the latter (DWHA, 2008b).

Molluscs

See EP Chapter 5 Section 5.4.1. Molluscs are also found in the mid shelf (60 m to 100 m water depth) of the NWS region which includes the Glomar Shoals. Distinct assemblages of molluscs are also found in depths between 100 m to 200 m and 200 m to 500 m with no overlap. Areas of the continental slope, offshore from North West Cape to the southern boundary of the NWMR Region of 200 m to 4,000 m contain molluscs and large isopods that feed on particulate organic matter (DEWHA, 2008b).

Reefs, Shoals and Banks

Coral reefs are habitats with high diversity of corals, associated fish and other species of both commercial and conservation importance. The spill EMBA overlaps with areas of coral reef habitats. The closest identified coral reef habitat is located within the Joseph Bonaparte Gulf AMP (JBG AMP). Emu Reefs (located 92 km northeast of the multi-well location) was recently surveyed by traditional owners of the Thamarrur region in partnership with the Australian Institute of Marine Science (AIMS), Eni Australia and Parks Australia. The survey deployed Baited Remote Underwater Video Systems (BRUVS) and captured a diversity of fish, sharks and crabs as well as the protected and culturally significant eyebrow wedgefish (*Rhynchobatus palpebratus*) (Parks Australia, 2021). Emu Reef is protected from recreational fishermen by a fish protection area (NT Government, 2016).

Oceanic shoals and banks are abrupt geological features that rise from the deep continental shelf to within 15-20 m of the sea surface, with many occurring within the spill EMBA. These unique habitats contain submerged reefs that support a very high diversity of coral reef ecosystems (Heyward *et al.,* 2017). It is likely that the open oceanic environment that the northwest banks and shoals are situated in contributes to their high species diversity and abundance as their exposure to oceanic influences may enhance productivity and in turn the diversity of species inhabiting them (Parks Australia, 2021). There are several identified shoals and banks in the western extent of the socio-economic EMBA including Holothuria Banks, Tait Bank, Penguin Shoal and Bassett-Smith Shoal (RPS, 2021).

Though there is a paucity of information relevant to these specific features, studies of similar shoals not located in the spill EMBA have found a high diversity of free-living corals, sponges, gorgonian soft corals, hard corals, rhodoliths, tropical fish, rays and sharks (Heyward *et al.,* 2017; Moore *et al.,* 2017; Heyward *et al.,* 2010). It is expected that the shoals and banks located in the spill EMBA may include a similar assemblage of species.

In total there are approximately 306 shoals that are known to occur within or in close proximity to the socio-economic EMBA; of these 53 are named and 242 are unnamed. Table 11.2 lists the shoals present within the EMBA and location by depth below sea surface. The vast majority of the identified shoals are located in water depths greater than 10 m. Many of these shoals are marked on marine charts and are popular areas for recreational fishing, however given the paucity of information, only publicly accessible information in relation to features is included in Table 11.2.

Identified banks, reefs, and shoals in the spill EMBA are presented in Figure 11.24.

Table 11.2 Shoals present within the spill EMBA

Name	Area of coverage ($km^{2)}$	Minimum depth below water (m)	Maximum depth below water (m)	Key features
Abbott Shoal	3.4	10	24	-
Afghan Shoal	59.8	6	35	-
Ann Shoals	8.8	4	25	-
Barbara Shoal	9.5	4	22	-
Barcoo Shoal	8.0	3	50	-
Barracouta Shoal	9.0	19	139	Supports reef building corals, seagrass and algae, particularly the calcareous green algae *Halimeda* spp (Heyward *et.al.*, 2010).
Bassett-Smith Shoal	6.8	13	97	-
Beagle Shoals	7.9	3	24	-
Big Bank Shoals	96.0	1	303	Submerged carbonate banks in the Timor Sea, which rise up from depths of 200 to 300 metres to within 20 m to 30 m below sea level. Supports 3 distinct ecosystems: algae-dominated by *Halimeda*, coral and filter feeding ecosystems.
Bill Shoal	1.0	9	15	-

Name	Area of coverage ($km^{2)}$	Minimum depth below water (m)	Maximum depth below water (m)	Key features
Britomart Shoal	1.4	9	36	-
Calder Shoal	80.4	20	73	-
Cootamundra Shoal	84.4	15	98	Ancient coral reefs consisting of flat-topped banks of fossil coral platforms.
Deep Shoal 1	2.0	25	63	-
Deep Shoal 2	2.6	115	120	-
Echuca Shoal	12.3	19	104	Predominantly an extensive claystone; organic-rich, oil-prone marine shale.
Eugene McDermott Shoal	4.8	19	101	Coral shoal
Evans Shoal	49.7	15	69	-
Fantome Shoal	3.6	13	297	-
Fitzpatrick Shoal	12.4	9	38	-
Giles Shoal	8.3	2	22	-
Goeree Shoal	2.1	23	83	According to a seabed biodiversity survey done in 2016 by the Australian Institute of Marine science for PTTEP, Goeree Shoal contained 161 species and 2,527 individuals (Heyward *et.al*, 2017). Multiple species of emperor fish were present as well as large groups of fish from the genus *Cirrhilabrus*. Wrasses, lyretail and two-spot red snapper were also present. Overall, fish communities appeared relatively stable in terms of richness and abundance. Goeree Shoal also displayed unique patterns of hard coral, sponge and *Halimeda*, algae was the most abundant benthic group, the results of the survey indicated that Goeree shoals support diverse benthic communities as well as benthic primary producers and many species typical of tropical coral reef ecosystems (Heyward *et.al*, 2017).
Hancox Shoal	14.4	5	28	-
Heywood Shoal	23.3	18	95	A report written by Moore et al. (2017) explores the biodiversity of submerged oceanic shoals in north

Name	Area of coverage ($km^{2)}$	Minimum depth below water (m)	Maximum depth below water (m)	Key features
				WA. Heywood Shoal is described as being oval is shape and comprising primarily of rubble (51.2%), sand (23.3%) and calcareous coral (22.3%) substrates. Whilst 58.5% of Heywood Shoal's epibenthic cover was reported as being bare, hard coral was the most dominant epibenthic species (17.9%). Encrusting organisms, macroalgae, filter feeders and soft coral accounted for the remaining 23.6%. Heywood Shoal was noted as having distinctive fish communities, with over 200 species recorded.
Howland Shoals	0.4	3	12	-
Jabiru Shoals	21.7	13	261	-
Jones Shoal	1.8	10	28	-
Karmt Shoal	263.5	2	316	-
Lowry Shoal	3.0	10	23	-
Mangola Shoal	2.7	11	233	-
Margaret Shoal	11.4	1	17	-
Marie Shoal	8.9	11	63	-
Marsh Shoal	2.8	7	19	-
Mataram Shoal	21.9	3	45	-
Mermaid Shoal	326.1	30	17	-
Money Shoal	20.1	0	65	-
Moss Shoal	4.0	11	72	-
Newby Shoal	4.8	19	74	-
Ommaney Shoals	6.5	6	24	-
Parry Shoal	62.8	13	80	-
Pee Shoal	3.3	10	332	-
Penguin Shoal	17.3	4	49	-
Rainbow Shoals	0.7	9	30	-
Renard Shoals	5.4	5	22	-
Shepparton Shoal	41.6	19	57	-
Skottowe Shoal	9.9	12	27	-
Taiyun Shoal	17.2	3	30	-
Tassie Shoal	8.1	12	78	-

Name	Area of coverage ($km^{2)}$	Minimum depth below water (m)	Maximum depth below water (m)	Key features
Van Cloon Shoal	37.7	16	62	-
Vee Shoal	3.2	12	171	-
Victoria Shoal	9.3	2	13	-
Vulcan Shoal	11.5	17	133	Supports reef building corals, seagrass and algae, particularly the calcareous green algae *Halimeda* spp (Heyward *et.al.,* 2010). Contains an extensive field of the seagrass *Thallasodendron ciliatum*.
Wells Shoal	6.3	7	25	-

Source: High-resolution depth model for Northern Australia – 30m (Geoscience Australia), except for a small area in the vicinity of Clerke/Mermaid/Imperieuse reef which is standard ausbath 2009 v4 (~250m resolution). Australian Stratigraphic Units Database (accessed May 2022). Note the absence of information regarding key features is marked as "-".

A description of the most well-known reefs, shoals, and islands within the socio-economic EMBA is provided here.

Scott and Seringapatam Reefs

The Scott and Seringapatam reefs are regionally significant due to its high representation of species not found in coastal waters off WA and unusual nature of its fauna that has affinities with the oceanic reef habitats of the Indo-West Pacific as well as the reefs of the Indonesian region. Scott Reef is important for its contribution to understanding long-term geomorphological and reef formation processes and past environments (Gilmour and Smith, 2013).

Scott Reef is the largest of the oceanic reef systems off WA and comprises two major formations: North Reef and South Reef, separated by a channel 2 km wide and between 400 and 700 m deep. North Reef is an annular reef enclosing a shallow lagoon (as is Seringapatam) and South Reef is a crescent-shaped reef with a deeper and more extensive lagoon environment.

Scott Reef is the region's best-understood reef from the point of view of resident communities and how they function and change. The most comprehensive datasets come from a long-term monitoring program run by AIMS has provided the most comprehensive dataset of the reef's resident communities. A diverse assemblage of hard coral species has been recorded from the shallow and deep-water environments at Scott Reef, with 306 species from 60 genera and 14 families (Gilmour *et al,* 2012). Two hundred and ninety-five species have been recorded from shallow-water environments (<30 m) and 51 species from deep water habitats (>30 m). Community composition in the deep-water lagoon at South Reef is markedly different to the shallow-water habitats at Scott Reef. The shallow-water coral communities comprise typical reef front, lagoon and reef-flat assemblages, while the deepwater communities are dominated by extensive areas of foliaceous *Agariciidae, Pectinidae, Poritidae and Montipora* species, and fragile branching and plating Acropora species.

Compared with other offshore reefs in the region, Scott Reef appears to have a comparable diversity of hard corals. A shallow-water survey (0 - 20 m) of Ashmore, Scott and Seringapatam reefs and Mermaid Reef (Rowley Shoals) in 2006 recorded 211 species of corals at Mermaid Reef, 159 species at Seringapatam, 255 species at Ashmore Reef, and 201 and 224 species at North and South (Scott) reefs respectively (WAM, 2009). All coral taxa were predominantly widespread Indo-Pacific species that have clear affinities with the coral assemblages of Ashmore Reef and the Indonesian provinces to the north.

Ashmore Reef

Ashmore Reef is a commonwealth marine park (see Section 11.4.1). The marine fauna at Ashmore Reef has the highest diversity of the reefs on the North-West Shelf, with the mollusc fauna being substantially more diverse here (433 species) than either Scott and Seringapatam Reefs (279 species) or Rowley Shoals (DAWE, 2013). Ninety-nine species of decapod crustaceans have been recorded at Ashmore Reef compared with 56 for Scott and Seringapatam Reefs) and 178 echinoderms species have been recorded (compared with 119 species for Scott and Seringapatam and 90 species for Rowley Shoals). A total of 560 fish species have also been recorded at the reef, with the most species-rich fish families being the Gobiidae (small to mid-sized gobies, 66 species), Pomacentridae (small and brightly coloured damselfish and anemonefish, 66 species), Labridae (wrasse, 54 species) and Apogonidae (36 species) (DSEWPC, 2013).

Fringing Reefs

Fringing reefs exist on almost all the shores of all islands off the Kimberley coast between the Bonaparte Archipelago Islands and Buccaneer Archipelago Islands, and they also occur on the mainland shores of Cape Londonderry, Cape Voltaire, One Arm Point and Yampi Sound (all of which are within the spill EMBA) (Wilson, 2013). This stretch of coast is over 600 km long.

Within the Kimberley region, it is likely fringing reefs are developed by rocky shores that are exposed to the prevailing westerly ocean swell (Wilson, 2013). Many Kimberley fringing reefs are limestone wedges built by coral and crustose algal communities. The assemblages of coral reef within the Bonaparte Archipelago intertidal regionnotes that the intertidal zone of the Bonaparte Archipelago is a hub of diverse corals (Richards *et al*., 2015). In total, 225 species of hard coral were identified, with the species richness likely to represent the species found on fringing reefs within other areas of the Kimberley region. *Glomar Shoals*

The Glomar Shoals are defined as a KEF for their high productivity and aggregations of marine life. Further information on the Glomar Shoals is provided in Section 11.4.7**.**

Rowley Shoals

The Rowley Shoals is defined as a KEF or its enhanced productivity and high species richness, that apply to both benthic and pelagic habitats within the feature. Further information on the Rowley Shoals is provided in Section 11.4.7.

King Shoals

King Shoals is located within the North Kimberley Marine Park (WA) and is protected by a Sanctuary Zone. The King Shoals sanctuary zone includes some of the only mapped tidal sand waves and banks in the Kimberley, as well as containing a KEF (Carbonate bank and terrace system of the Sahul Shelf). Carbonate banks are significant due to their known potential to support high levels of biodiversity of reef fish, sponges, corals, and filter feeders. The banks are likely to be foraging areas for the flatback turtle and are known to provide protection to the threatened species green sawfish and freshwater sawfish (Department of Parks and Wildlife, 2016).

Cartier Island

Cartier Island is a commonwealth marine park (see Section 11.4.1) consisting of an un-vegetated sand cay surrounded by mature reef flats; it sits at the centre of a reef platform that rises steeply from the seabed. The island is composed of coarse sand and is stabilised by patches of beach rock around its perimeter. The effects of wind, tides and rain periodically expose and remove areas of shifting sandbanks. The island supports large populations of nesting marine turtles and seabirds/shorebirds. The crested tern (Thalasseus bergii) is known to breed on the island, with most other species occurring as occasional visitors or vagrants (Clarke *et al*., 2017).

Cartier Island is located about 55 km southeast of the Ashmore Island complex and in the absence of specific information regarding species assemblages, is likely to host a similar assemblage of fish species to Ashmore Reef given their close proximity.

Browse Island

Browse Island is an isolated sandy cay surrounded by an intertidal reef platform and shallow fringing reef located 536 km northeast from the multi-well location. This reef rises from a depth of 200 m and is a flat-topped, oval-shaped platform reef with a diameter of 2.2 km at its widest point. The benthic habitats and biotic assemblages are characteristic of coral platform reefs throughout the Indo-West region (Inpex, 2010). Intertidal habitats around Browse Island include a sandy beach (known for green turtle nesting (DCCEEW, 2024a) rocky beach, a lagoon supporting macroalgae and coral such as Acropora species and Porites species, a reef platform supporting sparse algal turf, and the reef crest (supporting hard corals such as Goniastrae spp and a high diversity of molluscs). The reef platform is barren in many places, and seagrasses are not present (Inpex, 2010).

Adele Island

Adele Island is a hook shaped island off the central Kimberley coast, located around 97 km north-northwest from Cape Leveque and 600 km from the multi-well location. The island measures 2.9 km by 1.6 km with an area of 2.17 km^2. Its surrounding sand banks sit atop a shallow-water limestone platform, surrounded by an extensive reef system.

Adele Island is an important site for breeding seabirds with several Japan-Australia Migratory Birds Agreement (JAMBA), China-Australia Migratory Birds Agreement (CAMBA) and Republic of Korea Migratory Birds Agreement (ROKAMBA) listed species breeding there, with rookeries of cormorants, Australian pelicans, lesser frigate birds (2,000-5,700 breeding pairs), brown booby (1,500-8,500 breeding pairs), red-footed booby and masked booby (DSEWPC, 2008; Kimberley Coast, 2013).

Cunningham Island

Cunningham Island is an unvegetated sand cay surrounded by a small lagoon which lies near the northern extent of Imperieuse Reef. The island is situated 1,100 km from multi-well location and its shoreline is dominated by white sandy shores and low-lying beach rock. There is limited data on the benthic assemblages supported by the island.

Bedwell Island

Bedwell Island a small sandy cay inside Clerke Reef situated 1,048 km from multi-well location. The island is home to one of only two colonies of red-tailed tropicbirds in WA. The tropicbirds nest on the island, along with wedge-tailed shearwaters, white-bellied sea-eagles, various terns, eastern reef-egrets and even a pair of white-tailed tropicbirds.

Lacepede Island

The Lacepede Islands situated 752 km from the multi-well location provide critical nesting and internesting habitat for green turtles and are the site of the largest green turtle rookery in Western Australia. The Commonwealth waters surrounding the islands are important for migrating marine turtles as they move between nesting and feeding sites in this bioregion and beyond. The Lacepede Islands also support some of the largest brown booby colonies in Western Australia. Other seabirds also breed in the area, including lesser frigatebirds, bridled terns, roseate terns and common noddies. The surrounding waters are likely to provide food for seabird species (DEWHA, 2008b).

Tiwi Islands

Located 20 km north of Darwin, the Tiwi Islands are made up of two main islands namely Melville Island (Australia's second largest island) and Bathurst Island (Department of Natural Resources, Environment, the Arts and Sport, 2009) The coasts of the Tiwi Islands support important nesting sites for marine turtles, internationally significant seabird rookeries, and some major aggregations of migratory shorebirds (Department of Natural Resources, Environment, the Arts and Sport, 2009).

Vernon Islands

The Vernon islands are located in the Clarence Strait in the NT, between the Australian mainland at Gunn Point and Melville Island's southernmost point, Cape Gambier (Tiwi Land Council, 2013). There are three major islands making up the Vernon Islands group; north-west Vernon Island, south-west Vernon Island and east Vernon Island, including a large reef and numerous lesser reefs and sand islands (Tiwi Land Council, 2013). The Vernon Islands are rich in mangrove forests, reef systems, rocky shelves and stacks, and seagrass and algal beds (Tiwi Land Council, 2013). The islands are an important coral reef locality, and there is a small number of naturally occurring deep holes (up to 20 m deep) which support coral communities with high species diversity (Tiwi Land Council, 2013). The waters surrounding the Vernon Islands support populations of dugong and turtles (Tiwi Land Council, 2013).

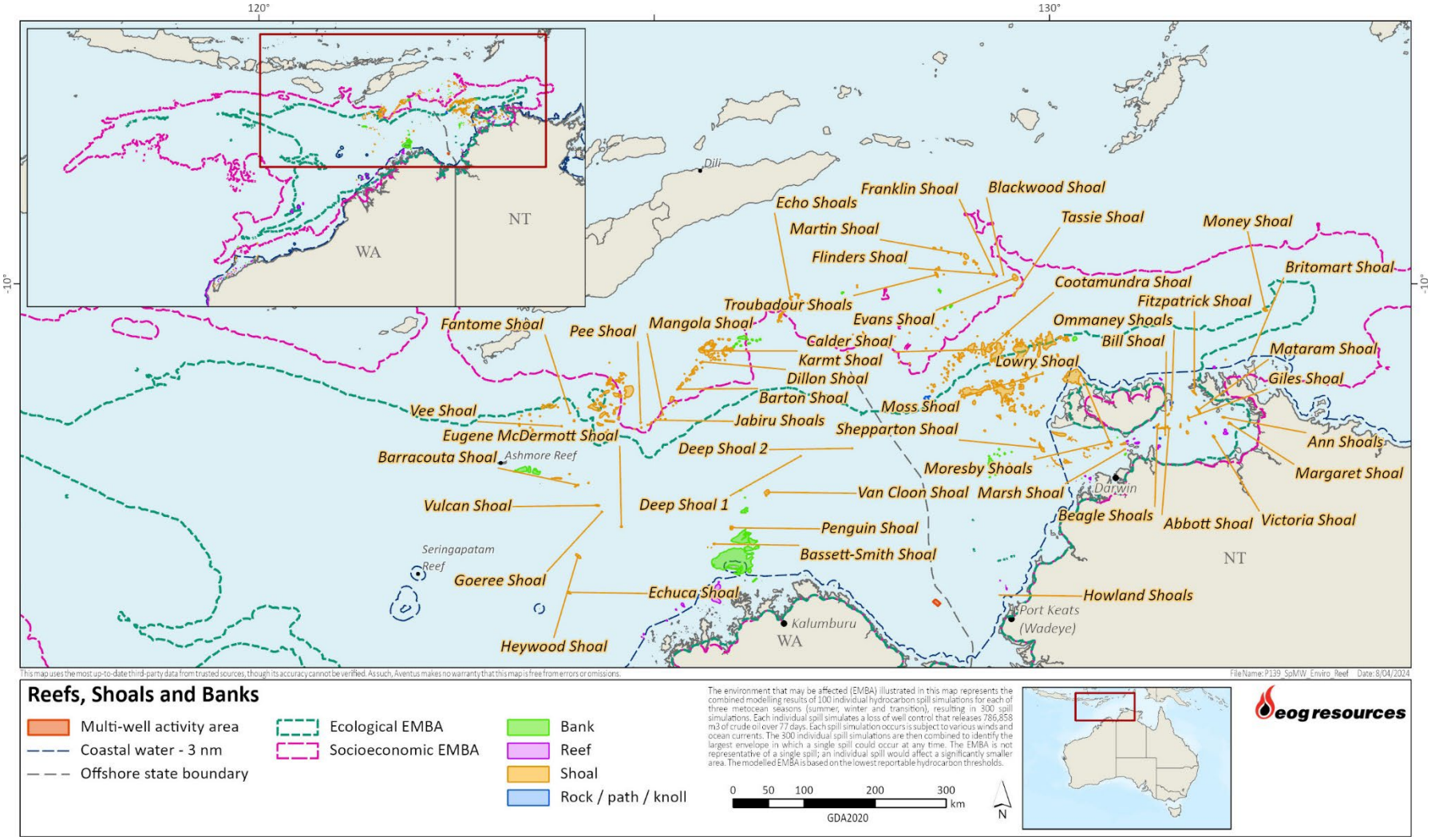


Figure 11.24 Reefs, shoals and banks overlapped by the spill EMBA

11.3.2 Marine Flora

Marine flora is generally limited to mangroves and seagrass beds and macroalgae, which is generally confined to shallow, nearshore waters.

Mangroves

Mangroves provide nutrient to surrounding waters and are also important habitat and nursery areas for fish and invertebrates. The north Kimberley region contains some of the most species rich systems of mangroves in the world (DPaW, 2016). The mangroves and estuarine habitats of the north Kimberley support a range of threatened, protected and culturally important species including estuarine crocodiles, turtles, dolphins, sawfish, mud crabs, fish and specialist mangrove birds (DPaW, 2016).

In the JBG, mangroves occur in river estuaries. The mangroves surrounding the Ord River are notable in terms of their structural complexity and diversity. Fourteen species of mangroves have been identified within the Ord River alone (Pedretti & Paling, 2001). This diverse area is known to support significant habitats for saltwater crocodiles, migratory birds and supports populations of the commercially exploited species of red-legged banana prawn (*Penaeus indicus*) (Kenyon *et al*., 2004).

Seagrass Beds and Macroalgae

Seagrass beds and macroalgae communities are the primary food source for many marine species and provide important habitats and nursery grounds (Heck *et al*., 2003; Wilson *et al*., 2010). Within the north Kimberley marine region, seagrass and macroalgae communities are an important source of primary productivity. They provide vital habitat for juvenile fish, turtles and dugongs and can be found around Cape Londonderry (176 km northwest from the multi-well location), is within the spill EMBA (DPAW, 2016).

11.3.3 Plankton

Plankton is a key component in oceanic food chains and comprises two elements; phytoplankton and zooplankton, as described in Section 5.4.3 of Chapter 5 of the EP.

11.3.4 Finfish, Sharks, and Rays

There are 60 fish species listed under the EPBC Act with potential to occur in the spill EMBA (DCCEEW, 2024a). This includes ten species listed as threatened, eleven species listed as migratory and a further 44 listed marine species, all of which are Sygnathiformes (seahorses, pipefishes and their relatives) (Table 11.3).

The likely temporal presence and absence of these fish species in the EMBA is illustrated in Figure 5.13 in Section 5.4.4 of Chapter 5 of The EP. Species listed as threatened or migratory are described in this section. BIAs for fish species that overlap the EMBA are presented in Table 11.4.

Table 11.3 EPBC Act-listed finfish, sharks and rays that may occur in the spill EMBA

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Anoxypristis cuspidate	Narrow sawfish	-	Yes	-	Yes	Yes	No	-
Carcharias taurus	Grey nurse shark (west coast population)	V	-	-	-	Yes	No	RP
Carcharodon carcharias	Great white shark	V	Yes	-	Yes	Yes	No	RP
Carcharhinus longimanus	Oceanic whitetip shark	-	Yes	-	Yes	Yes	No	-
Glyphis garricki	Northern river shark	E	-	-	Yes	Yes	No	CA, RP
Glyphis glyphis	Speartooth shark	CE	-	-	Yes	Yes	No	CA
Isurus oxyrinchus	Shortfin mako	-	Yes	-	Yes	Yes	No	-
Isurus paucus	Longfin mako	-	Yes	-	Yes	Yes	No	-
Manta alfredi	Reef manta ray	-	Yes	-	Yes	Yes	No	-
Manta birostris	Giant manta ray	-	Yes	-	Yes	Yes	No	-
Pristis clavate	Dwarf sawfish	V	Yes	-	Yes	Yes	Yes	CA, RP
Pristis pristis	Largetooth sawfish	V	Yes	-	Yes	Yes	No	CA, RP
Pristis zijsron	Green sawfish	V	Yes	-	Yes	Yes	Yes	CA, RP
Rhincodon typus	Whale shark	V	Yes	-	Yes	Yes	Yes	CA
Sphyrna lewini	Scalloped Hammerhead	CD	-	-	Yes	Yes	No	-
Thunnus maccoyii	Southern Bluefin Tuna	CD	-	-	Yes	Yes	No	-
Seahorses, pipefish and pipehorses								

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Acentronura larsonae	Helen's pygmy pipehorse	-	-	Yes	-	Yes	No	-
Bhanotia fasciolata	Corrugated pipefish	-	-	Yes	Yes	Yes	No	-
Bulbonaricus brauni	Braun's pughead pipefish	-	-	Yes	-	Yes	No	-
Campichthys tricarinatus	Three-keel pipefish	-	-	Yes	Yes	Yes	No	-
Choeroichthys brachysoma	Pacific short-bodied pipefish	-	-	Yes	Yes	Yes	No	-
Choeroichthys latispinosus	Murion Island pipefish	-	-	Yes	-	Yes	No	-
Choeroichthys suillus	Pig-snouted pipefish	-	-	Yes	Yes	Yes	No	-
Corythoichthys amplexus	Fijian banded pipefish	-	-	Yes	Yes	Yes	No	-
Corythoichthys flavofasciatus	Reticulate pipefish	-	-	Yes	Yes	Yes	No	-
Corythoichthys haematopterus	Reef-top pipefish	-	-	Yes	Yes	Yes	No	-
Corythoichthys intestinalis	Australian messmate pipefish	-	-	Yes	Yes	Yes	No	-
Corythoichthys schultzi	Schultz's pipefish	-	-	Yes	Yes	Yes	No	-
Cosmocampus banneri	Roughridge pipefish	-	-	Yes	Yes	Yes	No	-
Doryrhamphus dactyliophorus	Banded pipefish	-	-	Yes	Yes	Yes	No	-
Doryrhamphus excisus	Bluestripe pipefish	-	-	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Doryrhamphus janssi	Cleaner pipefish	-	-	Yes	Yes	Yes	No	-
Doryrhamphus multiannulatus	Many-banded pipefish	-	-	Yes	-	Yes	No	-
Doryrhamphus negrosensis	Flagtail pipefish	-	-	Yes	-	Yes	No	-
Festucalex cinctus	Girdled pipefish	-	-	Yes	Yes	Yes	No	-
Festucalex scalaris	Ladder pipefish	-	-	Yes	-	Yes	No	-
Filicampus tigris	Tiger pipefish	-	-	Yes	Yes	Yes	No	-
Halicampus brocki	Brock's pipefish	-	-	Yes	Yes	Yes	No	-
Halicampus dunckeri	Red-hair pipefish	-	-	Yes	Yes	Yes	No	-
Halicampus grayi	Mud pipefish	-	-	Yes	Yes	Yes	No	-
Halicampus nitidus	Glittering pipefish	-	-	Yes	Yes	Yes	No	-
Halicampus spinirostris	Spiny-snout pipefish	-	-	Yes	Yes	Yes	No	-
Haliichthys taeniophorus	Ribboned pipehorse	-	-	Yes	Yes	Yes	No	-
Hippichthys cyanospilos	Blue-speckled pipefish	-	-	Yes	Yes	Yes	No	-
Hippichthys parvicarinatus	Short-keel pipefish	-	-	Yes	Yes	Yes	No	-
Hippichthys penicillus	Beady pipefish	-	-	Yes	Yes	Yes	No	-
Hippocampus angustus	Western spiny seahorse	-	-	Yes	Yes	Yes	No	-
Hippocampus histrix	Spiny seahorse	-	-	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Hippocampus kuda	Spotted seahorse	-	-	Yes	Yes	Yes	No	-
Hippocampus planifrons	Flat-face seahorse	-	-	Yes	Yes	Yes	No	-
Hippocampus spinosissimus	Hedgehog seahorse	-	-	Yes	Yes	Yes	No	-
Hippocampus trimaculatus	Three-spot seahorse	-	-	Yes	Yes	Yes	No	-
Micrognathus micronotopterus	Tidepool pipefish	-	-	Yes	Yes	Yes	No	-
Phoxocampus belcheri	Black rock pipefish	-	-	Yes	-	Yes	No	-
Solegnathus hardwickii	Pallid pipehorse	-	-	Yes	Yes	Yes	No	-
Solegnathus lettiensis	Gunther's pipehorse	-	-	Yes	Yes	Yes	No	-
Solenostomus cyanopterus	Robust ghost pipefish	-	-	Yes	Yes	Yes	No	-
Syngnathoides biaculeatus	Double-end pipehorse	-	-	Yes	Yes	Yes	No	-
Trachyrhamphus bicoarctatus	Bentstick pipefish	-	-	Yes	Yes	Yes	No	-
Trachyrhamphus longirostris	Straightstick pipefish	-	-	Yes	Yes	Yes	No	-

Definitions

EPBC Act	Description
Listed threatened species	A native species listed in Section 178 of the *EPBC Act* as either extinct, extinct in the wild, critically endangered, endangered, and vulnerable or conservation dependent.
Listed migratory species	A native species that from time to time is included in the appendices to the Bonn Convention and the annexes of JAMBA, CAMBA and ROKAMBA, as listed in Section 209 of the *EPBC Act*.
Listed marine species	As listed in Section 248 of the *EPBC Act*.

Key

EPBC status	V	Vulnerable
	E	Endangered
	CE	Critically endangered
BIA	A	Aggregation
	D	Distribution (i.e., presence only)
	F	Foraging
	M	Migration

Recovery plans (under the EPBC Act 1999)	CA	Conservation Advice
	CD	Conservation Dependent
	CMP	Conservation Management Plan
	RP	Recovery Plan

Table 11.4 BIAs of fish species within the spill EMBA

Species	BIA	Location within the EMBA
Dwarf sawfish	Nursing and pupping	Fitzroy River Mouth, May & Robinson River - tidal tributaries. King Sound (Inshore waters).
	Foraging	Camden Sound - eastern shore.
Largetooth sawfish *(Freshwater sawfish)*	Foraging and nursing	King Sound - tidal tributaries King Sound (Inshore waters).
Green sawfish	Foraging	Camden Sound. Cape Leveque.
	Nursing and pupping	Cape Leveque.
Whale shark	Foraging	Northward from Ningaloo (outside of the EMBA) along 200 m isobath, extending offshore off the Kimberley coastline (within the EMBA).

Note: Biologically important areas have not yet been identified for seahorse or pipefish species in the North-west Marine Region as stated in the Species group report card– bony fishes (Supporting the marine bioregional plan for the North-west Marine Region (Commonwealth of Australia, 2012) accessed via DCCEEW (February 2022).

Grey nurse shark (west coast population) (EPBC Act: Vulnerable)

The grey nurse shark (*Carcharias taurus*) has a broad inshore distribution, primarily in sub-tropical to cool temperate waters (Last and Stevens, 2009). The west coast population of grey nurse shark are predominantly found in the south-west coastal waters of WA (DCCEEW, 2024b) and has been recorded as far north as the Northwest Shelf (NWS) (DoE, 2014b).

Grey nurse sharks are often observed hovering motionless just above the seabed, in or near deep sandy-bottomed gutters or rocky caves, and in the vicinity of inshore rocky reefs and islands (Pollard *et al*., 1996). The species has been recorded at varying depths but generally found between 15–40 m (DoE 2014b).

Grey nurse sharks have also been recorded in the surf zone, around coral reefs, and to depths of around 200 m on the continental shelf. They generally occur either alone or in small to medium sized groups, usually of fewer than 20 sharks (Pollard *et al*., 1996). Grey nurse sharks that are observed alone are thought to be moving between aggregation sites (DCCEEW, 2024b). Grey nurse sharks are often observed aggregating around inshore rocky reefs or islands (DoE, 2014b). At these locations, grey nurse sharks are typically found near the seabed (at depths of 10 m to 40 m) in deep sandy or gravel filled gutters, or in rocky caves (DoE, 2014b). There are no known aggregation sites critical to the grey nurse shark in WA waters (DoE, 2014b).

There are no biologically important aggregation, breeding or foraging areas intersected by the spill EMBA; however, it is likely that individuals may transit through the spill EMBA.

Great white shark (EPBC Act: Vulnerable, Listed migratory)

The great white shark (*Carcharodon carcharias*) is widely distributed and located throughout temperate and sub-tropical waters with their known range in Australian waters including all coastal areas except the NT (DCCEEW, 2024b). Studies of the great white shark indicates that they appear to be largely transient, with a few longer-term residents; however, individuals are known to return to feeding grounds on a seasonal basis (Klimey and Anderson, 1996). Observations of

adult white sharks are more frequent around fur-seal and sea lion colonies whilst juveniles are known to congregate in certain key areas.

There are no biologically important aggregation, breeding or foraging areas intersected by the spill EMBA; however, it is likely that individuals may transit through the spill EMBA.

Shortfin mako shark (EPBC Act: Listed migratory)

The shortfin mako (*Isurus oxyrinchus*) is a pelagic species with a circumglobal, wide ranging oceanic distribution in tropical and temperate seas (Mollet *et al.,* 2000). It is widespread in Australian waters, recorded in offshore waters all around the continent's coastline with exception of the Arafura Sea, the Gulf of Carpentaria and Torres Strait (DCCEEW, 2024b). Shortfin makos are also highly migratory and travel large distances (DCCEEW, 2024b).

Due to their widespread distribution in Australian waters, their presence in the spill EMBA is likely to be limited to transiting individuals.

Longfin mako shark (EPBC Act: Listed migratory)

The longfin mako is widely distributed; however, it is rarely encountered and can be found along the WA coastline as a far south as Geraldton (Last and Stevens, 2009). There is limited research into the species within Australian waters; however, Sepulveda et al (2004) recorded southern Californian juveniles favoured surface waters, while larger adults were frequently observed at depths of up to 250 m. Whilst assumed to be a deep-dwelling shark, sightings on the ocean surface, and the species' diet, suggest a greater depth range (Reardon *et al*., 2006).

Though there is limited information about the longfin mako, their presence in the spill EMBA is likely to be limited to transiting individuals.

Whale shark (EPBC Act: Vulnerable, listed migratory)

The whale shark (*Rhincodon typus*) is a filter-feeding shark and is the largest known species of fish in the world (DCCEEW, 2024b). It is considered to be an oceanic and coastal species, commonly seen far offshore but also closer inshore near coral atolls (DCCEEW, 2024b). Whale sharks generally prefer tropical to warm temperate waters where surface sea temperature ranges from 21° to 25 °C (DCCEEW, 2024b).

In Australian waters the whale shark is commonly seen in waters off northern WA, NT and Queensland with only very occasional sightings off Victoria and South Australia (Last and Stevens, 2009). The movements of whale sharks are not well documented; however, they are known to seasonally aggregate (March and April) in shallow tropical waters off the North West Cape in WA (DCCEEW, 2024b).

Whale sharks may occur within the spill EMBA. A foraging BIA is intersected by the socio-economic EMBA (see Table 11.4 and Figure 11.25) and hence, individuals may forage in the far western extent of the EMBA.

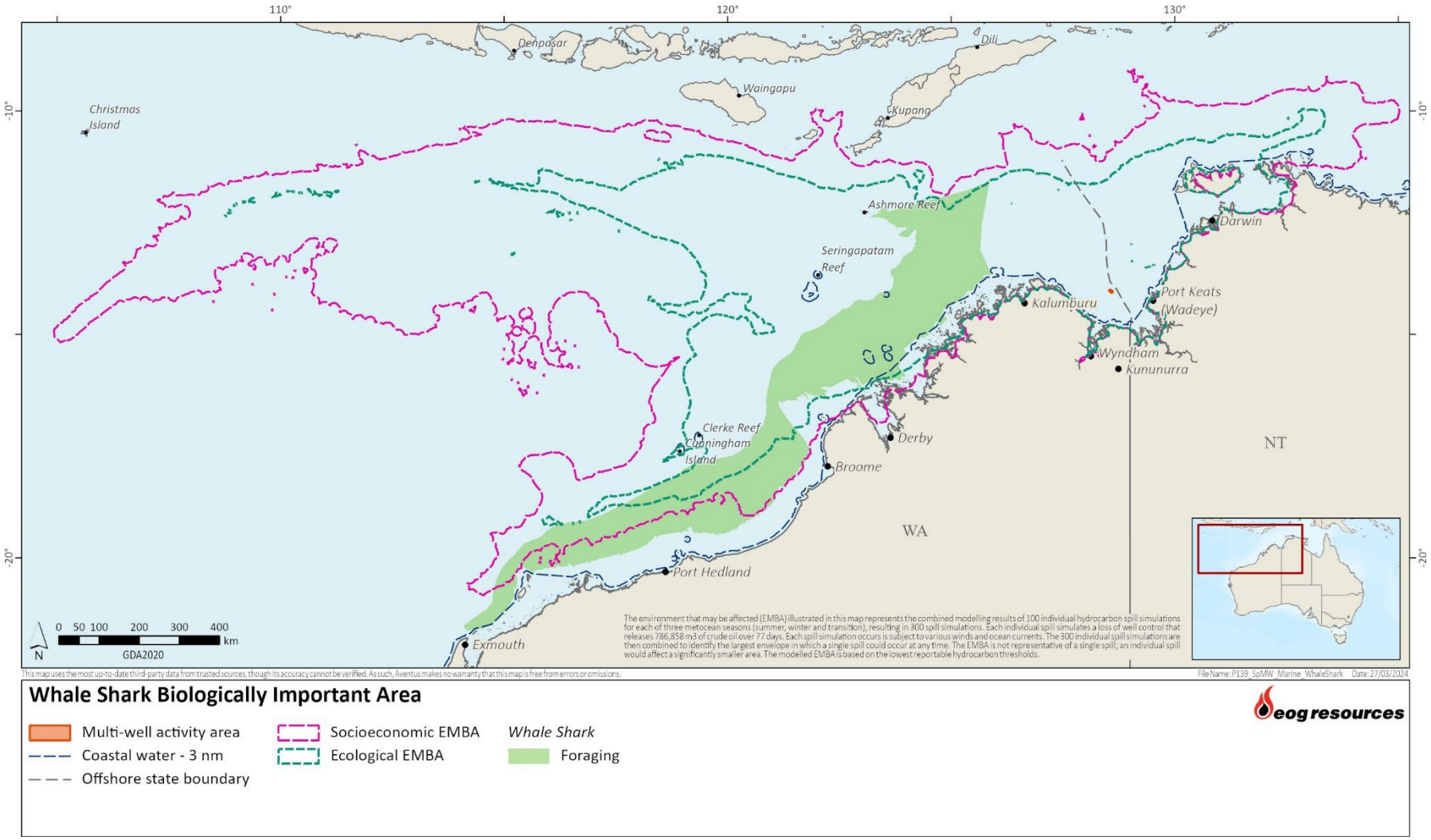


Figure 11.25 Whale shark BIA intersected by the spill EMBA

Northern river shark (EPBC Act: Endangered)

The northern river shark (*Glyphis garricki*) is an elasmobranch capable of living and moving between freshwater and seawater. The species utilises rivers, tidal sections of large tropical estuarine systems, macro tidal embayments, inshore and offshore marine habitats. The species is listed as endangered under the EPBC Act, based partly on its limited geographic distribution (TSSC, 2014a). Within Australia, the northern river shark is known to occur in WA and the NT, occupying both marine and freshwater environments including the JBG, Daly River, Adelaide River and the South and East Alligator Rivers (TSSC, 2014a) (Figure 11.26). Whilst northern river sharks have been observed well offshore, the extent to which this occurs is unknown (TSSC, 2014a). Individuals may be present within the nearshore areas of the spill EMBA.

Speartooth shark (EPBC Act: Listed Critically Endangered)

Speartooth sharks (*Glyphis glyphis*) occur in geographically distinct locations across northern Australia in the NT including Queensland, having been recorded in tidal rivers and estuaries with turbid waters, fine muddy substrates and temperatures ranging from 27°C to 33°C (DoE, 2014c). In the NT, they are found in the Van Diemen Gulf drainage, including the Adelaide River, South, East and West Alligator rivers and Murganella creek (DoE, 2014c). Due to their similarity to bull sharks, it is thought that adult speartooth sharks may live outside of rivers in the coastal marine environment (DoE 2014c). Given the species preference for estuarine and coastal waters, the speartooth shark may be present in the socioeconomic EMBA along the NT coastline. Given the absence of BIAs for this species, significant numbers are not expected to be impacted.

Blind Gudgeon (EPBC Act: Listed vulnerable)

The blind gudgeon is a small fish known to occur on the Cape Range Peninsula in the arid NW of WA (Humphreys and Feinberg, 1995) and at Barrow Island, to the northeast of the Cape Range Peninsula, off the WA coastline (Humphreys ,1999). The species is known only from the underground waters which lie beneath the narrow coastal plain of the Cape Range Peninsula in WA (Allen, 1982; Humphreys and Blyth, 1994) in water temperatures ranging from 27°C to 30°C in May and Aug (Mees, 1962).

Although the PMST report identifies this species or its habitat may be present within the EMBA, the closest area of presence is 33 km southeast from the southern extent of the socioeconomic EMBA. Therefore, given the location preference and there are no BIAs for this species, the blind gudgeon is not expected to occur within the spill EMBA.

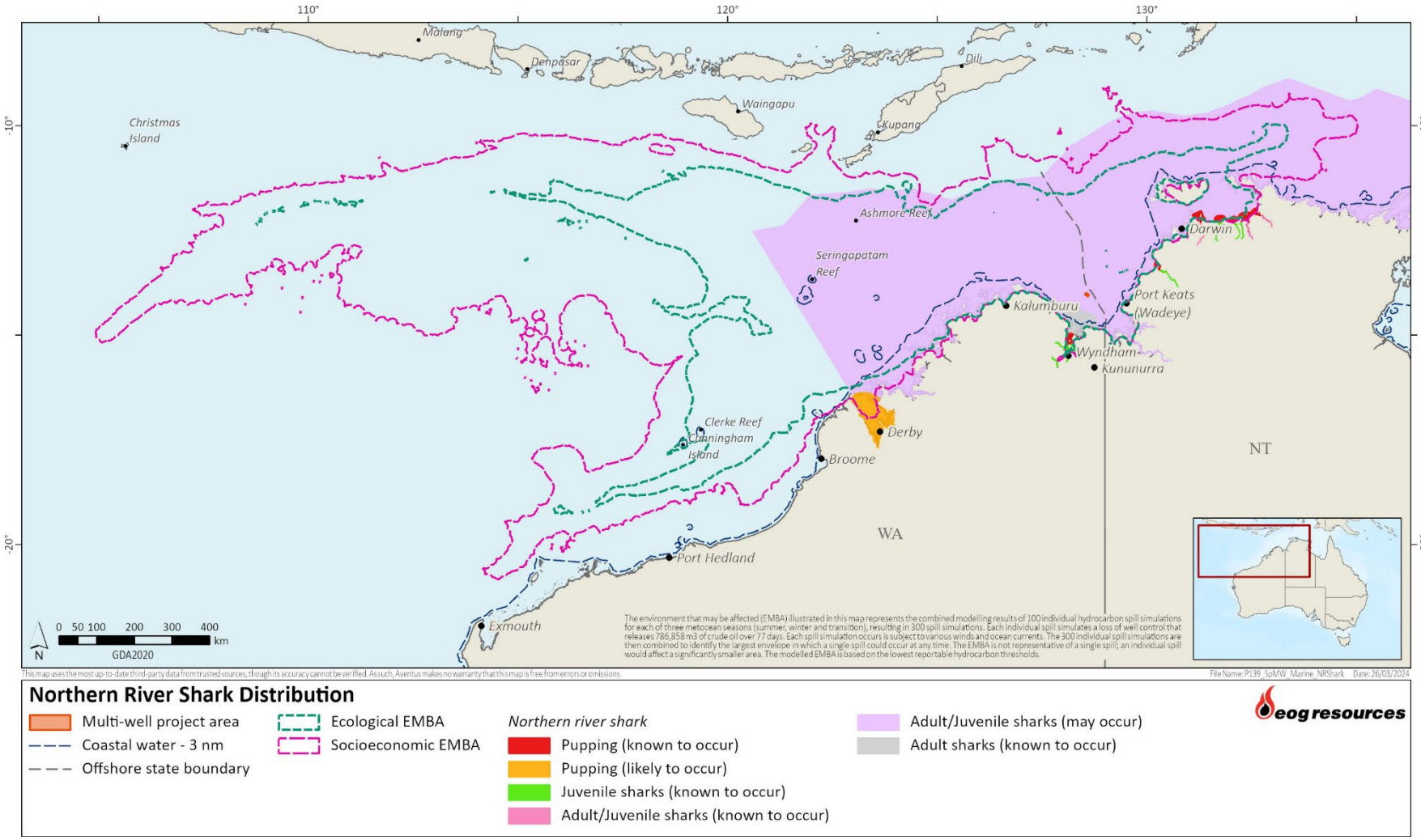


Figure 11.26 Northern river shark presence in the spill EMBA

Reef manta ray (EPBC Act: Listed migratory)

The reef manta ray (*Manta alfredi*) has a circum-global range in tropical and sub-tropical waters with sightings between waters off Perth, all along the northern coastline of Australia to the waters off the Solitary Islands, NSW (Marshall *et al*., 2011a). While this species tends to inhabit nearshore environments, it is known to occurs in waters as deep as 300 m and has been sighted around offshore coral reefs, rocky reefs and seamounts (Marshall *et al*., 2011a). In addition, it makes seasonal migrations of several hundred kilometres (Marshall *et al*., 2011a).

Despite there being no known aggregation sites within close proximity to the EMBA, reef manta rays may be present in the EMBA as transiting individuals.

Giant manta ray (EPBC Act: Listed migratory)

The giant manta ray (*Manta birostris*) has a widespread distribution along the coast of Australia and is known to seasonally migrate between aggregation sites (Marshall *et al*., 2011b). The giant manta ray is commonly sighted along productive coastlines with regular upwelling, oceanic island groups and particularly offshore pinnacles and seamounts (Marshall *et al*., 2011b).

This species has also been recorded within the Oceanic Shoals Marine Park, which is located within the EMBA (Nichol *et al*., 2013). Despite there being no known aggregation sites within close proximity to the activity area, giant manta rays may be present in the EMBA as transiting individuals.

Narrow sawfish (EPBC Act: Listed migratory)

The narrow sawfish lives in coastal and estuarine habitats across northern Australia and is generally restricted to shallow waters (less than 40 m) (D'Anastasi *et al*., 2013). The species is known to occur in the Gulf of Carpentaria but its distribution and migration is largely unknown. The narrow sawfish has the potential to occur within the spill EMBA because it has been caught as bycatch by the NPF in these areas (Tonks *et al*., 2008).

Dwarf sawfish (EPBC Act: Vulnerable, Listed migratory)

The dwarf sawfish (*Pristis clavata*) usually inhabits shallow (2–3 m deep) coastal waters and estuarine habitats. Its distribution is considered to extend north from Cairns around the Cape York Peninsula in Queensland, across northern Australian waters to the Pilbara coast in WA (DCCEEW, 2024b). The dwarf sawfish uses its rostrum to stun schooling fish by sideswiping or threshing while swimming through a school. The main prey species is popeye mullet (*Rhinomugil nasutus*). The main threats to dwarf sawfish are habitat loss and entanglement in fishing nets.

Adult dwarf sawfish are known to occur in the nearshore areas of the spill EMBA (Figure 11.27). The EMBA overlaps with foraging, nursing and pupping BIAs in Camden Sound (eastern shore), and some sections of the Fitzroy River Mouth, May & Robinson River tidal tributaries and inshore waters of King Sound respectively (see Table 11.4 and Figure 11.27).

Largetooth sawfish (EPBC Act: Vulnerable, Listed migratory)

Largetooth sawfish (*Pristis pristis*) also known as the freshwater sawfish, utilise both freshwater (juvenile) and marine (adult) environments during the different stages of its lifecycle (TSSC, 2014b). Within Australia, largetooth sawfish have been recorded in numerous drainage systems across northern WA, NT and northern Queensland (TSSC, 2014b). Growing up to 7 m in length, the largetooth sawfish feeds on fishes and benthic invertebrates. The saw is used to stun schooling fish, such as mullet, and for extracting molluscs and small crustaceans from the benthic sediment. Nursing areas for the species include Eighty Mile Beach, Roebuck Bay and King Sound (which is also a known foraging area).

The spill EMBA overlaps areas where adult largetooth sawfish are known to occur. BIAs that overlap the EMBA are shown in Table 11.4 and Figure 11.28.

Green sawfish (EPBC Act: Vulnerable, Listed migratory)

The green sawfish (*Pristis zijsron*) occurs in both inshore and offshore marine coastal waters of northern Australia. Green sawfish have been recorded in very shallow water (less than one metre) to offshore trawl grounds in over 70 m of water (Stevens *et al.,* 2005). Despite being found in deep water, evidence suggests that the range of green sawfish is mostly restricted to the inshore coastal fringe, with a strong association with mangroves and adjacent mudflats (Stevens e*t al.,* 2008). Its current known distribution stretches from Broome, WA around northern Australia and down the east coast as far as Jervis Bay, NSW (DCCEEW, 2024b).

The main threats to green sawfish are habitat loss and entanglement in fishing nets. The EMBA overlaps areas where both adult and juvenile sawfish are known to occur and is adjacent to the inner waters of the southern JBG where pupping of this species is likely to occur (Figure 11.29). It has also been caught as bycatch from the NPF in the area overlapped by the activity area and spill EMBA and therefore is likely to be present in both (Tonks *et al*., 2008). BIAs for this species that overlap the EMBA are listed in Table 11.4.

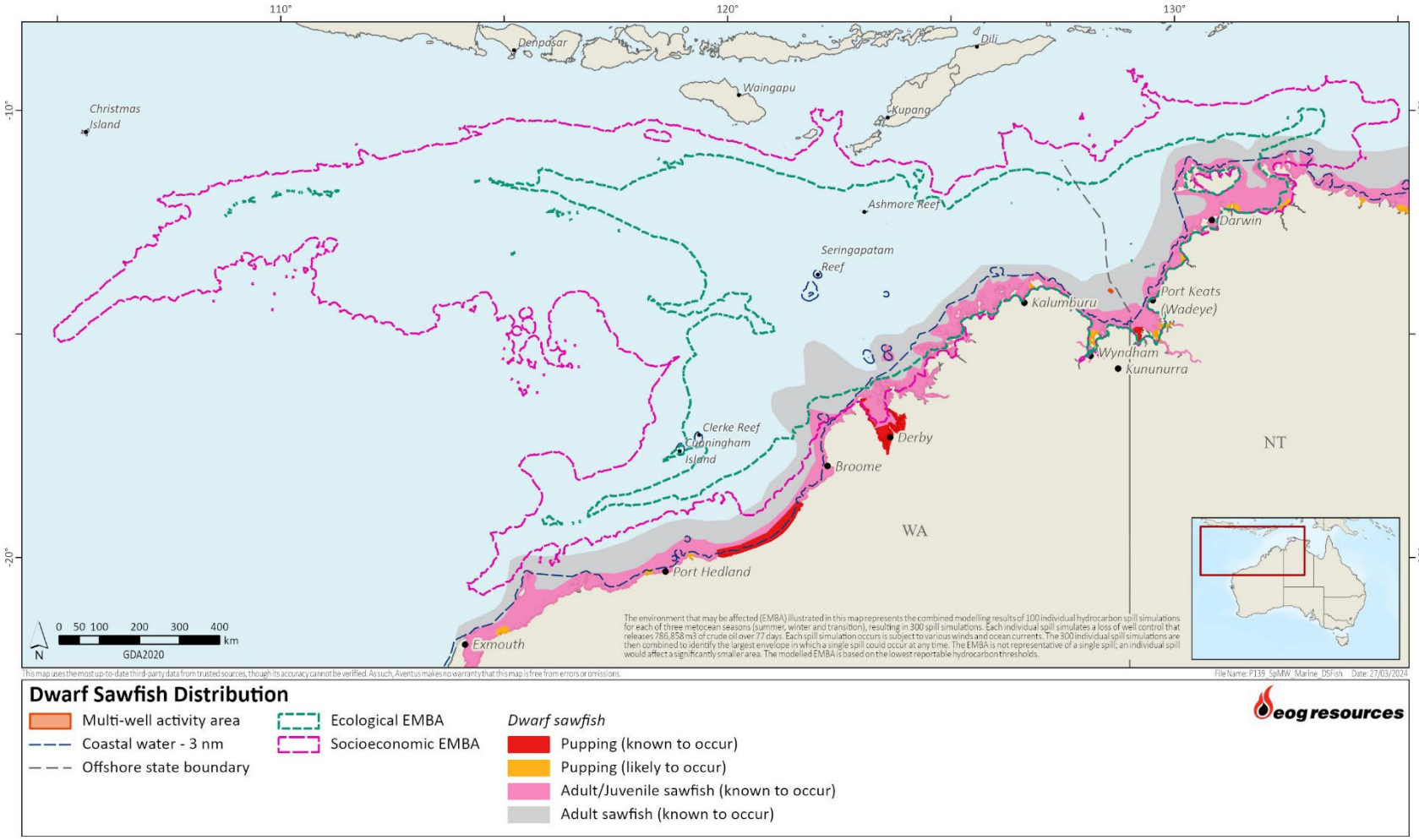


Figure 11.27 Dwarf sawfish presence in the spill EMBA

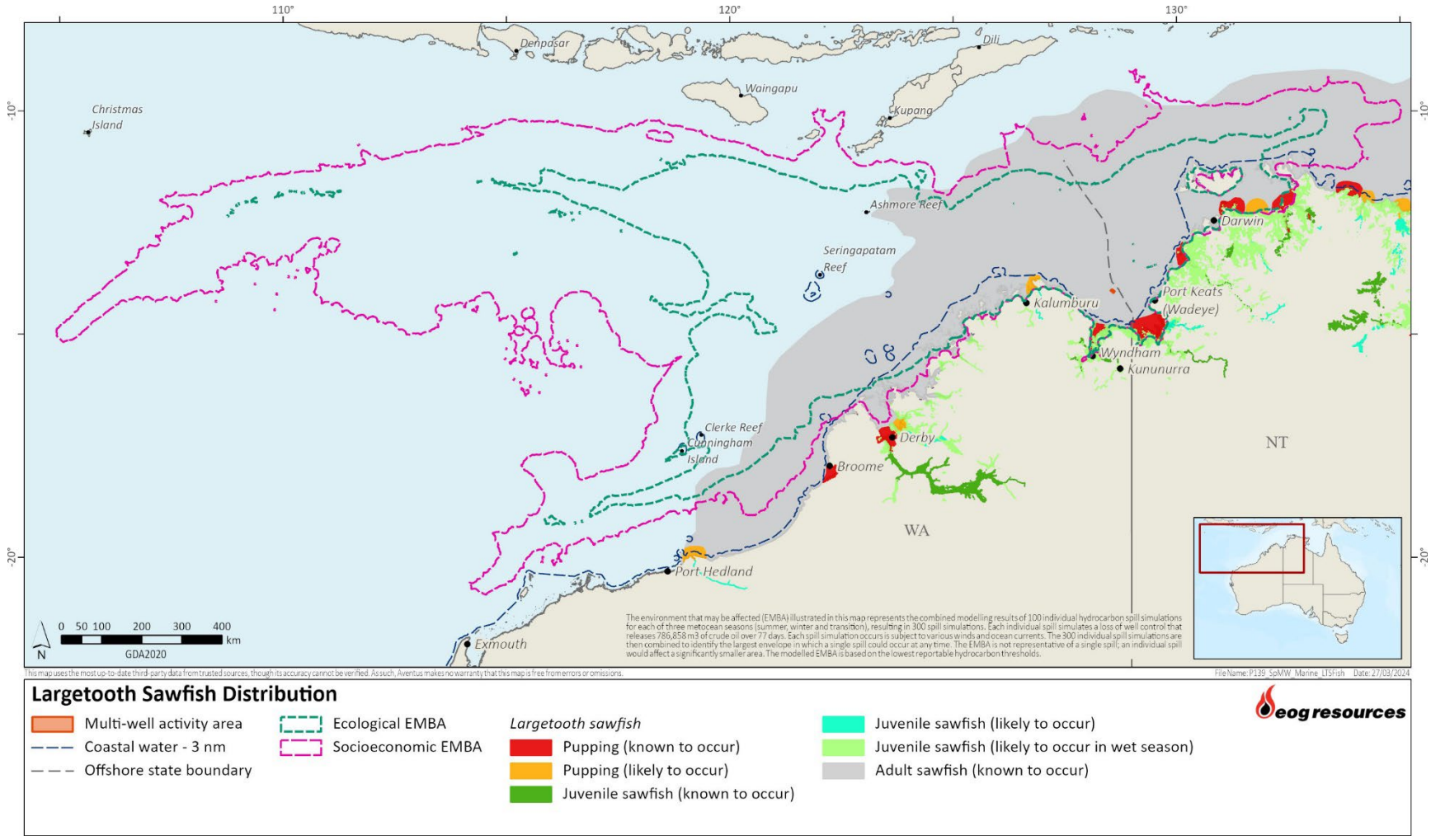


Figure 11.28 Largetooth sawfish presence in the spill EMBA

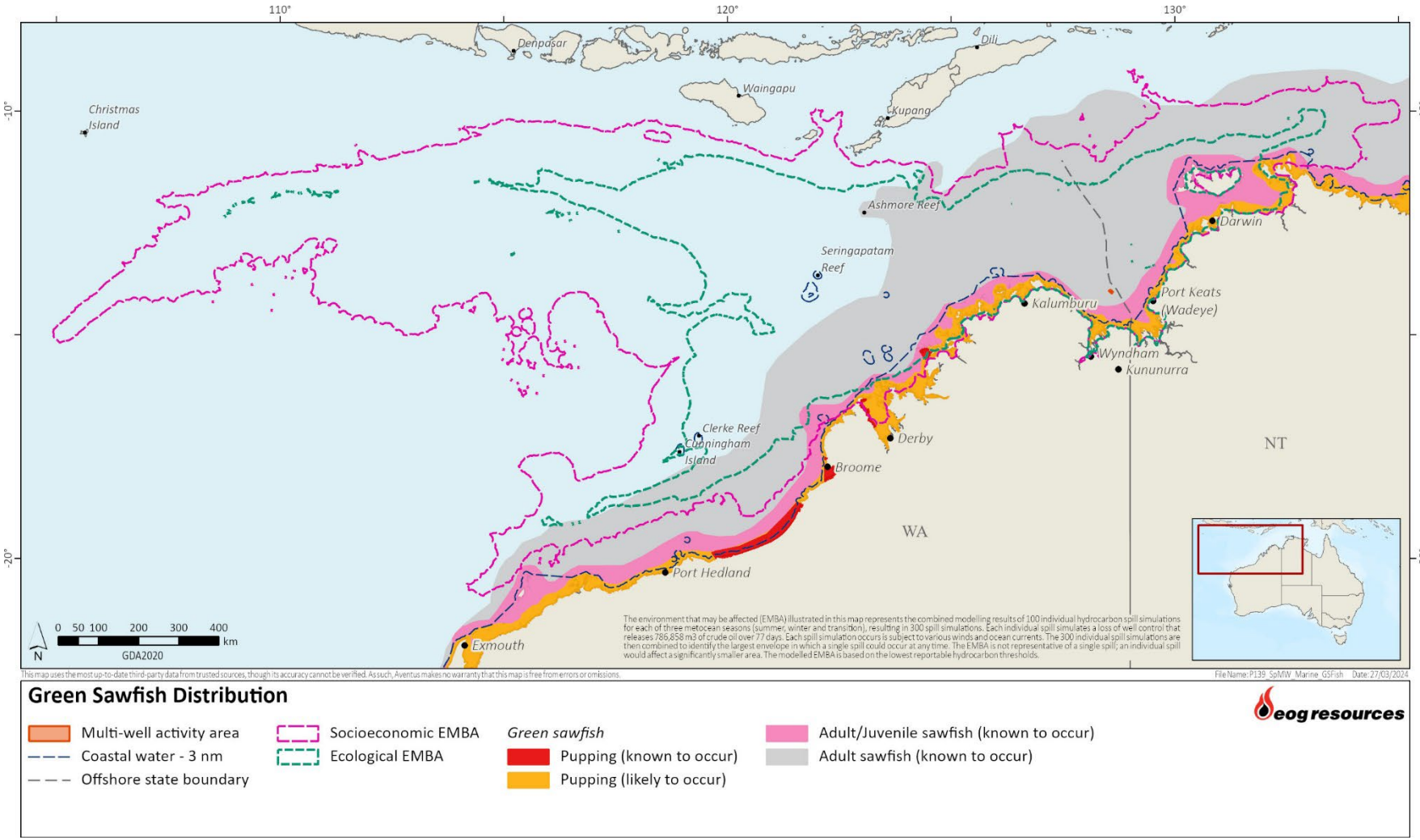


Figure 11.29 Green sawfish presence in the spill EMBA

Scalloped hammerhead (EPBC Act: Conservation Dependent)

The scalloped hammerhead (*Sphyrna lewini*) is a relatively large, fusiform-bodied, moderately slender shark. has a circum-global distribution in tropical and sub-tropical waters. This species has a strong genetic population structuring across ocean basins as it rarely ventures into or across deep ocean waters, but ranges quite widely over shallow coastal shelf waters. Within Australian waters the scalloped hammerhead extends from New South Wales (around Wollongong, where it is less abundant), around the north of the continent and then south into Western Australia to approximately Geographe Bay, though it is rarely recorded south of the Houtman Abrolhos Islands (TSSC, 2018a). It is currently under threatened listing assessment (current status is Conservation Dependent) which was due 30 April 2022, but has not been updated since.

As per the PMST report, breeding of the scallop hammerhead is known to occur in the EMBA.

Southern Bluefin Tuna (EPBC Act: Conservation Dependent)

This species is described in Chapter 5 of the EP.

As per the PMST report, breeding of the southern bluefin tuna is known to occur in the EMBA.

Sygnathids (EPBC Act: Listed marine species, FFG Act: Not listed)

Thirty-five (35) of the 47 marine ray-finned fish species identified in the EPBC Act PMST (74%) are sygnathiformes, which includes seahorses, seadragon, pipehorse and pipefish. The majority of these fish species are associated with seagrass meadows, macroalgal seabed habitats, reefs and sponge gardens located in shallow, inshore waters (e.g., protected coastal bays, harbours and jetties) less than 50 m deep. They are sometimes recorded in deeper offshore waters, where they depend on the protection of sponges and rafts of floating seaweed such as *Sargassum*. It is likely that sygnathid species will occur in the deeper waters of the spill EMBA.

The PMST species profile and threats profiles indicate that the sygnathiforme species listed in the spill EMBA are widely distributed throughout northern and north-western Australian waters. The diverse range of ecological niches afforded by reef sites would be expected to provide suitable habitat for these listed species.

11.3.5 Marine Mammals

The PMST indicates that 15 whale species and 17 dolphin species may occur within or migrate through the spill EMBA (DCCEEW, 2024a). These species are presented in Table 11.5 and a description focused on threatened species follows.

The likely temporal presence and absence of cetaceans in the EMBA is illustrated in Figure 5.18 in Section 5.4.5 of Chapter 5.

The species listed as threatened or migratory are described in this section. BIAs for marine mammals that overlap the EMBA are presented in Table 11.6.

Table 11.5 EPBC Act-listed cetaceans that may occur in the spill EMBA

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Whales								
Balaenoptera acutorostrata	Minke whale	-	-	Yes	-	Yes	No	-
B. bonaerensis	Antarctic minke whale	-	Yes	Yes	-	Yes	No	-
B. borealis	Sei whale	V	Yes	Yes	Yes	Yes	No	CA
B. edeni	Bryde's whale	-	Yes	Yes	Yes	Yes	No	-
B. musculus	Blue whale	E	Yes	Yes	Yes	Yes	Yes	CMP
B. physalus	Fin whale	V	Yes	Yes	Yes	Yes	No	CA
Eubalaena australis	Southern right whale	E	Yes	Yes	-	Yes	No	CMP
Indopacetus pacificus	Longman's beaked whale	-	-	Yes	Yes	Yes	No	-
Kogia breviceps	Pygmy sperm whale	-	-	Yes	Yes	Yes	No	-
K. simus	Dwarf Sperm Whale	-	-	Yes	Yes	Yes	No	-
Megaptera novaeangliae	Humpback whale	-	Yes	Yes	Yes	Yes	Yes	-
Mesoplodon densirostris	Blainville's beaked whale	-	-	Yes	Yes	Yes	No	-
Mesoplodon ginkgodens	Ginko-toothed beaked whale	-	-	Yes	Yes	Yes	No	-
Physeter macrocephalus	Sperm whale	-	Yes	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Ziphius cavirostris	Cuvier's beaked whale	-	-	Yes	Yes	Yes	No	
Dolphins								
Delphinus delphis	Common dolphin	-	-	Yes	Yes	Yes	No	-
Feresa attenuata	Pygmy killer whale	-	-	Yes	Yes	Yes	No	-
Globicephala macrorhynchus	Short-finned pilot whale	-	-	Yes	Yes	Yes	No	-
Grampus griseus	Risso's dolphin	-	-	Yes	Yes	Yes	No	-
Lagenodelphis hosei	Fraser's dolphin	-	-	Yes	Yes	Yes	No	-
Orcaella brevirostris	Australian snubfin dolphin	-	Yes	Yes	Yes	Yes	Yes	-
Orcinus orca	Killer whale	-	Yes	Yes	Yes	Yes	No	-
Peponocephala electra	Melon-headed whale	-	-	Yes	Yes	Yes	No	-
Pseudorca crassidens	False killer whale	-	-	Yes	Yes	Yes	No	-
Sousa chinensis	Indo-Pacific Humpback Dolphin	-	Yes	Yes	Yes	Yes	Yes	-
Stenella attenuata	Spotted dolphin	-	-	Yes	Yes	Yes	No	-
Stenella coeruleoalba	Striped dolphin	-	-	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Stenella longirostris	Long-snouted spinner dolphin	-	-	Yes	Yes	Yes	No	-
Steno bredanensis	Rough-toothed dolphin	-	-	Yes	Yes	Yes	No	-
Tursiops aduncus	Spotted bottlenose dolphin	-	-	Yes	Yes	Yes	Yes	-
Tursiops aduncus (Arafura/Timor Sea populations)	Indian ocean Bottlenose dolphin *(Arafura/Timor Sea populations)*	-	Yes	Yes	Yes	Yes	No	-
Tursiops truncatus	Bottlenose dolphin	-	-	Yes	Yes	Yes	No	-
Dugong								
Dugong dugon	Dugong	-	Yes	Yes	Yes	Yes	Yes	-

Legend and key are the same as Table 11.2

Table 11.6 BIAs of marine mammals within the EMBA

Species	BIA	Location within the EMBA
Pygmy blue whale	Foraging	Scott Reef.
	Migration	Augusta to Derby (tend to pass along the shelf edge at depths of 500 m to 1,000 m; appear close to coast in the Exmouth-Montebello Islands area on southern migration). Indonesia - Banda Sea.
Humpback whale	Calving	Kimberley/Coastal North Lacepede Island, Camden Sound.
	Migration (northern and southern)	The migration corridor extends from the coast to out to approximately 100 km offshore in the Kimberley region extending south to Northwest Cape.
	Nursing	Kimberley/Coastal North Lacepede Island, Camden Sound.
	Resting	Camden Sound.
Australian humpback dolphin	Foraging	Port Essington (Cobourg Peninsula). Van Diemen Gulf (East Alligator River). Van Diemen Gulf (South Alligator). Darwin Harbour. King Sound Southern Sector. Pender Bay. Carnot & Beagle Bay.
	Breeding	Port Essington (Cobourg Peninsula). Van Diemen Gulf (East Alligator River). Van Diemen Gulf (South Alligator). Darwin Harbour. Port Nelson, York Sound, Prince Frederick Harbour. Prince Regent River. Camden Sound Area - Walcott Inlet, Doubtful Bay, Deception Bay, Augustus Island (Kuri Bay).
	Calving	Maret and Biggee Island. Willie Creek.
	Significant habitat (unknown behaviour)	Napier Broome Bay/Deep Bay. Vansittart Bay, Anjo Peninsula. Bougainville Peninsula. Admiralty Gulf and Parry Harbour.
Australian snubfin dolphin	Foraging	Ord River (high density prey). Cape Londonderry and King George River (high density prey). Napier Broome Bay/Deep Bay (high density prey). Vansittart Bay (Anjo Peninsula) (high density prey). Bougainville Peninsula (high density prey). Admiralty Gulf & Parry Harbour. Maret and Biggee Island.

Species	BIA	Location within the EMBA
		Port Nelson, York Sound, Prince Frederick Harbour. Prince Regent River (high density prey). Camden Sound Area (Walcott Inlet, Doubtful Bay, Deception Bay, Augustus Island (Kuri Bay)). King Sound North, Yampi Sound and Talbot Bay Fjord area near horizontal falls. King Sound Southern Sector.
	Breeding	Port Essington (Cobourg Peninsula). Van Diemen Gulf (South Alligator River). Darwin Harbour. Ord River. Napier Broome Bay/Deep Bay. Vansittart Bay (Anjo Peninsula). Bougainville Peninsula. Admiralty Gulf & Parry Harbour. Port Nelson, York Sound, Prince Frederick Harbour. Prince Regent River (high density prey). Camden Sound Area (Walcott Inlet, Doubtful Bay, Deception Bay, Augustus Island (Kuri Bay)). King Sound North, Yampi Sound and Talbot Bay Fjord area near horizontal falls. King Sound Southern Sector.
	Calving	Port Essington (Cobourg Peninsula. Van Diemen Gulf (South Alligator River). Darwin Harbour. Ord River. Napier Broome Bay/Deep Bay. Vansittart Bay (Anjo Peninsula). Bougainville Peninsula. Admiralty Gulf & Parry Harbour. Port Nelson, York Sound, Prince Frederick Harbour. Prince Regent River (high density prey). Camden Sound Area (Walcott Inlet, Doubtful Bay, Deception Bay, Augustus Island (Kuri Bay)). King Sound North, Yampi Sound and Talbot Bay Fjord area near horizontal falls. King Sound Southern Sector.
	Resting	Ord River. Napier Broome Bay/Deep Bay. Vansittart Bay (Anjo Peninsula). Bougainville Peninsula. Admiralty Gulf & Parry Harbour. Port Nelson, York Sound, Prince Frederick Harbour. Camden Sound Area (Walcott Inlet, Doubtful Bay, Deception Bay, Augustus Island (Kuri Bay)).

Species	BIA	Location within the EMBA
Indian ocean bottlenose dolphin	Foraging	Port Essington (Cobourg Peninsula) (provisioning young). Darwin Harbour. Camden Sound Area - Walcott Inlet, Doubtful Bay, Deception Bay, Augustus Island (Kuri Bay). King Sound North and Yampi Sound and Talbot Bay Fjord area near horizontal falls. King Sound Southern Sector.
	Breeding	Port Essington (Cobourg Peninsula) (provisioning young). Darwin Harbour (provisioning young). King Sound North and Yampi Sound and Talbot Bay Fjord area near horizontal falls. King Sound Southern Sector.
	Calving	Camden Sound Area - Walcott Inlet, Doubtful Bay, Deception Bay, Augustus Island (Kuri Bay). King Sound North and Yampi Sound and Talbot Bay Fjord area near horizontal falls. King Sound Southern Sector.
Dugong	Foraging	Kimberley coast (Dampier Peninsula). Ashmore Reef – south (high density). Ashmore Reef – west (high density).
	Breeding	Ashmore Reef – west.
	Calving	Ashmore Reef – west.
	Nursing	Ashmore Reef – west.

Pygmy blue whale (EPBC Act: Endangered, Listed migratory)

Pygmy blue whales are described in Section 5.4.5 of Chapter 5.

The EMBA is considered within the 'likely' distribution of the species and therefore pygmy blue whales may be present in the region during the southern migration period (September to December) (DoE, 2015b).

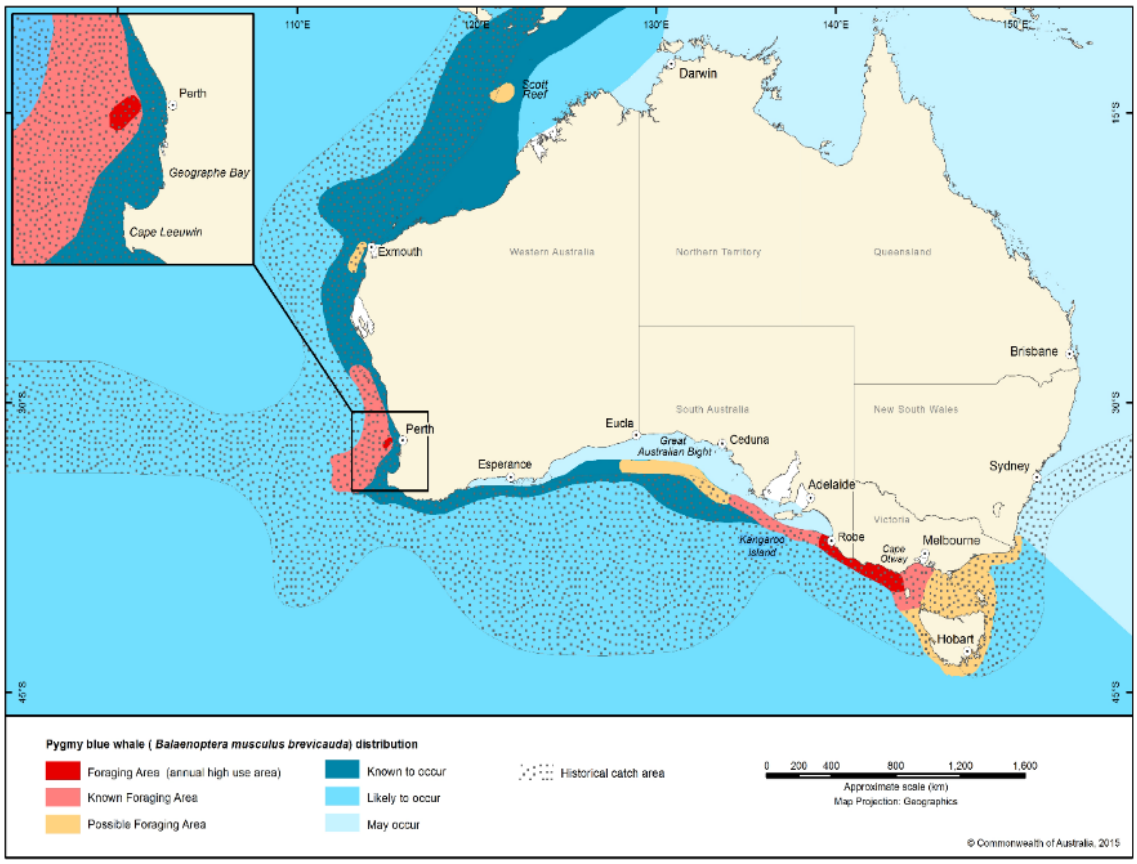
There is a foraging, migration and distribution BIA located off the Northwest Shelf is and Scott Reef (within the EMBA) is considered to be a 'possible' foraging area (see Table 11.6 and Figure 11.30).

Southern right whale (EPBC Act: Endangered, Listed migratory)

The southern right whale (*Eubalaena australis*) is present in the southern hemisphere between approximately 30° and 60°S. The species feeds in the Southern Ocean in summer, moving close to the Australian shore in winter.

In Australian waters, the southern right whales distribution range from Perth, along the southern coastline, to Sydney. Sightings have been recorded as far north as Exmouth although these are rare (Bannister *et al*., 1996). BIAs including calving and aggregation areas are recorded for this species along the southern coastline of Australia (DCCEEW, 2024a).

There are no established or emerging coastal aggregation areas, nor breeding or calving BIAs for the southern right whale in the spill EMBA. Given the preference for the southern coastline of Australia, it is unlikely that southern right whales will be present the spill EMBA.



Source: DoE (2015a)

Figure 11.30 Pygmy blue whale BIAs

Humpback whale (EPBC Act: Listed migratory)

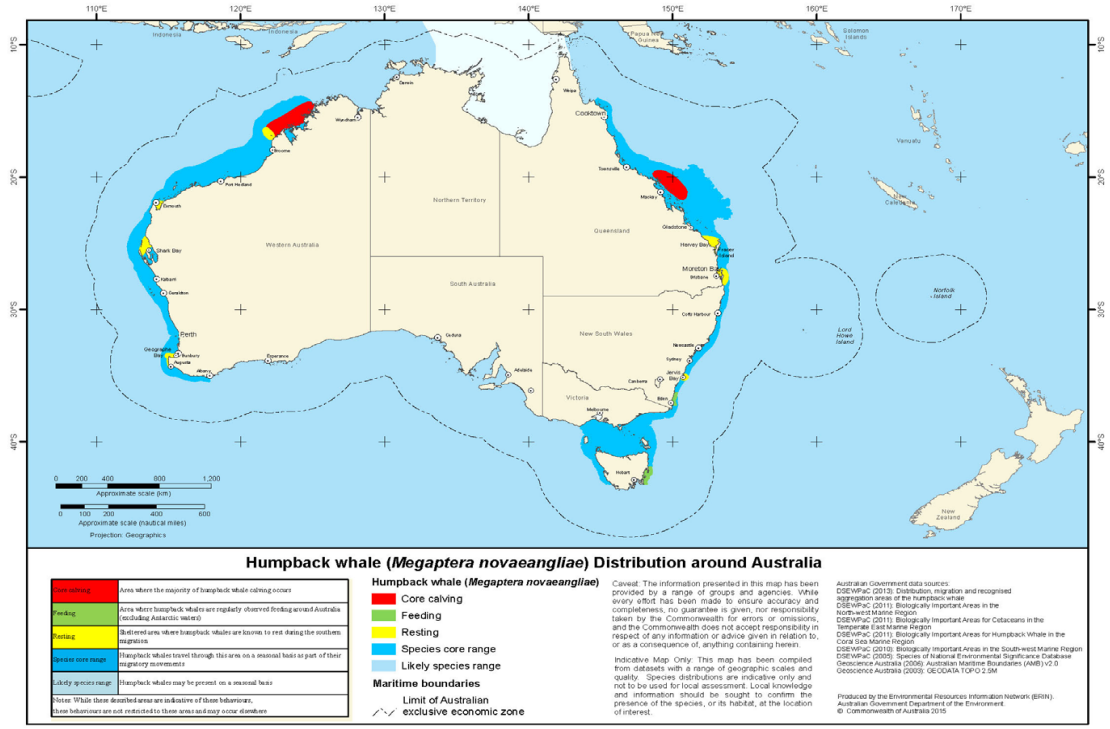
Humpback whales are described in Section 5.4.5 of Chapter 5 and their distribution is illustrated in Figure 11.31.

Humpback whales travel northbound from Northwest Cape, along the continental shelf and pass the west of the Muiron, Barrow and Montebello Islands (within the EMBA), peaking in late July (Jenner *et al*., 2001). Southbound migrations are more diffuse and irregular with no obvious peak. The southerly migration extends parallel to the coast on the 20 – 30 m depth contour from Lacepede Islands (north of Broome) (Jenner *et al.* 2001, DEWHA, 2008b). An increase in southerly migrating individuals may be observed between the North West Cape and the Montebello Islands around November (Jenner *et al*., 2001).

In the NWMR, humpback whales are known to have breeding and foraging grounds between Broome and the northern end of Camden Sound, with the highest concentrations occurring between June and September (DEWHA, 2008b). Camden Sound appears to be the northern most limit for the majority of the west coast whales (Figure 11.32) (Jenner *et al*., 2001). Although, the breeding and calving BIA for humpbacks off the west Kimberley coastline extends as far as Bigge Island (offshore from Mitchell Plateau) located within the spill EMBA.

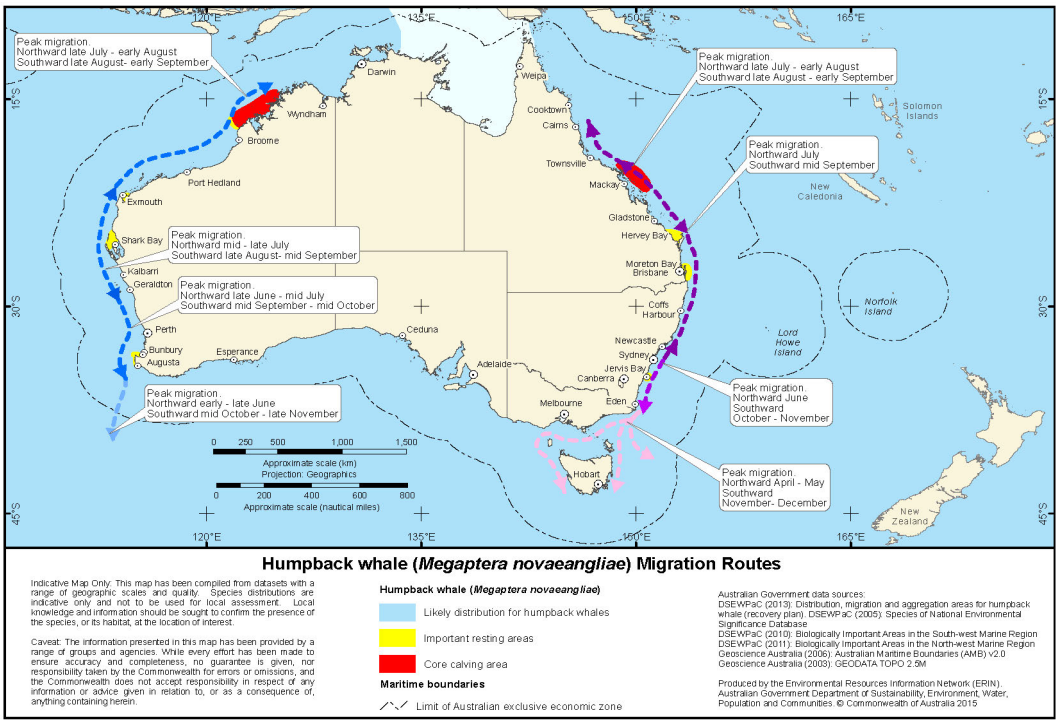
Given the activity timing is outside of the humpback whale period of peak presence in north western Australia (June – September), it is unlikely that the whales are present in significant numbers within the EMBA.

The humpback whale migration (north and south) BIA is located in the EMBA. Other BIAs for this species that overlap the EMBA are presented in Table 11.6 and Figure 11.33.



Source: TSSC (2015a).

Figure 11.31 Distribution of the humpback whale around Australia



Source: TSSC (2015a).

Figure 11.32 Migration routes of humpback whales around Australia

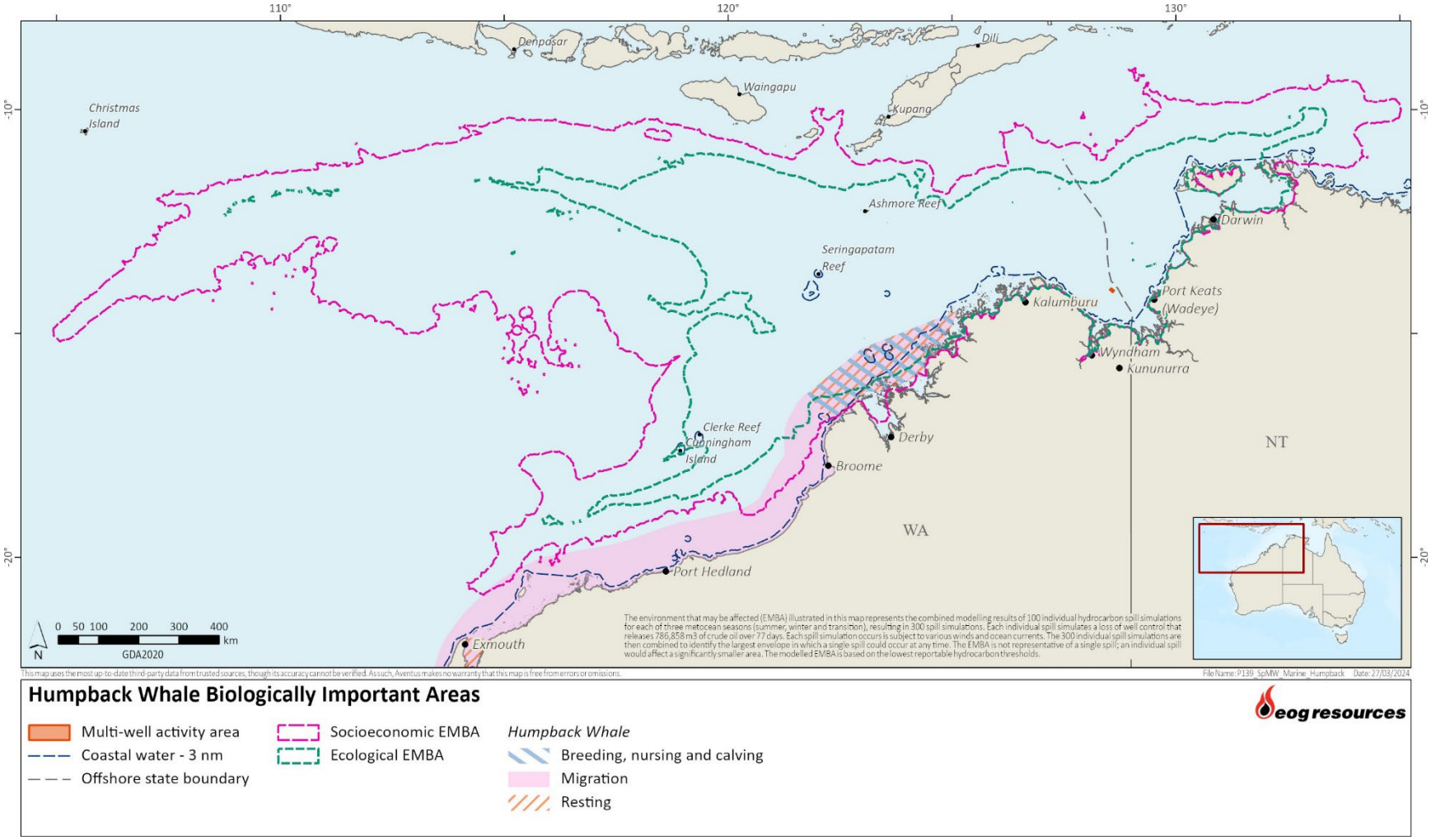


Figure 11.33 Humpback whale BIA in the spill EMBA

Sei whale (EPBC Act: Vulnerable, Listed migratory)

Sei whales are described in Section 5.4.5 of Chapter 5.

Based upon the species preference for deep offshore waters, the wide-ranging nature of this species, and the small number of sei whale sightings in Australia, the presence of the species within the EMBA is likely to be low.

Fin whale (EPBC Act: Vulnerable, Listed migratory)

Fin whales are described in Section 5.4.5 of Chapter 5.

Based on the fin whale preference for deep offshore waters and the minimal sightings in the coastal waters of the EMBA, the presence of this species in the spill EMBA is considered to be limited.

Sperm whale (EPBC Act: Vulnerable, listed migratory)

Sperm whales (*Physeter macrocephalus*) are the largest of the toothed whales and are generally found in pods of up to 50 individuals (DCCEEW, 2024b). Sperm whales have a global distribution. They generally inhabit deeper oceanic waters with a water depth of 600 m or more and are uncommon in waters less than 300 m (DoEE 2019a).

The PMST indicates that the species is known to occur within the EMBA. No BIAs for the species are recorded in the spill EMBA.

It is possible that sperm whales may transit through the spill EMBA, but they are not expected to be present in significant numbers.

Bryde's whale (EPBC Act: Listed migratory)

Bryde's whales are described in Section 5.4.5 of Chapter 5.

The PMST indicates that the species may occur within the EMBA. However, there are no feeding or breeding BIAs within the EMBA.

Killer whale (EPBC Act: Listed migratory)

Killer whales are described in Section 5.4.5 of Chapter 5.

Sightings of killer whale around the Australian coast are typically recorded along the continental slope and shelf, and predominantly in the vicinity of seal colonies, which are not known to exist in the region (DEWHA 2008b). No areas of significance and no determined migration routes have been identified for this species within waters off WA (DoEE, 2019a).

The EMBA is unlikely to represent important habitat for this species. Therefore, killer whales are unlikely to be present in the EMBA.

Indo-Pacific humpback dolphin (EPBC Act: Listed migratory)

Australian humpback dolphins (*Sousa sahulensis*) are found primarily in coastal waters and feed mainly on fish associated with coastal-estuarine waters (DCCEEW, 2024b). In Queensland and the NT, Australian humpback dolphins are mainly found in water less than 20 km from the nearest river mouth, and in water less than 15–20 m deep (DCCEEW, 2024b). They are generally found in river mouths, mangroves, seagrass beds, tidal channels and inshore reefs. They are known to have resident groups that forage, feed, breed and calve in state and territory waters. Calves may be born throughout the year, but peaks in summer and spring have been reported.

Humpback dolphin foraging BIAs are located along the Kimberley coastline, including breeding, and calving. A breeding BIA for the species are also located in Darwin Harbour (approximately 275 km north-east of the activity area). Foraging BIAs are also located in Van Diemen Gulf and Port Essington (Cobourg Peninsula) (see Table 11.6 and Figure 11.34).

The PMST indicates that the species is known to occur within the EMBA. The coastal area of the socio-economic EMBA overlaps the significant habitat BIA for this species located in the north Kimberley coastline and NT coastline are outlined in Table 11.6 and Figure 11.34. Therefore, the species is likely to be present in the spill EMBA.

Australian snubfin dolphin (EPBC Act: Listed migratory)

The Australian snubfin dolphins (*Orcaella brevirostris*) is described in Section 5.4.5 of the EP.

The PMST indicates that the species is known to occur within the EMBA. The EMBA overlaps with the resting, calving, breeding and foraging BIA as outlined in Table 11.6 and Figure 11.35.

Spotted bottlenose dolphin (EPBC Act: Listed marine)

The spotted bottlenose dolphin (*tursiops aduncus)* resembles common bottlenose dolphins (*T. truncatus)* in their general colour pattern. They have a dark grey dorsal cape, with a paler grey dorsal overlay extending onto the flanks, and an off-white ventral area (DCCEEW, 2024b). This species has been confirmed to occur in estuarine and coastal waters of eastern, western and northern Australia. They are restricted to inshore areas such as bays and estuaries, nearshore waters, open coast environments, and shallow offshore waters including coastal areas around oceanic islands. The spill EMBA overlaps breeding, calving and foraging BIAs for the spotted bottlenose dolphin which can be seen in Figure 11.36

The spotted bottlenose dolphin is likely to be present in the spill EMBA.

Indian ocean bottlenose dolphin (Arafura/Timor Sea populations) (EPBC Act: listed migratory)

The Indian Ocean bottlenose dolphin (*Tursiops aduncus Arafura/Timor Sea populations)* is described in Section 5.4.5 of Chapter 5.

Dugong (EPBC Act: Listed marine, migratory)

Dugongs are described in Section 5.4.5 of Chapter 5.

Dugongs have been reported to occur along the coastline from Cape Hay to Pearce Point with the main populations concentrated around Dorcherty Island (Woodside, 2004), approximately 92 km east of the activity area. The closest dugong foraging BIA is located south of Ashmore Reef, with additional foraging BIA on the Kimberley coastline off the Dampier Archipelago (within the spill EMBA) (see Table 11.6). Ashmore Reef supports a population of less than 50 individuals that are genetically distinct from other Australian populations. The reef provides breeding and feeding habitats, with seagrass beds of the reef flats and lagoon their preferred food source. Breeding occurs year round at Ashmore Reef (DoEE, 2019a). An additional three BIAs for this species overlaps with the EMBA (see Table 11.6 and Figure 11.37).

Dugongs have high cultural value to Indigenous coastal communities. The coastal waters of northwest Australia, encompassing the Kimberley and Pilbara regions (within the EMBA) down to Shark Bay (outside of the EMBA), are home to one of the largest remaining dugong populations in the world (Bayliss & Hutton, 2017; Lincoln *et al.,* 2021). To date there have been limited human-induced threats to dugongs in the Kimberley, making the area an important global stronghold for the species (Bayliss & Hutton, 2017).

Dugongs live and move between the traditional Sea Country and Native Title determination areas of numerous Indigenous communities along the length of the Kimberley coastline. Within the Kimberley region it is known that there is a deep ancient and contemporary Indigenous knowledge surrounding dugongs relating to people, culture, livelihoods, and spiritual belief (Lincoln *et al.,* 2021). This knowledge ties into sustainable harvest, local abundance, ecology, biology, diet, and movement of this species (Lincoln *et al.,* 2021). The Balanggarra Healthy Country Plan (HCP), Wunambal Gaambera HCP, Dambimangari HCP and the Mayala Country Plan all discuss the historical and cultural

significance of the dugong, particularly as a food and trade source (Balanggarra Aboriginal Corporation/KLC, 2011; Wunambal Gaambera Aboriginal Corporation, 2010; Dambimangari Aboriginal Corporation, 2012; Mayala Inninalang Aboriginal Corporation, 2019).

Therefore, dugongs are likely to be present in the nearshore areas of the spill EMBA within the Kimberely and Pilbara regions.

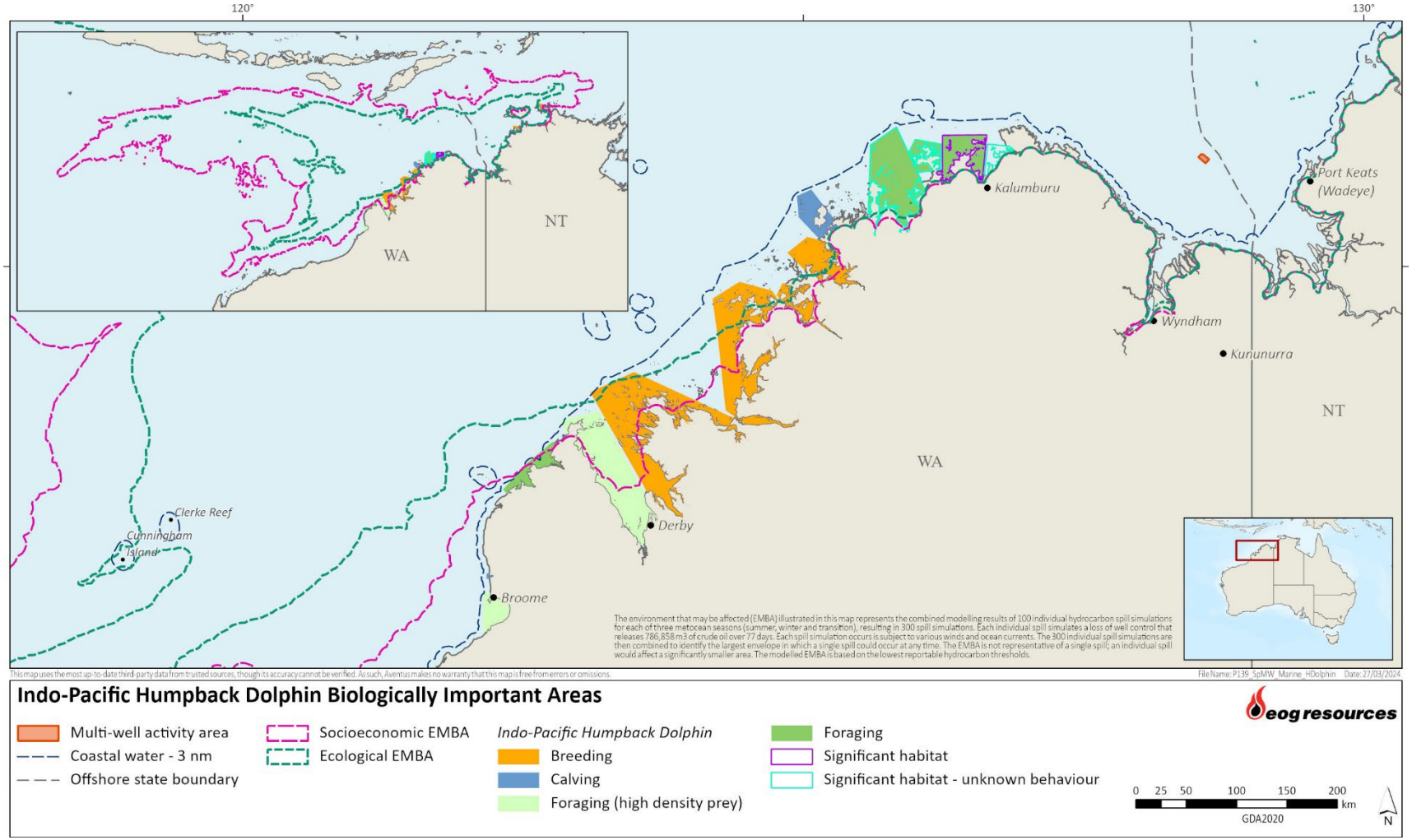


Figure 11.34 Australian humpback dolphin BIA in the spill EMBA

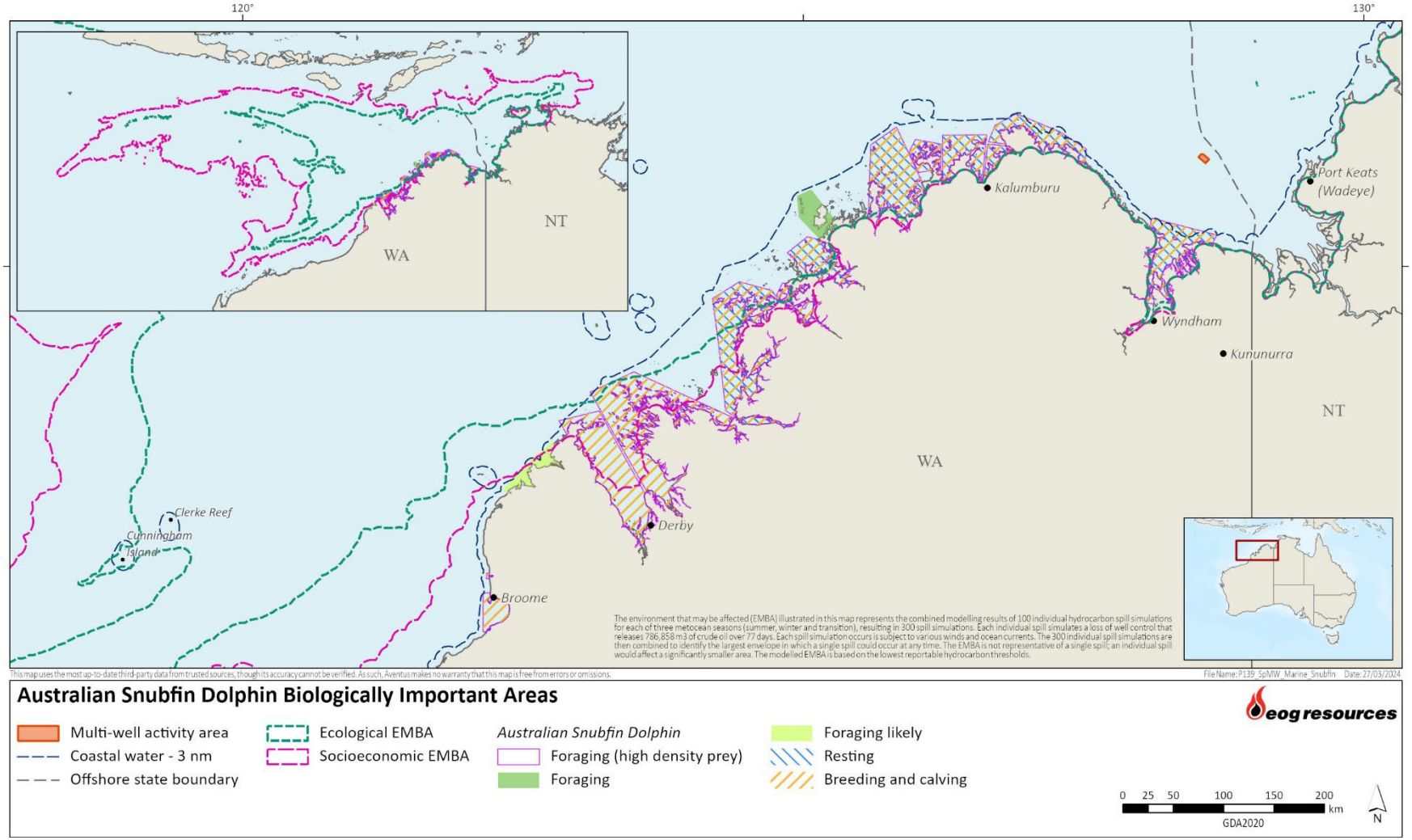


Figure 11.35 Australian snubfin dolphin BIA in the spill EMBA

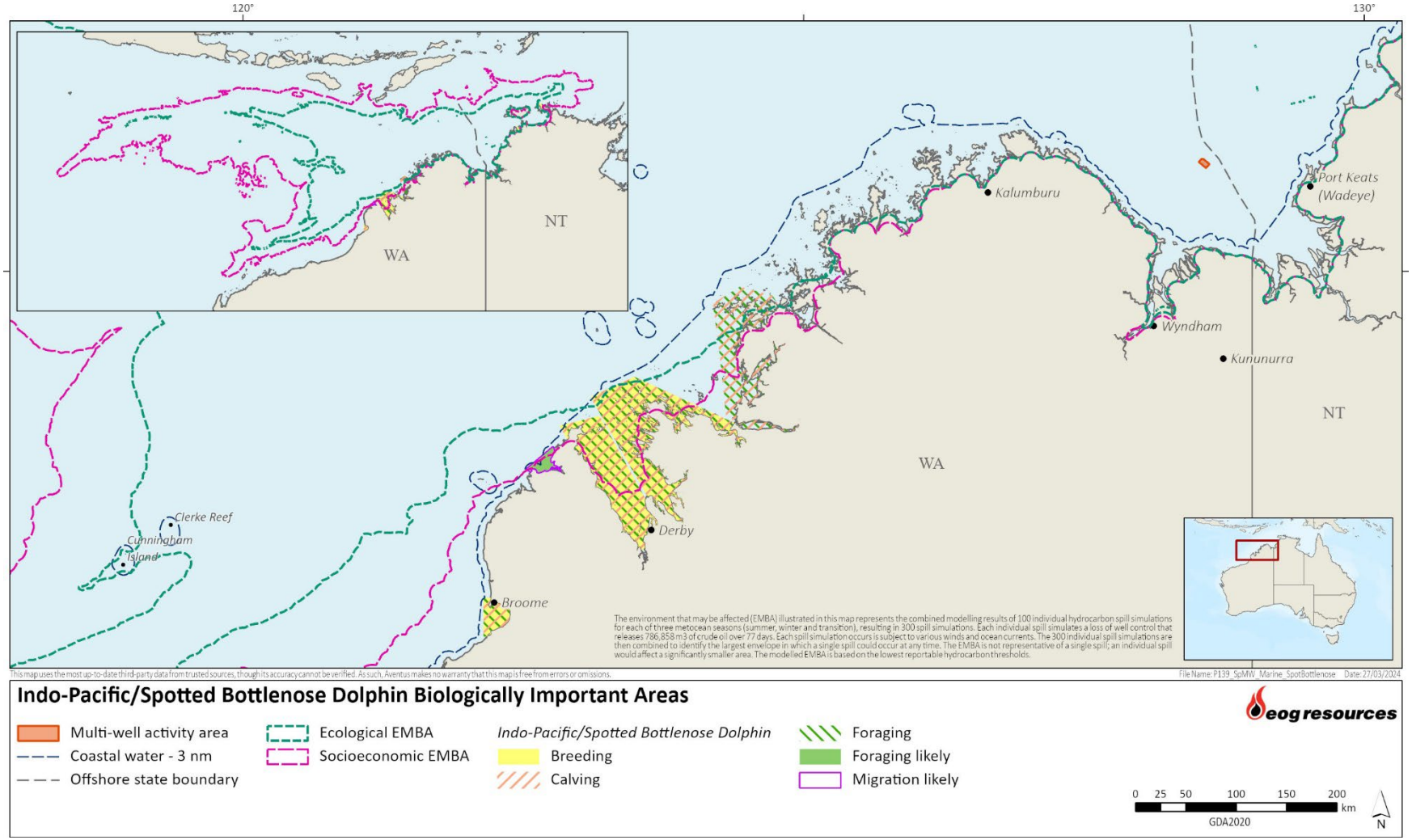


Figure 11.36 Spotted bottlenose dolphin BIA in the spill EMBA

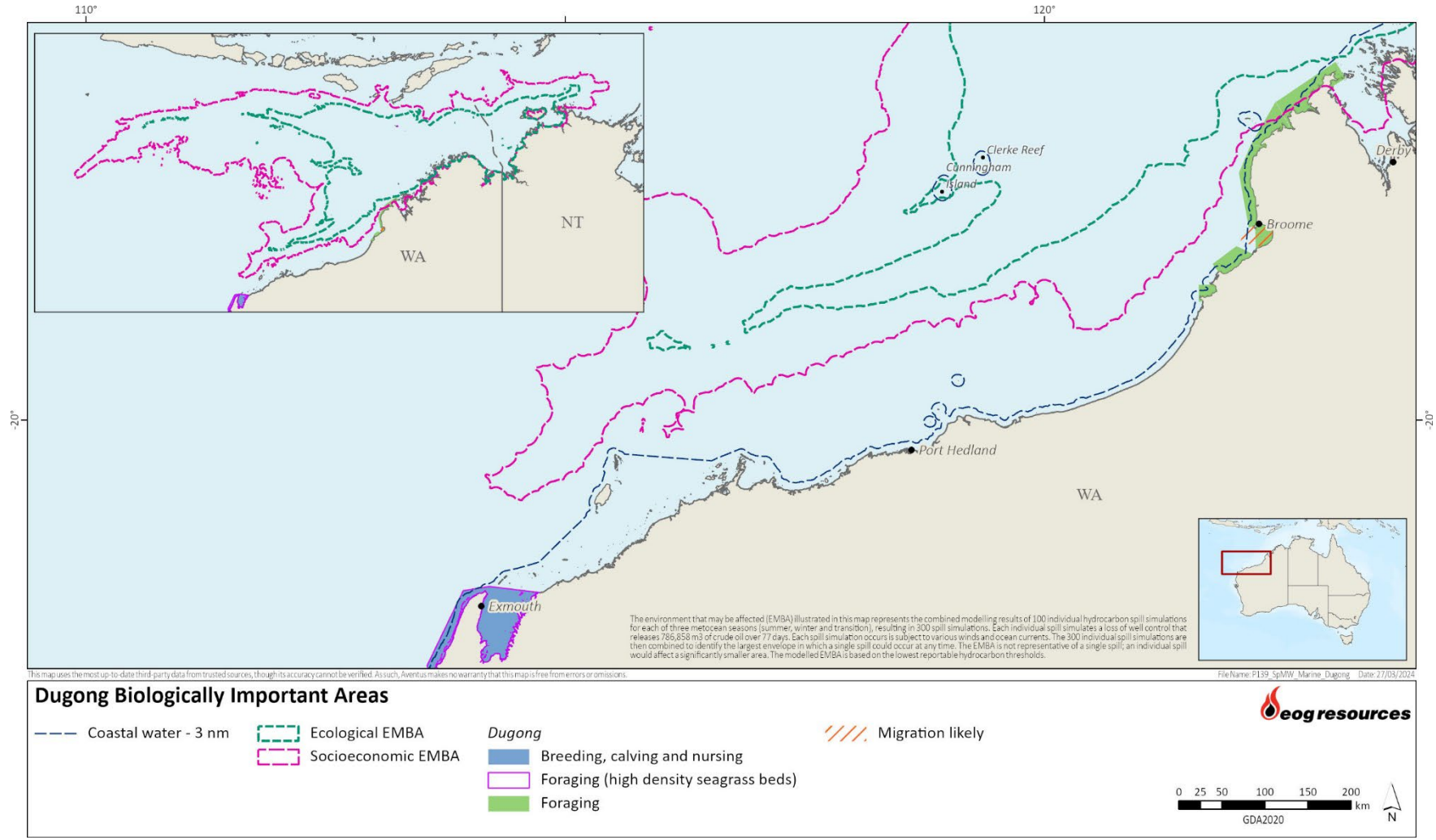


Figure 11.37 Dugong BIA in the spill EMBA

11.3.6 Reptiles

Six species of marine turtle are listed under the EPBC Protected Matters Search Tool (PMST) as potentially occurring in the spill EMBA, as listed in Table 11.7 (DCCEEW, 2024a). Three of the turtle species are listed as endangered, with the other three listed as vulnerable.

Species of marine turtles listed in Table 11.7 occur in and nest on the sandy beaches of WA, all of which are likely to be present within the spill EMBA. Details on these species are provided in this section. Ecological stages and temporal occupation of the turtle species is presented in Figure 5.20 in Section 5.4.6 of Chapter 5.

BIAs and habitat critical for turtle species that overlap the spill EMBA are presented in Table 11.8. Additionally, 26 species of seasnake were identified as potentially occurring in the spill EMBA (two of which are listed as critically endangered). Two species of crocodile and two species of terrestrial reptiles that are known to occur in coastal or semi-coastal habitats are also listed in Table 11.7.

Sea turtles are culturally important to First Nation groups, particularly to those groups who exist along the northern coast of Australia where sea turtles are abundant and were traditionally used as a food source and for other cultural purposes. The Balanggarra HCP, Wunambal Gaambera HCP, Dambimangari HCP and the Mayala Country Plan all discuss the current and historical cultural significance of sea turtles, particularly the green turtle as it is the most common turtle within the region. The green and hawksbill turtles are hunted for their meat that is shared amongst the community; however, the hawksbill turtle is poisonous if it is not prepared correctly in the traditional way. The flatback turtle is occasionally hunted for its meat, but more often for its eggs which are found on the mainland and inshore islands.

Turtle eggs can be used as drink (raw) or cooked as food (Balanggarra Aboriginal Corporation/KLC, 2011; Wunambal Gaambera Aboriginal Corporation, 2010; Dambimangari Aboriginal Corporation, 2012; Mayala Inninalang Aboriginal Corporation, 2019). Where water was not available, people were able to survive for a few days by obtaining moisture from sea turtle eggs (Vigilante *et al*., 2013). One of the earliest recorded encounters of Aboriginal people harvesting turtle eggs was recorded in 1819 on Lacrosse Island (WA) (within the EMBA) (Vigilante *et al*., 2013).

Table 11.7 EPBC Act-listed reptiles that may occur in the spill EMBA

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological spill EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Marine Turtles								
Caretta caretta	Loggerhead turtle	E	Yes	Yes	Yes	Yes	Yes	RP for all turtles in Australia
Chelonia mydas	Green turtle	V	Yes	Yes	Yes	Yes	Yes	
Dermochelys coriacea	Leatherback turtle	E	Yes	Yes	Yes	Yes	No	
Eretmochelys imbricate	Hawksbill turtle	V	Yes	Yes	Yes	Yes	Yes	
Lepidochelys olivacea	Olive ridley turtle	E	Yes	Yes	Yes	Yes	Yes	
Natator depressus	Flatback turtle	V	Yes	Yes	Yes	Yes	Yes	
Seasnakes								
Acalyptophis peronii	Horned seasnake	-	-	Yes	Yes	Yes	No	-
Aipysurus apraefrontalis	Short-nosed seasnake	CE	-	Yes	Yes	Yes	No	CA
Aipysurus duboisii	Dubois' seasnake	-	-	Yes	Yes	Yes	No	-
Aipysurus eydouxii	Spine-tailed seasnake	-	-	Yes	Yes	Yes	No	-
Aipysurus foliosquama	Leaf-scaled seasnake	CE	-	Yes	Yes	Yes	No	CA
Aipysurus fuscus	Dusky seasnake	-	-	Yes	Yes	Yes	No	-
Aipysurus laevis	Olive seasnake	-	-	Yes	Yes	Yes	No	-
Aipysurus tenuis	Brown-lined seasnake	-	-	Yes	Yes	Yes	No	-
Astrotia stokesii	Stokes' seasnake	-	-	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological spill EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Disteira kingii	Spectacled seasnake	-	-	Yes	Yes	Yes	No	-
Disteira major	Olive-headed seasnake	-	-	Yes	Yes	Yes	No	-
Emydocephalus annulatus	Turtle-headed seasnake	-	-	Yes	Yes	Yes	No	-
Enhydrina schistosa	Beaked seasnake	-	-	Yes	Yes	Yes	No	-
Ephalophis greyi	North-western mangrove seasnake	-	-	Yes	Yes	Yes	No	-
Hydrelaps darwiniensis	Black-ringed seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis atriceps	Black-headed seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis coggeri	Slender-necked seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis czeblukovi	Fine-spined seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis elegans	Elegant seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis inornatus	Plain seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis mcdowelli	Small-headed seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis ornatus	Spotted seasnake	-	-	Yes	Yes	Yes	No	-
Hydrophis pacificus	Large-headed seasnake	-	-	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological spill EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Lapemis hardwickii	Spine-bellied seasnake	-	-	Yes	Yes	Yes	No	-
Parahydrophis mertoni	Northern mangrove seasnake	-	-	Yes	Yes	Yes	No	-
Pelamis platurus	Yellow-bellied seasnake	-	-	Yes	Yes	Yes	No	-
Terrestrial reptiles								
Acanthophis hawkei	Plains death adder	V	-	-	Yes	Yes	No	CA
Cryptoblepharus gurrmul	Arafura snake-eyed skink	E	-	-	-	Yes	No	CA
Tiliqua scincoides intermedia	Northern blue-tongued Skink	CE	-	-	Yes	Yes	No	CA
Varanus mertensi	Mertens' water monitor	CE	-	-	Yes	Yes	No	CA
Varanus mitchelli	Mitchell's water Monitor	E	-	-	Yes	Yes	No	CA
Crocodiles								
Crocodylus johnstoni	Freshwater crocodile	-	-	Yes	Yes	Yes	No	-
Crocodylus porosus	Salt-water crocodile	-	Yes	Yes	Yes	Yes	No	-

Legend and key are the same as Table 11.2.

Table 11.8 BIAs and habitat critical to marine turtles within the EMBA

Species	BIA	Location within the EMBA	Habitat critical	Location within the EMBA
Loggerhead turtle	Foraging	James Price Point. Western Joseph Bonaparte Depression.	-	-
Green turtle	Foraging	Field Island (west and east). Joseph Bonaparte Gulf. James Point Price. Montgomery Reef.	Nesting	Garig Gunak Barlu National Park, Waters within the North Kimberley marine park west of Kalumburu, Ashmore reef, Seringapatam reef, Lacepede islands nature reserve.
	Inter-nesting	Islands north-east of Cobourg Peninsula. Northwest of Melville Island. Lacepede Island. Montebello Islands.		
	Inter-nesting buffer	Islands north-east of Cobourg Peninsula (20 km buffer). Northwest of Melville Island (20 km buffer). Cassini Island. Cartier Island. Ashmore Reef. Scott Reef.		
	Nesting	Cassini Island (low density nesting site). Ashmore Reef (low density nesting site). Scott Reef (major nesting site).		
	Mating	Montebello Islands (very high-density mating aggregations in inner lagoons and sheltered beaches).		
Leatherback turtle	Inter-nesting	Cobourg Peninsula.	Nesting	Croker Island and Garig Gunak Barlu National Park
Hawksbill turtle	Foraging	Ashmore Reef. Cartier Island.	Nesting	New Year Island
	Inter-nesting	Islands north-east of Cobourg Peninsula. Greenhill Island (off Cobourg Peninsula). Ashmore Reef. Scott Reef. Dampier Archipelago (islands to the west of the Burrup Peninsula). Barrow Island. Thevernard Island.		

Species	BIA	Location within the EMBA	Habitat critical	Location within the EMBA
	Inter-nesting buffer	Ashmore Reef. Scott Reef. Islands north-east of Cobourg Peninsula (20 km buffer). Greenhill Island (off Cobourg Peninsula) (20 km buffer). Dampier Archipelago (islands to the west of the Burrup Peninsula). Barrow Island		
	Nesting	Ashmore Reef (low density nesting site). Scott Reef. West of Cape Lambert. Dampier Archipelago (islands to the west of the Burrup Peninsula). Barrow Island. Thevernard Island and south coast.		
Olive ridley turtle	Foraging	Fog Bay Northern Joseph Bonaparte Gulf Western Joseph Bonaparte Depression Joseph Bonaparte Gulf Western Joseph Bonaparte Gulf - banks	Nesting	Tiwi Islands, Kakadu National Park, west of the Garig Gunak Barlu National Park, Augustus Island and Dampier peninsula
	Inter-nesting	Islands north-east of Cobourg Peninsula Greenhill Island (off Cobourg Peninsula) Bathurst Island/Melville Island - North-west Fog Bay and the Cox Peninsula		
Flatback turtle	Foraging	Western Joseph Bonaparte Depression James Price Point.	Nesting	Tiwi Islands, Kakadu National Park, Darwin, waters adjacent to Wyndham and Lacepede Islands
	Inter-nesting	Melville Island, Cobourg Peninsula. Scott Reef. Lacepede Island. Montebello Islands.		
	Inter-nesting buffer	Melville Island, Cobourg Peninsula (80 km buffer). Cape Domett. Lacepede Island. Eighty Mile Beach. Delambre Island. Legendre Island, Huay Island.		

Species	BIA	Location within the EMBA	Habitat critical	Location within the EMBA
		Dampier Archipelago (islands to the west of the Burrup Peninsula). Montebello Islands – Hermite Island, Northwest Island, Trimouille Island. Thevernard Island - South coast.		
	Nesting	Dampier Archipelago (islands to the west of the Burrup Peninsula) Delambre Island Legendre Island, Huay Island. Montebello Islands – Hermite Island, Northwest Island, Trimouille Island.		

Loggerhead turtle (EPBC Act: Endangered, listed migratory)

Loggerhead turtles are described in Section 5.4.6 of Chapter 5.

Loggerhead turtles are known to forage around the pinnacles of the Bonaparte Basin and the carbonate bank and terrace system of the Sahul Shelf KEFs. Two foraging BIAs for the loggerhead turtle overlap with the socio-economic EMBA (see Table 11.8 and Figure 11.38). No habitat critical to the survival of this species overlaps the spill EMBA, with the nearest area being close to the far western extent of the socio-economic EMBA near waters surrounding Exmouth (Figure 11.38).

Habitat critical to the survival of a species is defined in Section 5.4.6 of the EP.

Green turtle (EPBC Act: Vulnerable, listed migratory)

Green turtles are described in Section 5.4.6 of Chapter 5.

Nesting on the Scott Reef-Sandy Islet and Browse Island has been observed all year round with peaks between December and January (DoEE, 2017c). Satellite tracking studies have shown that green turtles migrate between breeding beaches and feeding grounds off the northwest coast (DoE, 2017c). However, during the internesting periods green turtles are known to remain within 10 km of nesting beaches (DoE, 2017c). The foraging, nesting and interesting BIAs and habitat critical to the survival of green turtles that overlap the EMBA are presented in Table 11.8.

The NCVA identifies that the EMBA overlaps the foraging BIA for this species (Figure 11.39). As such, green turtles are likely to occur in the EMBA. The closest nesting and interesting BIAs are also intersected by the EMBA (Table 11.8 and Figure 11.39). The EMBA overlaps areas of habitat critical to the survival of the green turtle around Cobourg Peninsula and Croker Island in the NT, the coastal areas of Kalumburu, Ashmore Reef, Scott Reef, Lacepede Islands and reaches the edge of critical habitat in the Montebello Islands Conservation Park (see Figure 11.39). Habitat critical to the survival of green turtles occurs at Ashmore Reef all year (peaking in January-February) and Scott Reef and Browse Island (November to March) (DoEE, 2022).

Leatherback turtle (EPBC Act; Endangered, listed migratory)

Leatherback turtles are described in Section 5.4.6 of Chapter 5.

No major nesting has been recorded in Australia, with isolated nesting recorded in Queensland and the NT (DSEWPC, 2012). Nesting occurs on tropical beaches and subtropical beaches (Marquez 1990), but no major centres of nesting activity have been recorded in Australia. The species is understood to migrate from Australian waters to breed at larger rookeries in neighbouring countries such as Indonesia, Papua New Guinea and Solomon Islands between December and January (DoE, 2008). The closest confirmed inter-nesting site for the leatherback turtle is at Cobourg Peninsula (DCCEEW, 2024b) located in the eastern extent of the EMBA (Table 11.8 and Figure 11.40). The spill EMBA overlaps with habitat critical to the survival of the leatherback turtle, within the waters surrounding the Garig Gunak Barlu National Park. Habitat critical is present between December and January (DoEE, 2017). The socio-economic spill EMBA extends into habitat critical to the survival of this species around Croker Island and Garig Gunak Barlu National Park, NT (see Figure 11.40).

Flatback turtle (EPBC Act: Vulnerable, listed migratory)

The flatback turtle (*Natador depressus*) is only found in Australian waters and some nearby waters in Indonesia and Papua New Guinea. It is commonly found in the NWMR and NMR, nesting in northern Australia and foraging in the region.

Breeding occurs all year round; however, in northern Australia most nesting occurs between June and August (DCCEEW, 2024b). Flatback turtle nesting is widespread across the islands and mainland beaches east of Dampier Peninsula in winter, with Cape Domett (within the spill EMBA) reported to support the highest density (Whiting *et al*., 2008). Flatback turtles nest at Cape Domett throughout the year. The Recovery Plan for Marine Turtles in Australia 2017 -2027 (DoEE, 2017c) notes that the peak nesting period at Cape Domett is July to September. The Cape Domett nesting population appears to be one of the largest known nesting populations of this species, with an estimated yearly population in the order of several thousand turtles (Whiting *et al*., 2008).

The 60 km inter-nesting buffer for flatback turtles in the Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia, 2017) is based primarily on the movements of tagged inter-nesting flatback turtles along the Northwest Shelf reported by Whittock et al (2016), which found that flatback turtles may demonstrate inter-nesting displacement distances up to 62 km from nesting beaches. However, these movements were confined to longshore movements in nearshore coastal waters or travel between island rookeries and the adjacent mainland (Whittock *et al*., 2016). There is no evidence to date to indicate flatback turtles swim out into deep offshore waters during the inter-nesting period. Flatback turtle hatchlings do not have an offshore pelagic phase. Instead, hatchlings grow to maturity in shallow coastal waters thought to be close to their natal beaches (DoEE, 2017c). Flatback turtle hatchlings do not undertake oceanic migrations like the juveniles of other turtle species do, but spend their juvenile life phase within continental shelf waters. The EMBA intersects an inter-nesting BIA, as illustrated in Figure 11.41 and outlined in Table 11.8.

Adult flatback turtles are primarily carnivorous, feeding on soft-bodied invertebrates. Juveniles eat gastropod molluscs, squid, siphonophores, and limited data indicate that cuttlefish, hydroids, soft corals, crinoids, molluscs and jellyfish are also eaten (DCCEEW, 2024b). The species has been recorded foraging in depths less than 10 m to over 40 m on the carbonate bank and terrace system of the Sahul Shelf KEF and around the pinnacles of the Bonaparte Basin KEF. The EMBA intersects a foraging BIA located in the Bonaparte Basin, as illustrated in Figure 11.41 and outlined in Table 11.8**.**

The NCVA identifies the area out to 60 km offshore from Cape Domett and Lacrosse Island in the Cambridge Gulf as a inter-nesting BIA for flatback turtles, which is intersected by the EMBA. Hence, it is likely that flatback turtles will be present in the EMBA. The habitat critical is defined as year-round peaking in July to September (DoEE, 2017). The spill EMBA overlaps habitat critical to the survival of the flatback turtle within the waters surrounding the Tiwi Islands, Kakadu National Park and Darwin (all year-round) as well as waters adjacent to Wyndham and Lacepede Islands (defined as critical from October to March) (see Figure 11.41).

Olive Ridley turtle (EPBC Act: Endangered, listed migratory)

The olive ridley turtle (*Lepidochelys olivacea*) has a worldwide tropical and sub-tropical distribution and is known to occur in both WA and the NT (DoEE 2017c). While nesting has been recorded in WA, it is far more common in the NT (DSEWPC, 2012).

Although olive ridley turtles nest all year round, nesting activity peaks around April to November, with the majority of nesting occurring from the Arnhem Land coast (including Bathurst Island, within the EMBA) to the northwest coast of Cape York Peninsula (Qld) (outside of the EMBA) (DSEWPC, 2012). After nesting, Olive Ridley turtles are known to migrate up to 1,050 km to various foraging areas (DCCEEW, 2024b), including the pinnacles of the Bonaparte Basin and the carbonate bank and terrace system of the Sahul Shelf KEF (DSEWPC, 2012).

The EMBA overlaps with the inter-nesting BIA of the olive ridley turtle located between Fog Bay and the Cox Peninsula (NT) (see Table 11.8 and Figure 11.42).

The olive ridley turtle is known to primarily forage in soft-bottom habitats ranging in depths from 6 – 35 m, though they are also known to forage in pelagic waters (DEWHA 2008b). Adult turtles forage for crabs, shrimp, tunicates, jellyfish, salps and algae in depths ranging from several metres to over 100 m (DCCEEW, 2024b). The NCVA identifies that EMBA overlaps with the foraging BIA for this species as outlined in Table 11.8 and Figure 11.42. The spill EMBA overlaps habitat critical to the survival of olive ridley turtle, within waters surrounding the Tiwi Islands and Kakadu National Park, and the west of the Garig Gunak Barlu National Park as well as waters surrounding Augustus Island and Dampier peninsula. Habitat critical is present year-round (DoEE, 2017). The spill EMBA overlaps the entirety of the waters surrounding Garig Gunak Barlu National Park in the NT, as well as Croker Island and multiple islands to the east and southeast of Croker Island (see Figure 11.42).

Hawksbill turtle (EPBC Act: Vulnerable, listed migratory)

Hawksbill turtles (*Eretmochelys imbricate*) are found in tropical, sub-tropical and temperate waters in all the oceans of the world (DoEE, 2017c). The hawksbill turtle is commonly found in the NWMR and NMR, nesting extensively along the coasts and foraging in the region.

As a juvenile, the hawksbill turtle feeds on plankton in the open ocean and then feeds on sponges, hydroids, cephalopods, gastropods, jellyfish, seagrass and algae as an adult (DCCEEW, 2024b). The species is also highly migratory, moving up to 2,400 km between foraging and breeding areas (DSEWPC, 2012). Due to genetic variability, Australia's population is considered to comprise of two distinct stocks; one in WA and the other in the northeast of Australia (DSEWPC, 2012). These distinct populations are also known to have significantly different breeding seasons.

Hawksbill turtles forage in waters ranging from 1.5 m to 84 m deep, and Fossette et al (2021) report that 17% of satellite tagged turtles (total n=42) foraged in waters greater than 20 m. Fossette et al (2021) reported less than a quarter of foraging area overlapped with designated foraging BIAs for hawksbill turtles (within the spill EMBA) and/or Commonwealth and State-managed protected areas.

The northeast sub-population breeds throughout the year with a peak nesting period during July to October (DSEWPC, 2012), while in the WA population breeding peaks around October to January.

The EMBA overlaps with foraging, nesting and inter-nesting BIAs for this species (see Table 11.8 and Figure 11.43. The ecological spill EMBA does not overlap with any habitat critical to the survival of the hawksbill turtle. The socio-economic EMBA overlaps habitat critical to the survival of this species on New Year Island, NT and approaches the edge of the Montebello Islands Conservation Park (see Figure 11.43).

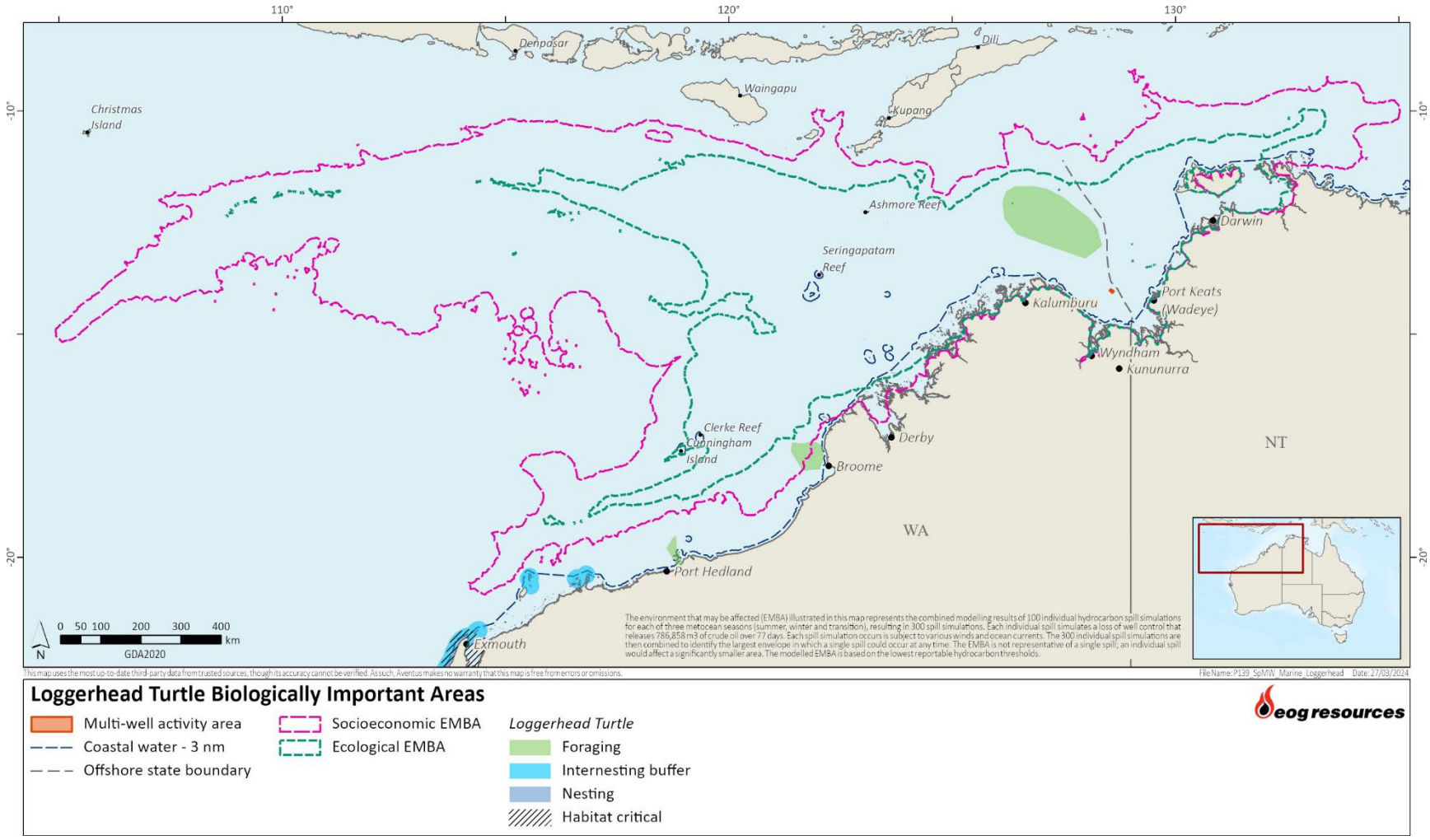


Figure 11.38 Loggerhead turtle BIA and habitat critical in the spill EMBA

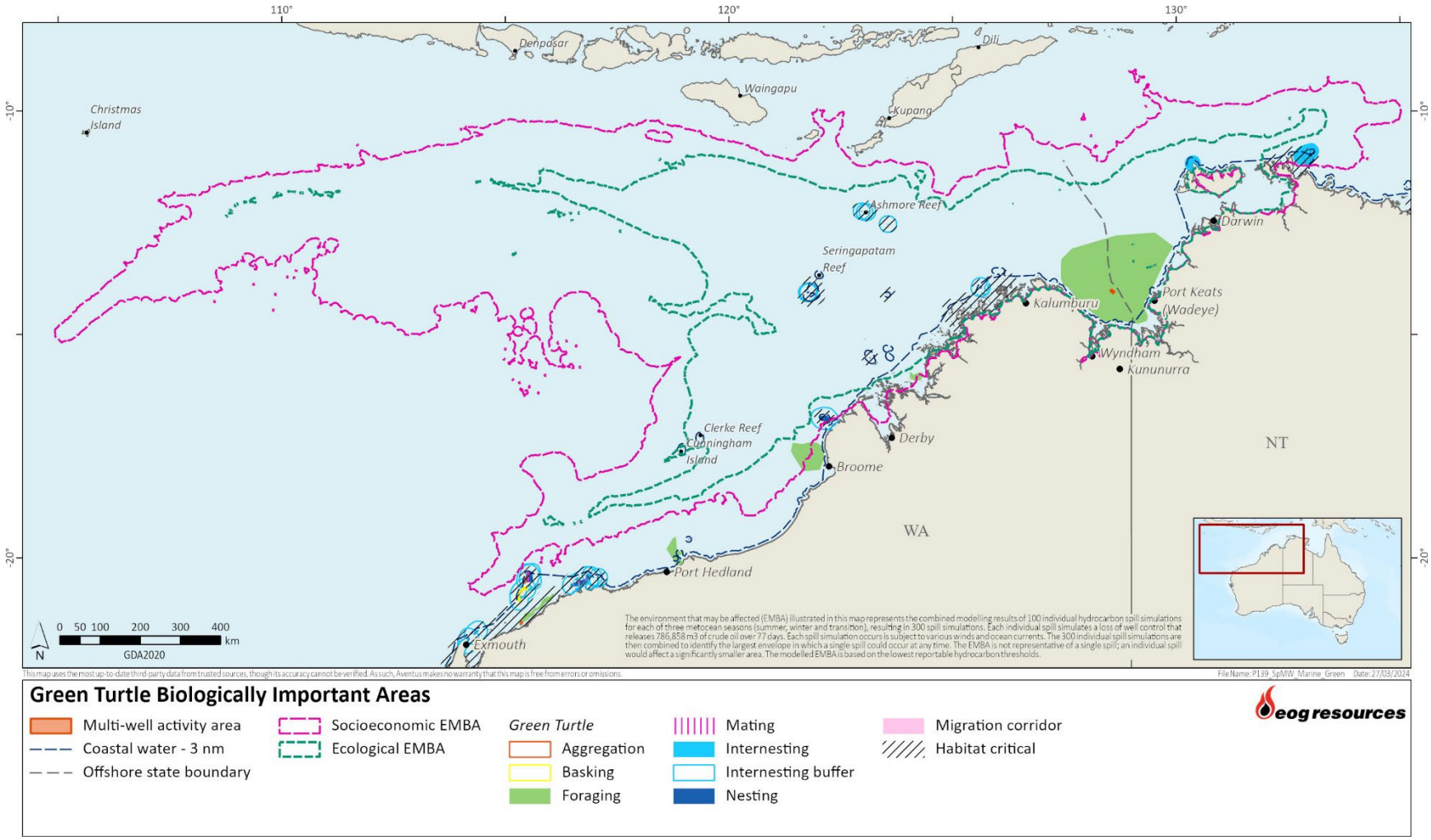


Figure 11.39 Green turtle BIA and habitat critical in the spill EMBA

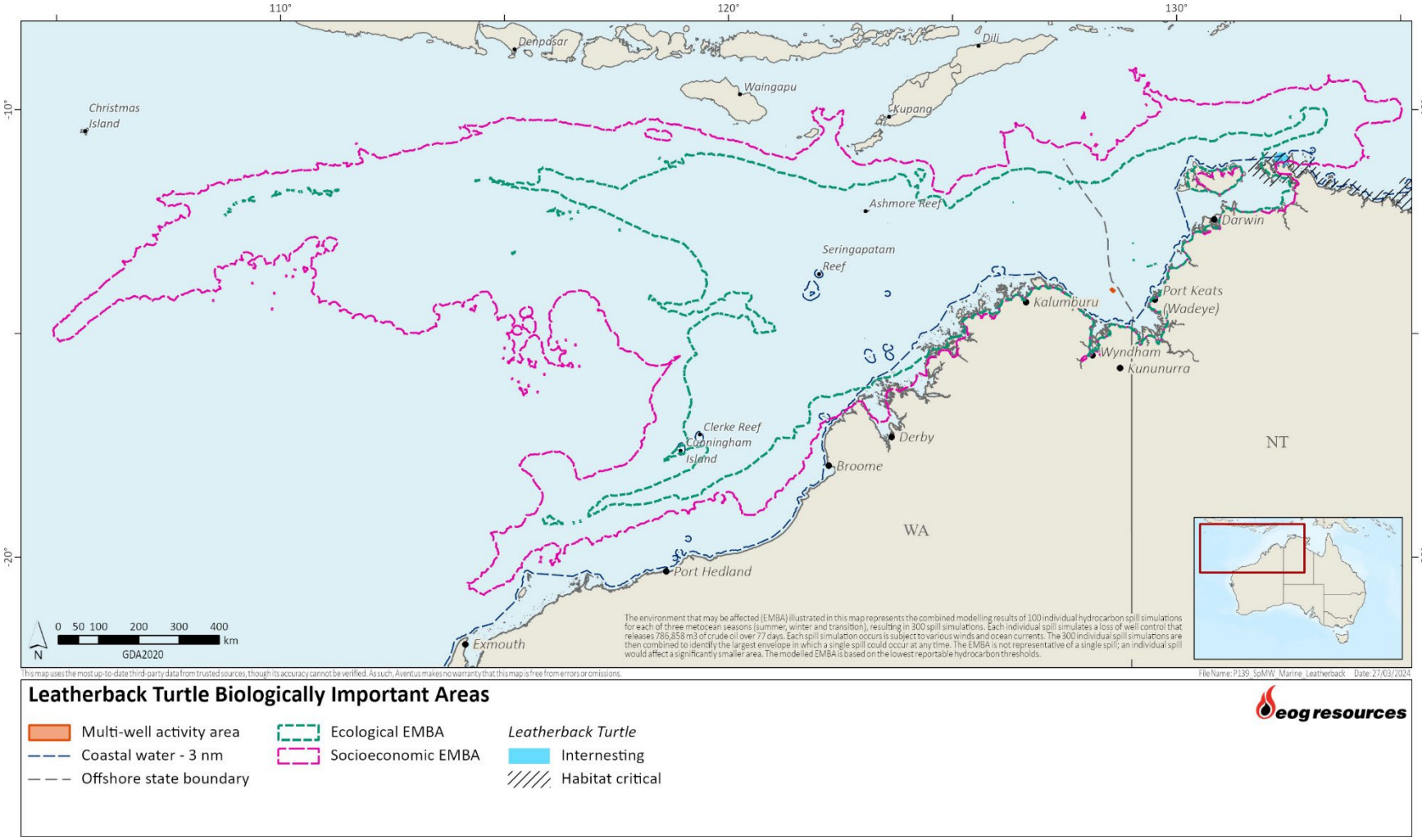


Figure 11.40 Leatherback turtle BIA and habitat critical in the spill EMBA

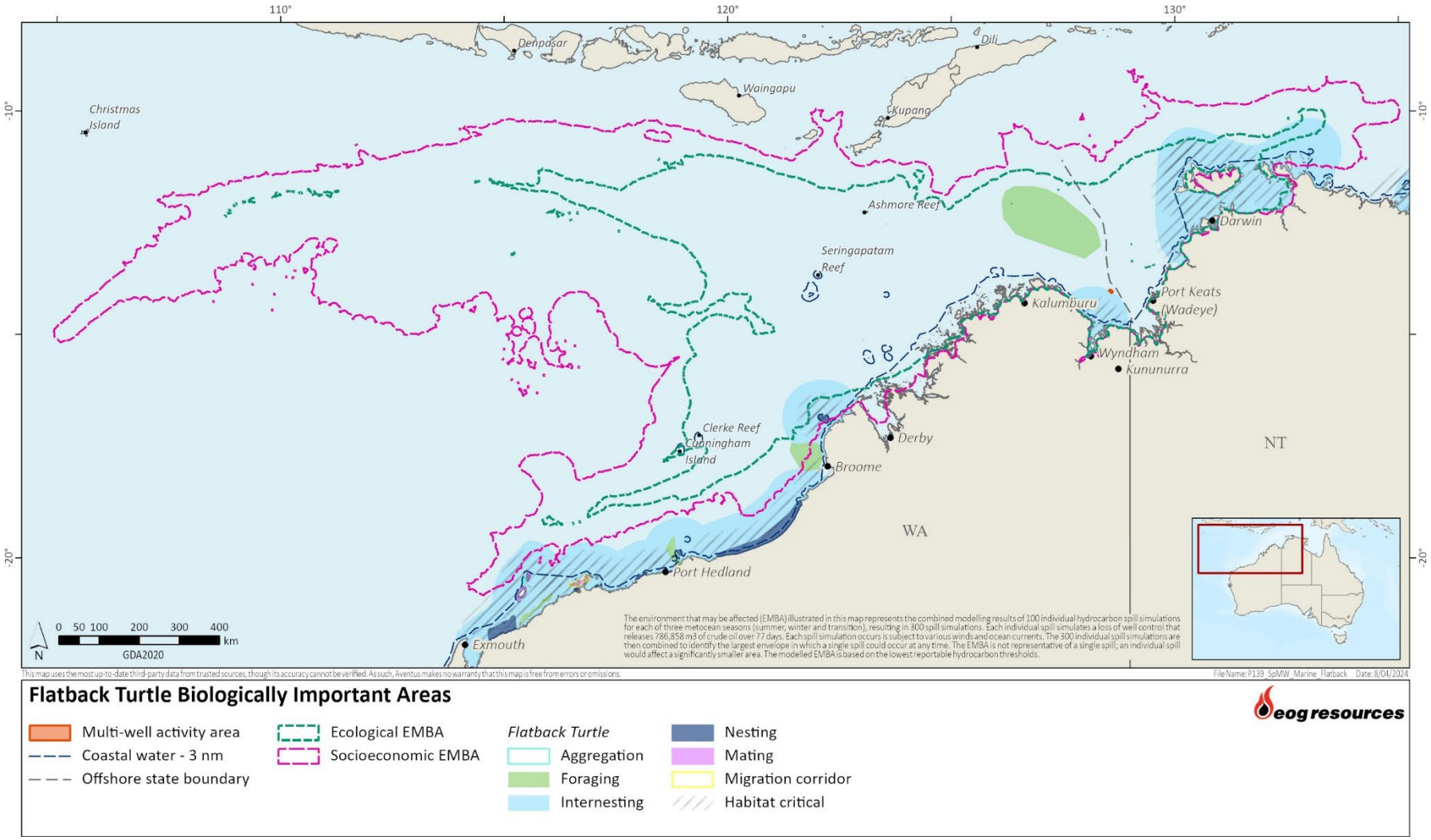


Figure 11.41 Flatback turtle BIA and habitat critical in the spill EMBA

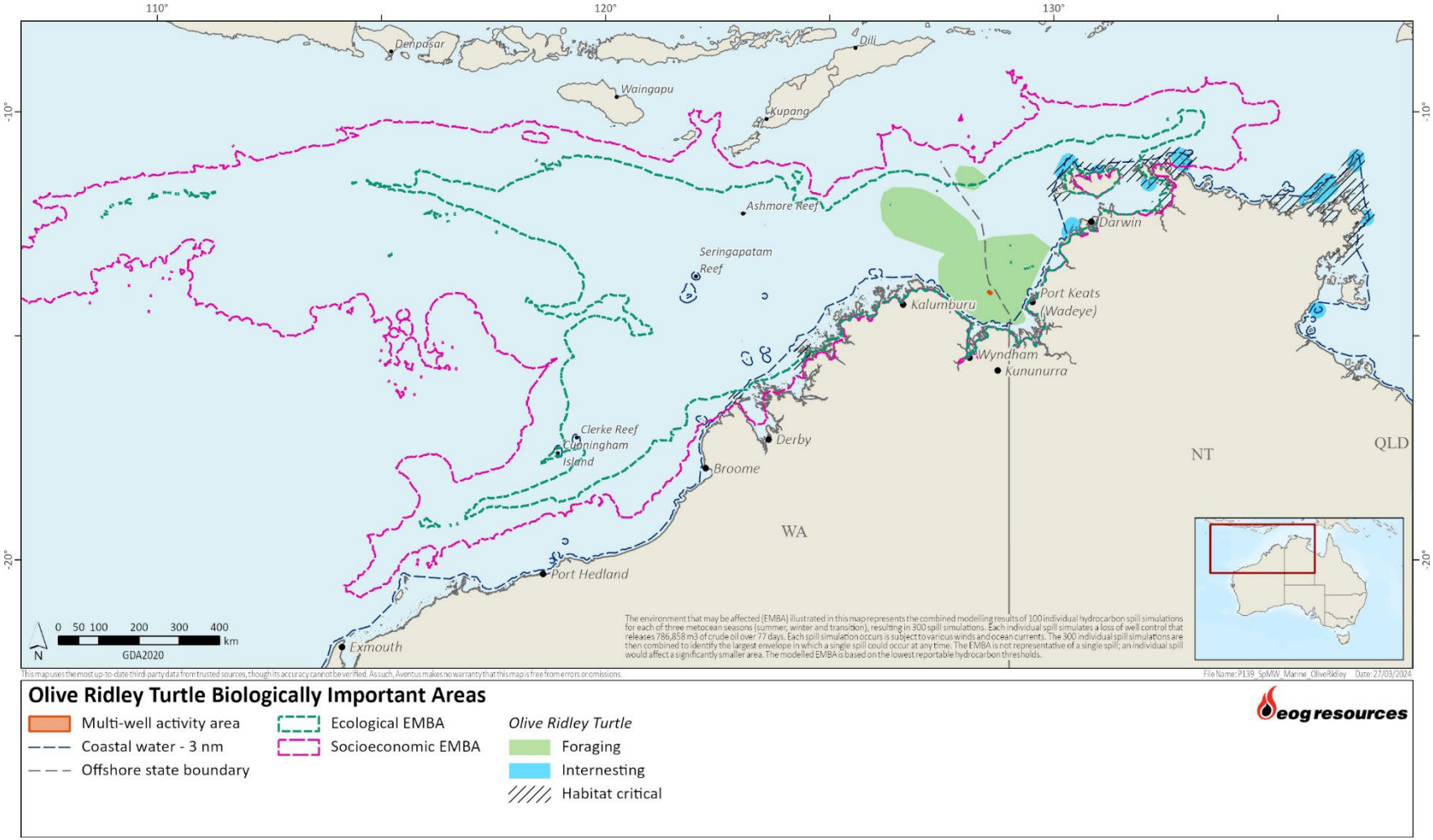


Figure 11.42 Olive Ridley turtle BIA and habitat critical in the spill EMBA

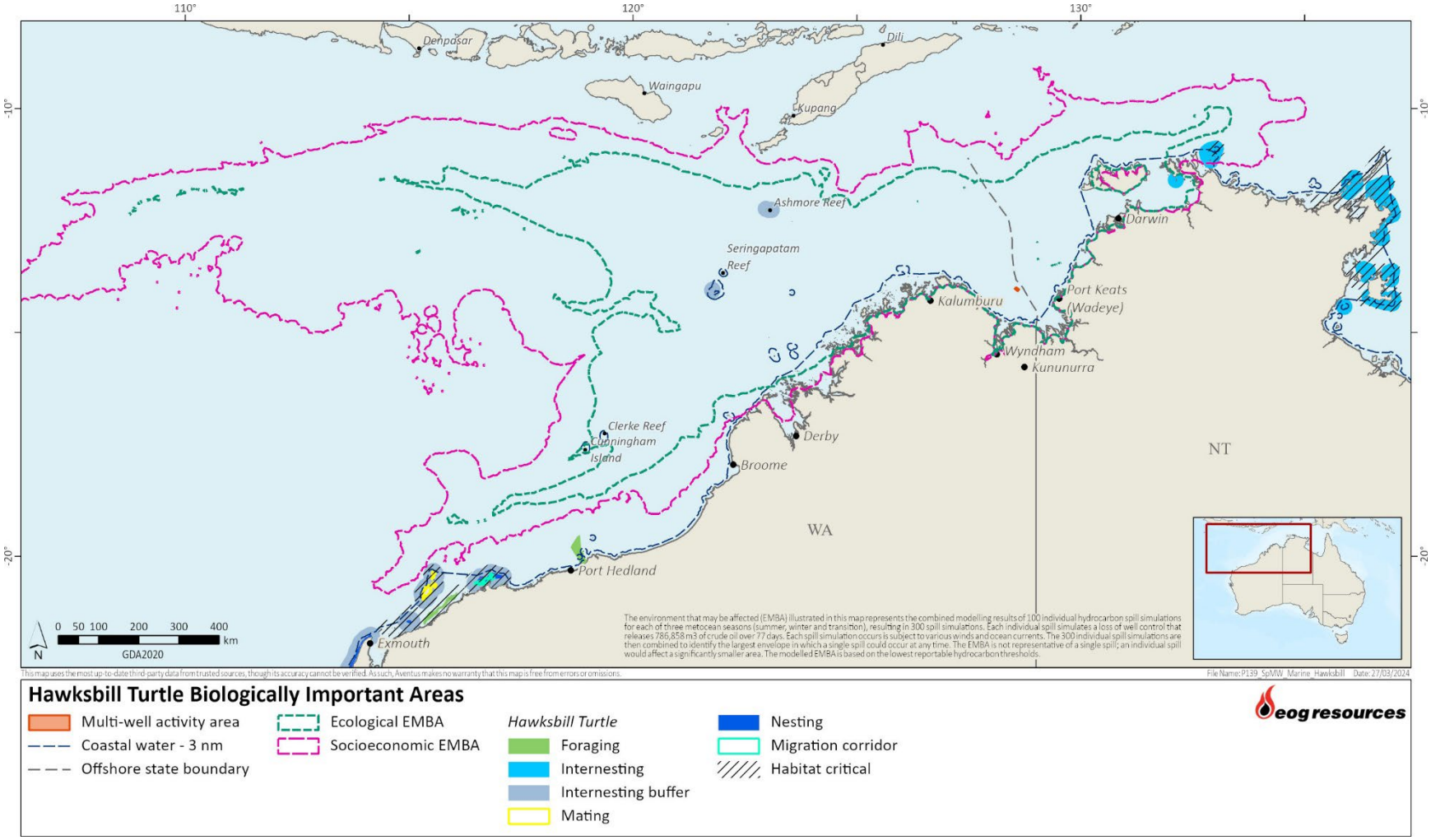


Figure 11.43 Hawksbill turtle BIA and habitat critical in the spill EMBA

Short-nosed seasnake (EPBC Act: Critically Endangered)

The short-nosed seasnake (*Aipysurus apraefrontalis*) is endemic to WA and occurs throughout the Northwest Shelf and eastern Indian Ocean. This fully aquatic species can grow up to 90 cm in length and prefers shallow coastal reef habitats.

Given the shallow water distribution of the species it is unlikely the species will occur within the activity area, however the species and species habitat may occur in the spill EMBA. Cartier Island and Ashmore Reef are internationally significant sites for their abundance and diversity of seasnakes, both of which are located outside the EMBA.

Leaf-scaled seasnake (EPBC Act: Critically Endangered)

The only known populations of the leaf-scaled seasnake (*Aipysurus foliosquama*) species inhabit the shallow reef habitats of the Sahul Shelf and Ashmore Reef (Minton and Heatwole, 1975), which are both located outside the activity area and EMBA.

Given the shallow water distribution, it is unlikely the species will occur within the activity area, but the species and species habitat is known to occur in the EMBA.

Saltwater crocodile (EPBC Act: Listed migratory)

The saltwater crocodile (*Crocodylus porosus*) is distributed from King Sound, WA throughout coastal NT to Rockhampton in Queensland, where it can be found in coastal waters, estuaries, lakes, inland swamps and marshes up to 150 km inland from the coast (DCCEEW, 2024b).

Preferred nesting habitat of the saltwater crocodile includes elevated, isolated freshwater swamps that do not experience the influence of tidal movements. Floating rafts of vegetation also provide important nesting habitat. In the NT, most nest sites are found on the north-west banks of rivers (DCCEEW, 2024b). The species nest during the wet season with peak nesting during January and February. Whilst sightings of saltwater crocodiles far out to sea have been recorded, it is more likely to be encountered in the coastal areas of the socio-economic EMBA than in the activity area.

Arafura snake-eyed skink (EPBC Act: Endangered)

The Arafura snake-eyed skink (*Cryptoblepharus gurrmul*) is a small, slender, relatively long-limbed, shallow-headed species of snake-eyed skink. The Arafura snake-eyed skink is endemic to the NT, where it is found only on three islands: North Goulburn Island (36 km^2), and two small (about 2 km^2) islands, New Year Island and Oxley Island, north-east of Croker Island (DEPWS, 2021b). Some individuals, when trapped on rocks, surrounded by water, will escape by swimming rapidly to a nearby rock or shore.

The Arafura snake-eyed skink is an agile and fast-moving terrestrial species, and are found in littoral habitats, including beach sands, rocks and coral rubble, on the three islands (DEPWS, 2021b). They forage amongst rocks in the intertidal zone, and retreat to fringing vegetation when confronted by an incoming tide. They feed on both terrestrial and small marine invertebrates, such as amphipods and polychaete worms (DEPWS, 2021b).

Threats to the Arafura Snake-eyed Skink are poorly understood due to insufficient information on the ecology of the species. Nonetheless, its highly restricted distribution presents a substantial risk. The coastline habitat of these islands may be exposed to periodic storm surges associated with cyclones and will be reduced in size with any rise in sea level: the highest points on Oxley and New Year Islands are about 12 m above sea level, but most of each island is <5 m above sea level (DEPWS, 2021b). The socio-economic EMBA intersects with the littoral zones of the three islands where the Arafura snake-eyed skink lives and forages.

Northern blue-tongued skink (EPBC Act: Endangered)

The northern blue-tongued skink (*Tiliqua scincoides intermedia*) became threatened in December 2023. The northern blue-tongue skink is a large, robust, short-limbed lizard that can reach up to 37 cm. the species is widely distributed in northern parts of Australia ranging from Eighty Mile Beach in WA to the Cloncurry area in western Queensland. The northern blue-tongue skink occurs in a wide variety of ecosystems from dissected sandstone plateaus and gorges, limestone ranges, granite, basalt and dolerite hills, glacial shale undulations, sand plains, sandy waterways, swamps, cracking clay floodplains and coastal flats. The species feeds on diverse diet of plants, insects, and other invertebrates (DCCEEW, 2023d).

Considering the northern blue-tongued skink is terrestrial, it is unlikely thy will be encountered within the EMBA, however, suitable habitat such as floodplains and coastal flats will be intercepted by the spill EMBA.

Water monitors (EPBC Act: Endangered and Critically Endangered)

Two species of water monitors were detected by the PMST, the Mertens' water monitor (*Varanus mertensi*) and the Mitchell's water monitor (*Varanus mitchelli*). Both species became threatened in December 2023 as Endangered and Critically Endangered respectively. The Mertens' water monitor is relatively large, robust lizard reaching up to 1.5 m in length (DCCEEW, 2023f), on the contrary the Mitchell's water monitor is a mere 70 cm length (DCCEEW, 2023e). Both species have a patchy distribution across tropical northern Australia, from the west Kimberley across the Top End of the Northern Territory. The Mertens' water monitors distribution extends further into QLD. Both species of water monitors feed on freshwater crabs, fish, insects, amphipods, insects and frogs (DCCEEW. 2023e, 2023f).

Mertens' water monitor is a highly aquatic lizard that rarely ventures more than 5–10 m from the edge of (fresh) water sources. Suitable habitat includes perennial and semi-permanent pools in upper catchment areas, including springs, seeps, swamps, creeks and gorges, the margins of permanent streams, rivers and lakes in lower catchment areas, gloodplain billabongs, lagoons, swamps and soaks, perennial waterholes in woodlands, and man-made irrigation channels and the margins of dams (DCCEEW, 2023f). The Mitchell's water monitor inhabits freshwater and saline wetlands that range from seasonal gorges in upper catchments to large rivers and coastal floodplains. It is recorded from rivers, creeks, riffle zones, gorges, springs, lagoons, swamps, mangroves, and foreshores (DCCEEW, 2023e).

Due to habitat preferences, it is unlikely that the Mertens' water monitor will be encountered in the EMBA. However, the Mitchell's water monitor may be present.

Plains death adder (EPBC Act: Vulnerable)

The plains death adder (*Acanthophis hawkei)* is a relatively short (70 cm long on average) stout snake with a triangular head and narrow neck. They have a disconnected and poorly defined distribution in the NT and western Queensland (DEPWS, 2021a). In NT, the species occurs on cracking soil floodplains of the Adelaide, Mary and Alligator Rivers. It is more widely distributed on the cracking black soils of the Barkly Tableland on the NT/QLD border and the Mitchell Grass Downs of western QLD. The plains death adder is highly venomous and feeds on frogs, reptiles, rodents and other small to medium sized mammals (DEPWS, 2021a).

The primary threat to the plains death adder is the advance of cane toads in the NT. Death adders are naive to toads and their toxins, but because of their specialised ambush foraging tactics they successfully attract and catch toads. As a consequence, plains death adders die in large numbers when toads arrive in an area (DEPWS, 2021a). Due to the habitat preferences of the plains death adder being

cracked floodplain soils, it may occur within coastal areas of the spill EMBA where they intersect with floodplains that connect to the ocean.

11.3.7 Avifauna

There are 84 bird species (32 seabirds and 52 shorebirds) listed under the EPBC Act with potential to occur in the spill EMBA (DCCEEW, 2024a).

The majority of these are listed as migratory and marine species, with four listed as critically endangered, 12 as endangered and 11 as vulnerable. The PMST results also includes terrestrial species of birds that are protected under the EPBC Act. Any terrestrial bird species detected by the PMST search that do not occur or migrate through coastal areas are not presented in Table 11.9 or discussed further. The bird species listed as both threatened and are marine or coastal, (Table 11.9) or with a BIA intersected by the EMBA (see Table 11.10) are described in this section.

Figure 5.25 in Section 5.4.7 of Chapter 5 illustrates the likely temporal presence and absence and ecological stages of these bird species in the activity area and EMBA.

Many of the birds listed in Table 11.9 are listed in the following international conventions that aim to protect the birds themselves and their habitat:

- Republic of Korea Migratory Birds Agreement 2006 (ROKAMBA);
- Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment 1986 (CAMBA);
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979;
- Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment 1974 (JAMBA); and
- Convention on Wetlands of International Important especially as Waterfowl Habitat 1971 ('Ramsar Convention', see also Section 11.4.5).

Table 11.9 EPBC Act-listed bird species that may occur in the spill EMBA

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Seabirds								
Anous stolidus	Common noddy	-	Yes	Yes	Yes	Yes	No	-
Anous tenuirostris melanops	Australian lesser noddy	V	-	Yes	Yes	Yes	No	CA
Anous minutus	Black noddy	-	-	Yes	Yes	Yes	No	No
Anseranas semipalmata	Magpie goose	-	-	Yes	Yes	Yes	No	No
Ardenna pacifica	Wedge-tailed shearwater	-	Yes	Yes	Yes	Yes	Yes	-
Bubulcus ibis	Cattle egret	-	-	Yes	Yes	Yes	No	-
Calonectris leucomelas	Streaked shearwater	-	Yes	Yes	Yes	Yes	No	-
Chalcites osculans	Black-eared cuckoo	-	-	Yes	Yes	Yes	No	No
Fregata andrewsi	Christmas Island Frigatebird	E	Yes	Yes	-	Yes	No	CA, RP
Fregata ariel	Lesser frigatebird	-	Yes	Yes	Yes	Yes	Yes	-
Fregata minor	Greater frigatebird	-	Yes	Yes	Yes	Yes	Yes	-
Haliaeetus leucogaster	White-bellied sea-eagle	-	-	Yes	Yes	Yes	No	-
Hydroprogne caspia	Caspian tern	-	Yes	Yes	Yes	Yes	No	-
Macronectes giganteus	Southern giant petrel	E	Yes	Yes	-	Yes	No	RP

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Onychoprion anaethetus	Bridled tern	-	Yes	Yes	Yes	Yes	No	-
Pandion haliaetus	Osprey	-	Yes	Yes	Yes	Yes	No	-
Papasula abbotti	Abbott's booby	E	-	Yes	Yes	Yes	No	CA
Phaethon lepturus	White-tailed tropicbird	-	Yes	Yes	Yes	Yes	Yes	-
Phaethon lepturus fulvus	Christmas Island white-tailed tropicbird	E	-	Yes	Yes	Yes	No	-
Phaethon rubricauda	Red-tailed tropicbird	E	Yes	Yes	Yes	Yes	No	-
Sterna bengalensis	Lesser crested tern	-	-	Yes	Yes	Yes	Yes	-
Sterna bergii	Crested tern	-	Yes	Yes	Yes	Yes	Yes	-
Sterna caspia	Caspian tern	-	Yes	Yes	Yes	Yes	No	-
Sterna dougallii	Roseate tern	-	Yes	Yes	Yes	Yes	Yes	-
Sterna fuscata	Sooty tern	-	-	Yes	Yes	Yes	No	-
Sterna nereis	Fairy tern	-	-	Yes	Yes	-	No	-
Sternula nereis nereis	Australian fairy Tern	V	-	-	-	Yes	No	CA, RP
Sternula albifrons	Little tern	-	Yes	Yes	Yes	-	Yes	-
Sula dactylatra	Masked booby	-	Yes	Yes	Yes	Yes	No	-
Sula leucogaster	Brown booby	-	Yes	Yes	Yes	Yes	Yes	-
Sula sula	Red-footed booby	-	Yes	Yes	Yes	Yes	Yes	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Thalassarche carteri	Indian yellow-nosed albatross	V	Yes	Yes	-	Yes	No	RP
Shorebirds								
Acrocephalus orientalis	Oriental reed-warbler	-	Yes	Yes	Yes	Yes	No	-
Actitis hypoleucos	Common sandpiper	-	Yes	Yes	Yes	Yes	No	-
Apus pacificus	Fork-tailed swift	-	Yes	Yes	Yes	Yes	No	-
Arenaria interpres	Ruddy turnstone	V	Yes	Yes	Yes	Yes	No	-
Calidris acuminata	Sharp-tailed sandpiper	V	Yes	Yes	Yes	Yes	No	-
Calidris alba	Sanderling	-	Yes	Yes	Yes	Yes	No	-
Calidris canutus	Red knot	E	Yes	Yes	Yes	Yes	No	CA
Calidris ferruginea	Curlew sandpiper	CE	Yes	Yes	Yes	Yes	No	CA
Calidris melanotos	Pectoral sandpiper	-	Yes	Yes	Yes	Yes	No	-
Calidris ruficollis	Red-necked stint	-	Yes	Yes	Yes	Yes	No	-
Calidris subminuta	Long-toed stint	-	Yes	Yes	Yes	Yes	No	-
Calidris tenuirostris	Great knot	CE	Yes	Yes	Yes	Yes	No	CA
Cecropis daurica	Red-rumped swallow	-	Yes	Yes	Yes	Yes	No	-
Charadrius dubius	Little ringed plover	-	Yes	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Charadrius leschenaultia	Greater sand plover	V	Yes	Yes	Yes	Yes	No	CA
Charadrius mongolus	Lesser sand plover	E	Yes	Yes	Yes	Yes	No	CA
Charadrius ruficapillus	Red-capped Plover	-	-	Yes	Yes	Yes	No	-
Charadrius veredus	Oriental plover	-	Yes	Yes	Yes	Yes	No	-
Epthianura crocea tunneyi	Alligator Rivers Yellow Chat	E	-	-	Yes	Yes	No	CA
Erythrotriorchis radiatus	Red Goshawk	V	-	-	Yes	Yes	No	CA
Gallinago megala	Swinhoe's snipe	-	Yes	Yes	Yes	Yes	No	-
Gallinago stenura	Pin-tailed snipe	-	Yes	Yes	Yes	Yes	No	-
Glareola maldivarum	Oriental pratincole	-	Yes	Yes	Yes	Yes	No	-
Himantopus himantopus	Pied Stilt	-	-	Yes	Yes	Yes	No	-
Hirundo rustica	Barn swallow	-	Yes	Yes	Yes	Yes	No	-
Limicola falcinellus	Broad-billed Sandpiper	-	Yes	Yes	Yes	Yes	No	-
Larus novaehollandiae	Silver gull	-	-	Yes	Yes	Yes	No	-
Limnodromus semipalmatus	Asian dowitcher	V	Yes	Yes	Yes	Yes	No	-

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Limosa lapponica	Bar-tailed godwit	-	Yes	Yes	Yes	Yes	No	-
Limosa lapponica baueri	Nunivak bar-tailed godwit	V	-	-	Yes	Yes	No	CA
Limosa lapponica menzbieri	Northern Siberian bar-tailed godwit	CE	-	-	Yes	Yes	No	CA
Limosa limosa	Black-tailed godwit	E	Yes	Yes	Yes	Yes	No	-
Merops ornatus	Rainbow bee-eater	-	-	Yes	Yes	Yes	No	No
Motacilla cinerea	Grey wagtail	-	Yes	Yes	Yes	Yes	No	-
Motacilla flava	Yellow wagtail	-	Yes	Yes	Yes	Yes	No	-
Numenius madagascariensis	Eastern curlew	CE	Yes	Yes	Yes	Yes	No	CA
Numenius minutus	Little curlew	-	Yes	Yes	Yes	Yes	No	-
Numenius phaeopus	Whimbrel	-	Yes	Yes	Yes	Yes	No	-
Pluvialis fulva	Pacific golden plover	-	Yes	Yes	Yes	Yes	No	-
Pluvialis squatarola	Grey plover	V	Yes	Yes	Yes	Yes	No	-
Rhipidura rufifrons	Rufous fantail	-	Yes	Yes	Yes	Yes	No	-
Rostratula australis	Australian painted snipe	E	-	Yes	Yes	Yes	No	CA

Scientific name	Common name	EPBC Act Status			Presence		BIA intersected by ecological EMBA?	Recovery Plan in place?
		Threatened	Migratory	Marine	Ecological EMBA	Socio-economic EMBA		
Rostratula benghalensis (sensu lato)	Painted snipe	E	-	Yes	Yes	Yes	No	CA
Stiltia isabella	Australian Pratincole	-	-	Yes	Yes	Yes	No	-
Thalasseus bergii	Greater crested tern	-	Yes	Yes	Yes	Yes	No	-
Tringa brevipes	Grey-tailed tattler	-	Yes	Yes	Yes	Yes	No	-
Tringa glareola	Wood sandpiper	-	Yes	Yes	Yes	Yes	No	-
Tringa incana	Wandering tattler	-	Yes	Yes	Yes	Yes	No	-
Tringa nebularia	Common greenshank	E	Yes	Yes	Yes	Yes	No	-
Tringa stagnatilis	Marsh sandpiper	-	Yes	Yes	Yes	Yes	No	-
Tringa totanus	Common redshank	-	Yes	Yes	Yes	Yes	No	-
Xenus cinereus	Terek sandpiper	V	Yes	Yes	Yes	Yes	No	-

Table 11.10 BIAs of bird species within the EMBA

Species	BIA	Location within the EMBA
Wedge-tailed shearwater	Breeding	Kimberley coastline and islands including Ashmore Reef.
Lesser frigatebird	Breeding	Kimberley coastline and islands including Ashmore Reef.
Greater frigatebird	Breeding	Kimberley and Ashmore Reef.
White-tailed tropicbird	Breeding	Kimberley coastline and islands including Ashmore Reef.
Roseate tern	Breeding	Kimberley coastline and islands including Ashmore Reef.
Little tern	Breeding and resting	Kimberley coastline and islands including Ashmore Reef.
Crested tern	Breeding (in high numbers)	No. 2 Sandy Island (Cobourg Peninsula). Seagull Island, off NW of Cape Van Diemen, Melville Island
Lesser crested tern	Breeding	Kimberley coastline and islands including Ashmore Reef.
Bridled tern	Breeding (in high numbers)	No. 2 Sandy Island (Cobourg Peninsula).
Brown booby	Breeding	Kimberley and northern Pilbara coasts and islands also Ashmore Reef.
Red-footed booby	Breeding	Northwest Kimberley and Ashmore reef.

Seabirds

Wedge-tailed shearwater (EPBC Act: Listed Migratory)

The wedge-tailed shearwater (*Ardenna pacifica*) is a medium-sized seabird and inhabits oceanic waters off WA except when roosting in colonies. Foraging at sea, the species feeds mostly on fish, cephalopods, insects, jellyfish and prawns. Ashmore Reef has been identified as an important area for this species (DEWHA, 2008b).

According to the National Conservation Values Atlas (NCVA) (DCCEEW, 2024a) the nearest BIA (Ashmore Reef) is greater than 500 km northwest of the activity area. It is likely that the species will be present in the spill EMBA (see Table 11.10 and Figure 11.44).

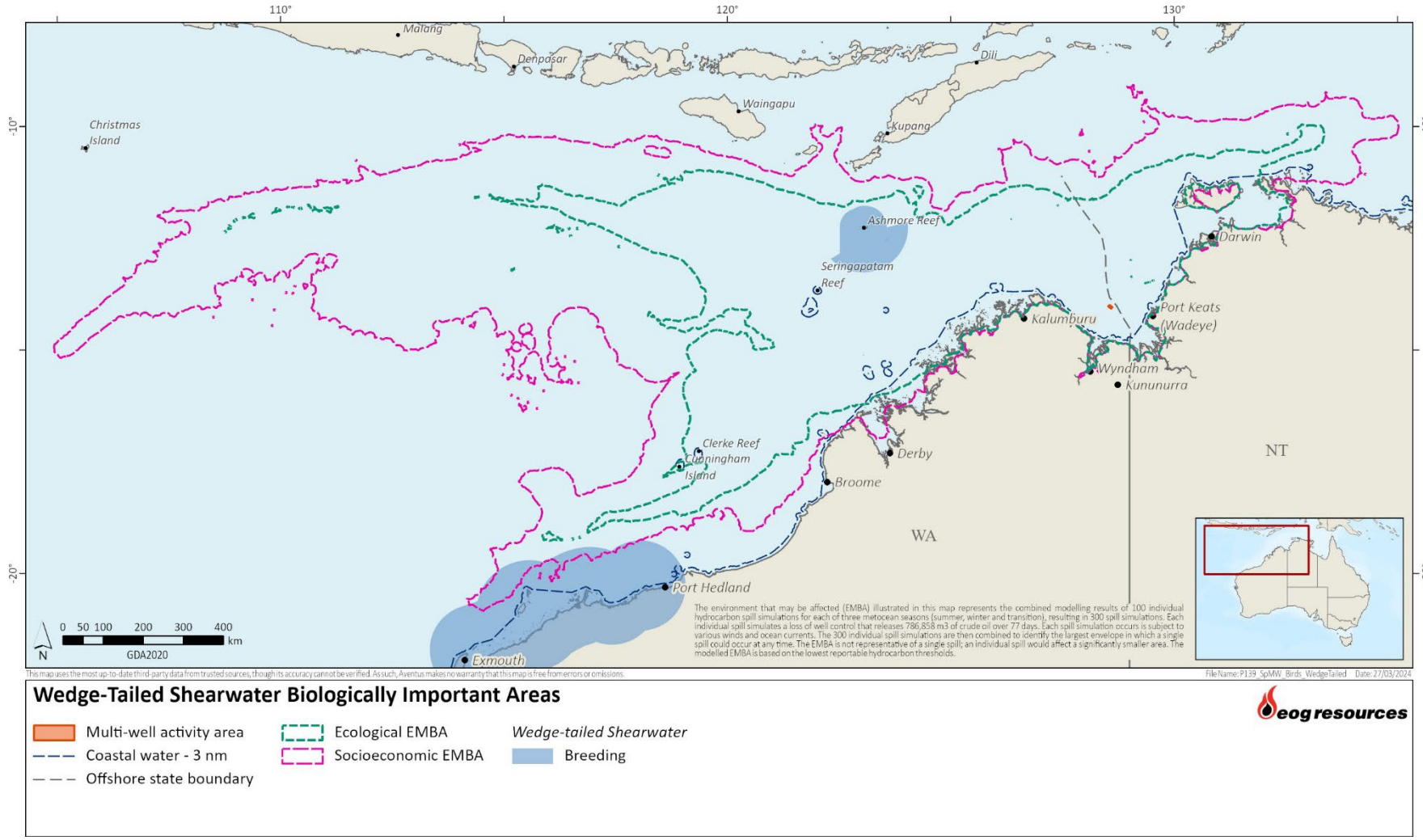


Figure 11.44 Wedge-tailed shearwater BIA in the spill EMBA

Christmas Island Frigatebird (EPBC Act: Endangered, Listed Migratory)

The Christmas Island frigatebird (*Fregata andrewsi*) is a very large seabird that primarily forages in the ocean for food, scooping marine organisms such as fish and squid (DCCEEW, 2024a). Christmas Island is the only place in the world where the Christmas Island frigatebird breeds and nests in the forest canopy (DCCEEW, 2024a).

Given the distance to breeding and nesting sites, it is unlikely that this species will be present in the activity or spill EMBA.

Southern giant petrel (EPBC Act: Endangered, Listed Migratory)

The southern giant petrel (*Macronectes giganteus*) is the largest of the petrels. They are a highly migratory bird and widespread throughout the Southern Ocean (DCCEEW, 2024a). This species occurs from Antarctic to subtropical waters and breeds on the Antarctic continent, peninsular and islands and on subantarctic islands and South America. Breeding occurs annually between August and March (DCCEEW, 2024a).

All waters within Australian jurisdiction can be considered foraging habitat, however the most critical foraging habitat is considered to be those waters south of 25 degrees where most species spend the majority of their foraging time. The southern giant petrel is an opportunistic scavenger and predator that scavenge on penguin carcasses and feed on seals and carrions. It also eats a wide variety of seabirds, penguin chicks, crustacean, kelp, fish, jellyfish and rabbits.

Given there are no breeding BIA for this species in the activity area and their preference to forage in southern waters off Australia, it is highly unlikely that the southern giant petrel will be present in the spill EMBA.

Roseate tern (EPBC Act: Listed Migratory)

The roseate tern (*Sterna dougallii*) occurs throughout various coastal habitats including beaches, reefs and sandy/coral islands. It is a specialist forager for small pelagic fish (DCCEEW, 2024b). The terns prefer nesting sites adjacent to clear shallow hunting areas. Nests are generally a bare scrape in sand, shingle or coral rubble. The species breeds in large mixed-species colonies from April to June, with breeding populations located around Ashmore Reef, Cartier Island and Scott Reef (located in the EMBA) (DEWHA, 2008b). Little information is available about migratory movements or timing through the northwest of Australia.

A breeding BIA for the species is intersected by the EMBA at coastal islands off the north Kimberley coast (Table 11.10 and Figure 11.45). Foraging, feeding or related behaviours are likely to occur within the offshore and coastal areas of the EMBA (Table 11.10).

Little tern (EPBC Act: Listed Migratory)

The little tern (*Sternula albifrons*) is a small and slender tern that is found throughout the coast from Broome extending to the NT. Breeding sites are widely distributed across the northwest of WA, with breeding occurring in late April-July and September to early January. There is a lack of information about their migration however however recorded numbers of the species are lowest in the dry season. The EMBA overlaps breeding and resting BIAs for this species along the Kimberley coast and islands including Ashmore Reef (see Table 11.10 and Figure 11.46).

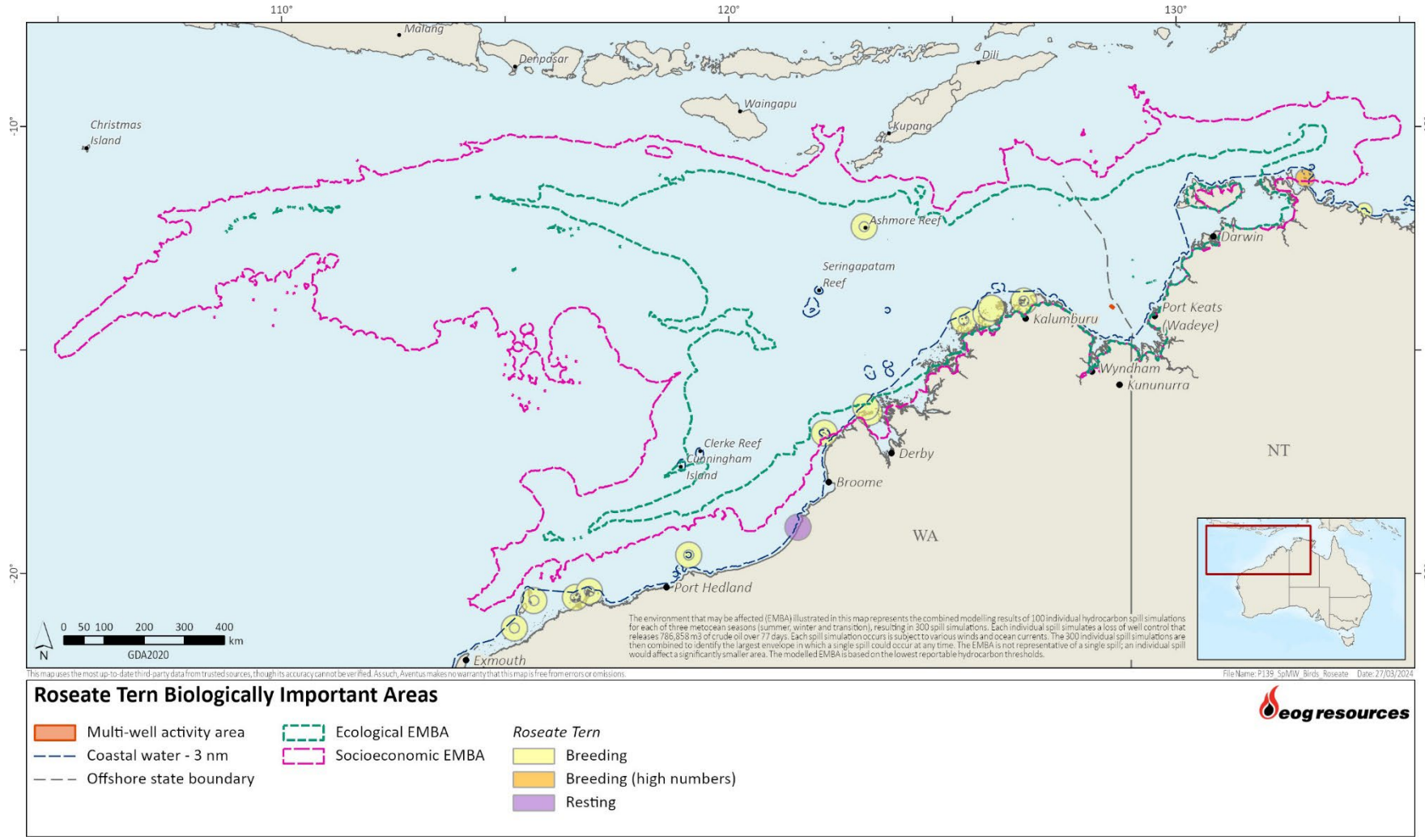


Figure 11.45 Roseate tern BIA in the spill EMBA

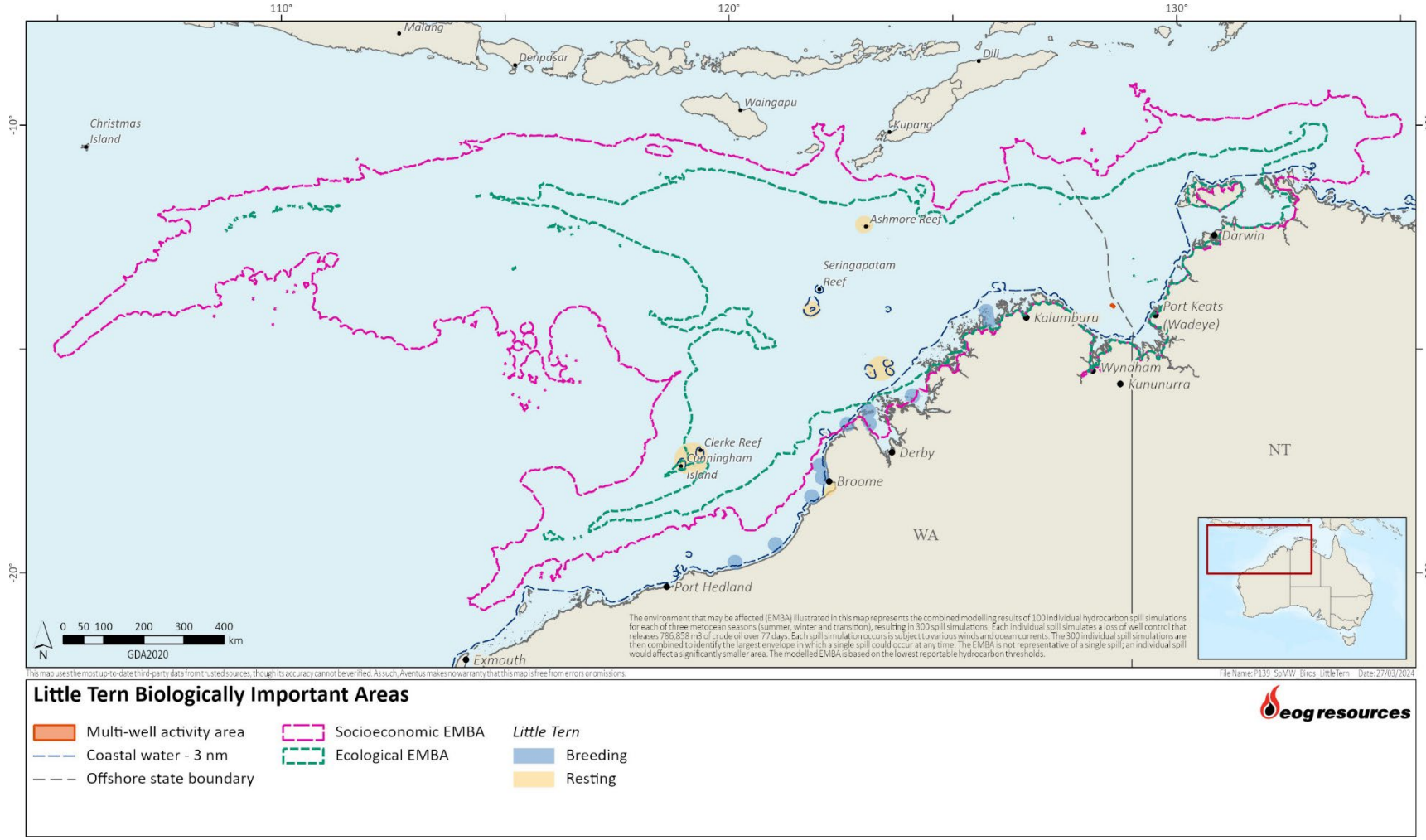


Figure 11.46 Little tern BIA in the spill EMBA

Lesser frigatebird (EPBC Act: Listed Migratory)

Lesser frigatebirds (*Fregata ariel*) are usually observed in tropical waters around the coast of northern WA, NT, Queensland and NSW (DSEWPC, 2012). They are often found foraging far offshore, especially during the non-breeding season where some large movements have been recorded (DSEWPC, 2012). During the breeding season (March - September), the lesser frigatebird's range remains close to the breeding colonies (DSEWPC, 2012).

Within the NWMR, the lesser frigatebird is known to breed on Adele, Bedout and West Lacepede islands, Ashmore Reef and Cartier Islands (DEWHA, 2008b). Breeding occurs between March and September along the Kimberley and Pilbara coasts and islands (DCCEEW, 2024b). The EMBA overlaps the Kimberley and Pilbara coasts and islands (including Ashmore Reef) breeding BIA for this species as presented in Table 11.10 and Figure 11.47.

Greater frigatebird (EPBC Act: Listed Migratory)

The greater frigatebird (*Fregata minor*) has a global distribution range throughout the world's tropical seas. Greater frigatebirds undertake regular migrations across their range. Breeding occurs from May to June and August, with the closest breeding colonies identified on Ashmore Reef and Adele Island (DCCEEW, 2024b). The greater frigatebird forages in pelagic waters within 80 km of the breeding colony or roosting areas (ALA, 2022).

Greater frigatebrids commonly eat fish species such as flying fish and squid. Prey is snatched while in flight, either from just below the surface or from the air, in the case of flying fish flushed from the water. The EMBA overlaps with the Kimberley and Ashmore Reef breeding BIAs for this species (Table 11.10 and Figure 11.48).

Lesser crested tern (EPBC Act: Listed Migratory)

The lesser crested tern (*Thalasseus bengalensis*) is described in Chapter 5 of the EP.

The EMBA overlaps with the Kimberley coast and islands including Ashmore Reef breeding BIAs for this species (Table 11.10 and Figure 11.49).

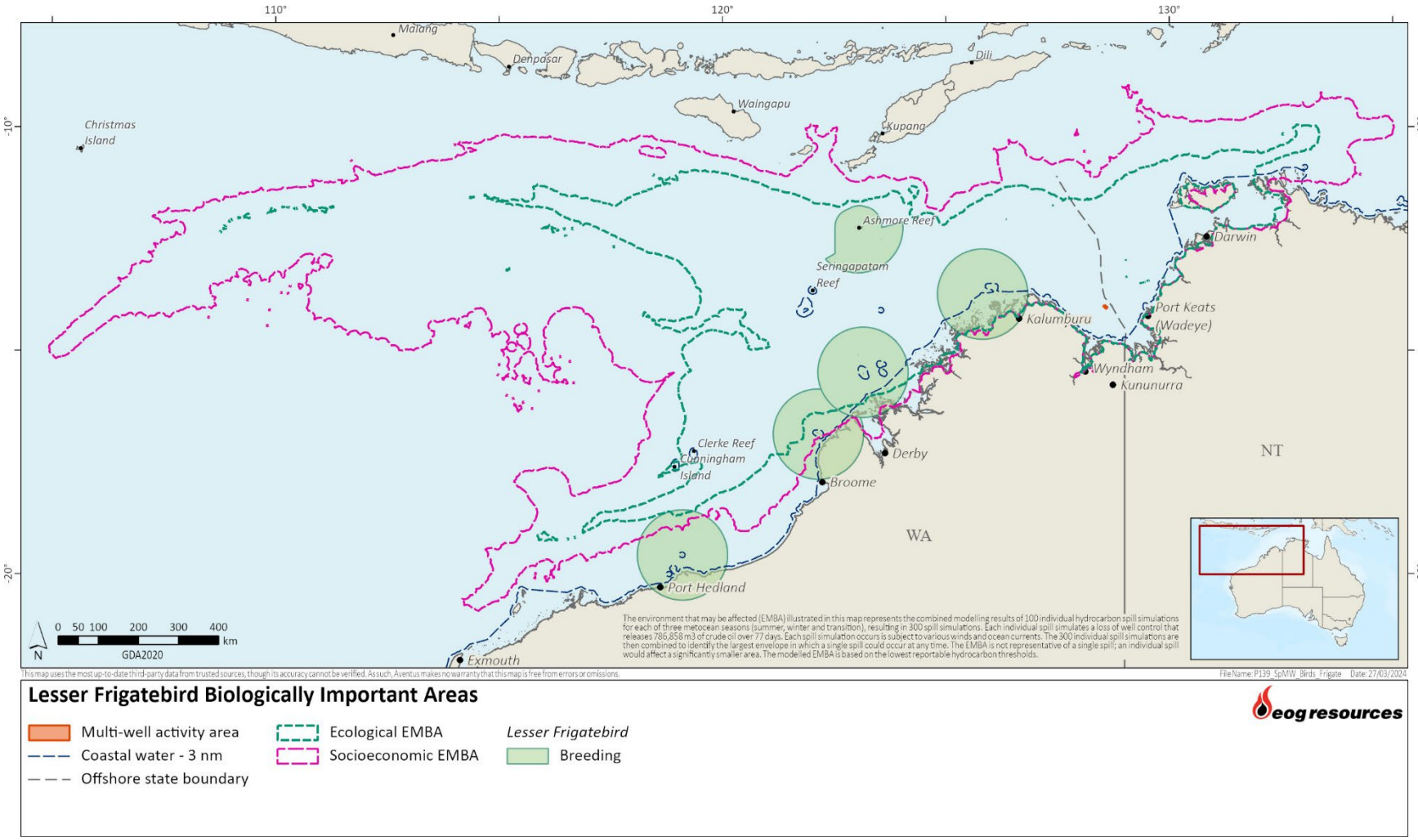


Figure 11.47 Lesser frigatebird BIA in the spill EMBA

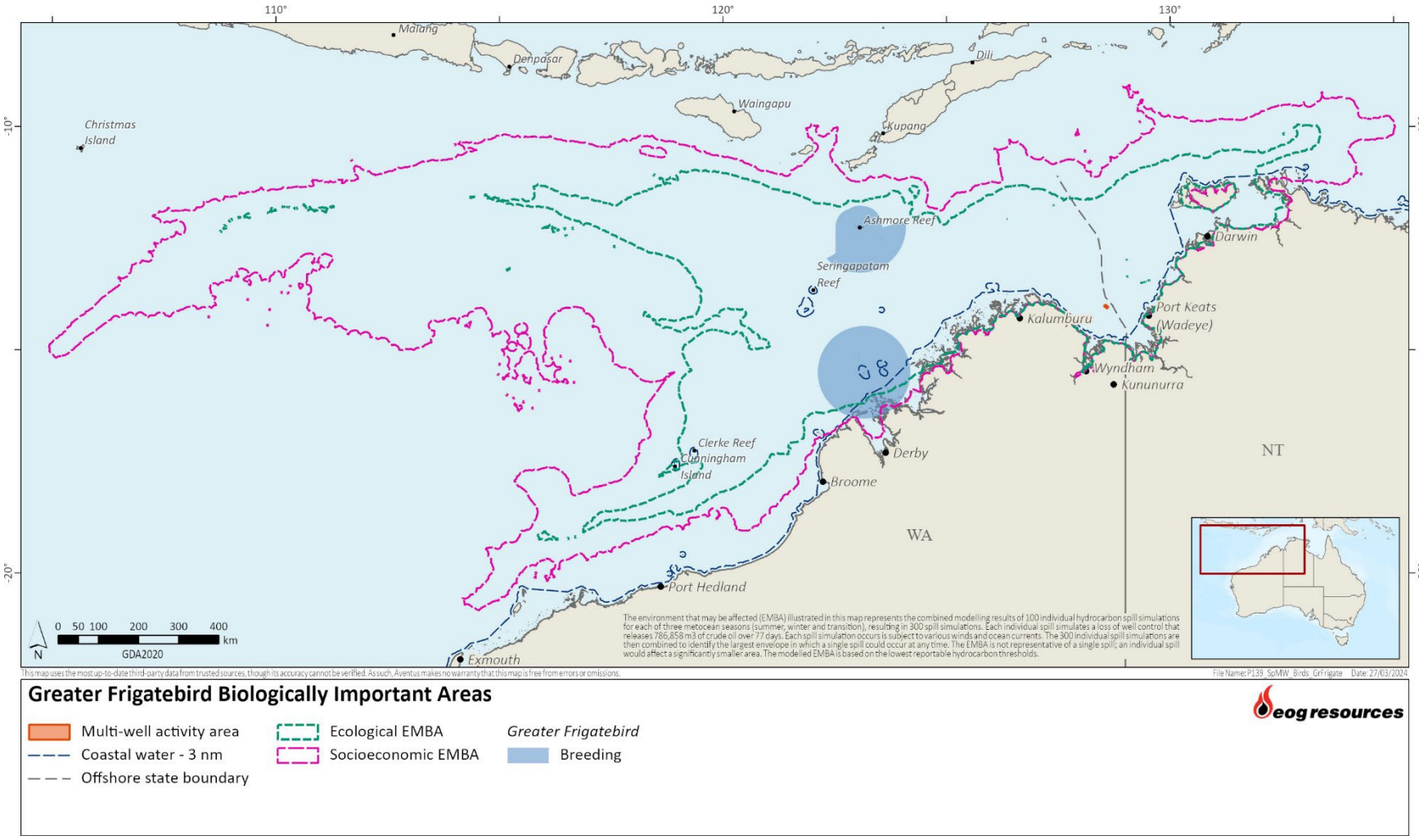


Figure 11.48 Greater frigatebird BIA in the spill EMBA

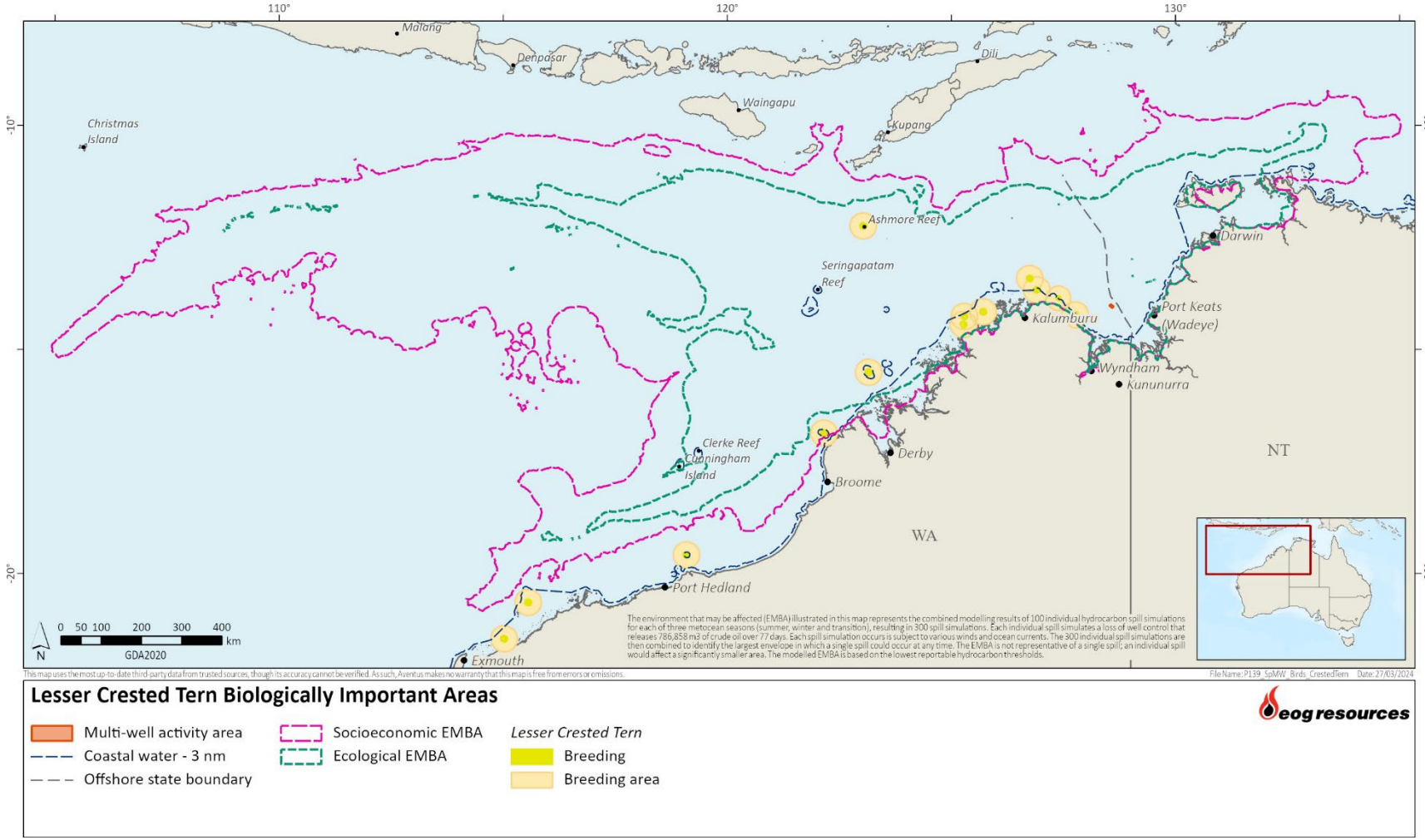


Figure 11.49 Lesser crested tern BIA in the spill EMBA

Crested tern (EPBC Act: Listed Migratory)

The crested tern (*Thalasseus bergii*) inhabits tropical and subtropical coastlines and forages in the shallow waters of lagoons, coral reefs, bay, harbours, inlets and estuaries; along sandy, rocky, coral or muddy shores; on rocky outcrops in open sea; in mangrove swamps; and in offshore and pelagic waters (Higgins and Davies, 1996). The crested tern usually feeds from the surface of the sea to less than 1 m water depth. Its diet consists predominantly of pelagic fish, although it will also feed on crustaceans, insects and hatchling turtles, opportunistically (Birdlife, 2020). The crested tern shows a preference for nesting on offshore islands, low-lying coral reefs, low-lying coral reefs, sandy or rocky coastal islets, coastal spits and lagoon mudflats (Birdlife, 2020). According to the NCVA, breeding is known to occur on Seagull Island, off NW of Cape Van Diemen on Melville Island and on the Coburg Peninsula (Table 11.10 and Figure 11.50).

Bridled tern (EPBC Act: Listed Migratory)

The bridled tern (*Onychoprion anaethetus*) is found throughout tropical and sub-tropical regions of Australia (DCCEEW, 2024b). The species is most common on offshore islands as opposed to coastal areas and forages singly or in small flocks, primarily on fish by swooping on schools and dipping only the head in the water (as opposed to plunge diving) (DCCEEW, 2024b). Breeding populations exist at Ashmore Reef and Cartier Island (DEWHA, 2008b). Birds return to breeding colonies at various island locations throughout northern WA between late September and mid-October and leave from early May to mid-September. The EMBA overlaps with a breeding BIA for this species (see Table 11.10 and Figure 11.51).

Australian lesser noddy (EPBC Act: Vulnerable)

The Australian lesser noddy (*Anous tenuirostris melanops*) is endemic to Australia and nests on the Abrolhos Islands, Ashmore Reef and various other islands throughout tropical and sub-tropical northwest Australia (DCCEEW, 2024b). They may forage out to sea or close inshore to breeding islands, including outside fringing reefs, feeding on small squid and fish (DoEH, 2005). They roost mainly in mangroves, and sometimes rest on the beaches (DoEH, 2005). The Australian lesser noddy may occur within the coastal areas of the EMBA.

Abbott's booby (EPBC Act: Endangered)

Abbott's booby (*Papasula abbotti*) spend much of their time at sea, but need to come ashore to breed (DCCEEW, 2024b). It is currently known to only breed on Christmas Island (outside the EMBA) during the months of March to October, with peak nesting May-July (DCCEEW, 2024b). The species nests in tall rainforest trees, laying a single egg clutch (DAWE, 2021b). Birds are known to travel up to 400 km from nesting locations to forage for fish and squid (DCCEEW, 2024b). The species may occur in the EMBA.

Brown booby (EPBC Act: Listed Migratory)

The brown booby (*Sula leucogaster*) is the smallest of the booby family. The species feeds either individually or in flocks, around inshore waters and use both marine and terrestrial habitats. They forage by either plunge diving or by snatching prey from the surface. The EMBA overlaps with the Kimberley and northern Pilbara coasts and islands also Ashmore Reef breeding BIAs for this species (see Table 11.10 and Figure 11.52).

Red-footed booby (EPBC Act: Listed Migratory)

The red-footed booby (*Sula sula*) is a slender bird with conspicuous red feet. Its distribution is confined to tropical waters between 30°N and 30°S in the Indian Ocean. In WA a small breeding population has been recorded on Ashmore Reef (DEWHA, 2008b). It mostly feeds on fish, especially flying fish, including cephalopods, by plunge diving in groups to shallow depths

(DCCEEW, 2024b). The EMBA overlaps with the northwest Kimberley and Ashmore Reef breeding BIAs for this species (see Table 11.10 and Figure 11.53).

White tailed tropicbird (EPBC Act: Listed Migratory)

The white-tailed tropicbird (*Phaethon lepturus*) is a pelagic species that rarely comes ashore, except to breed. The species breeds on islands throughout the tropics of the northern Indian Ocean, including Ashmore Reef and Rowley Shoals off the northern coast of WA (Johnstone and Storr, 1998; Marchant and Higgins, 1993).

The white-tailed tropicbird is a rather scarce breeding species at Ashmore Reef, and it is estimated that up to two pairs nest within the reserve each year (Clarke, 2010). Breeding has been recorded from May through to October, with birds dispersing away from the breeding colonies outside the breeding season.

The species forages in warm waters and over long distances, moving up to 1,500 km from breeding sites when not breeding (DSEWPC, 2012) and up to 89 km from the nest site when breeding. It feeds on fish and cephalopods by plunge-diving (Marchant and Higgins 1993).

The closest breeding BIA for the white-tailed tropicbird within the EMBA is at Ashmore Reef (Table 11.10 and Figure 11.54).

Red tailed tropicbird (EPBC Act: Endangered, Marine and Migratory)

This species is described in Chapter 5 Section 5.4.7.

The closest BIA for this species (according to the NCVA) is a breeding/foraging BIA located 900 km east of the EMBA, near the Great Barrier Reef region.

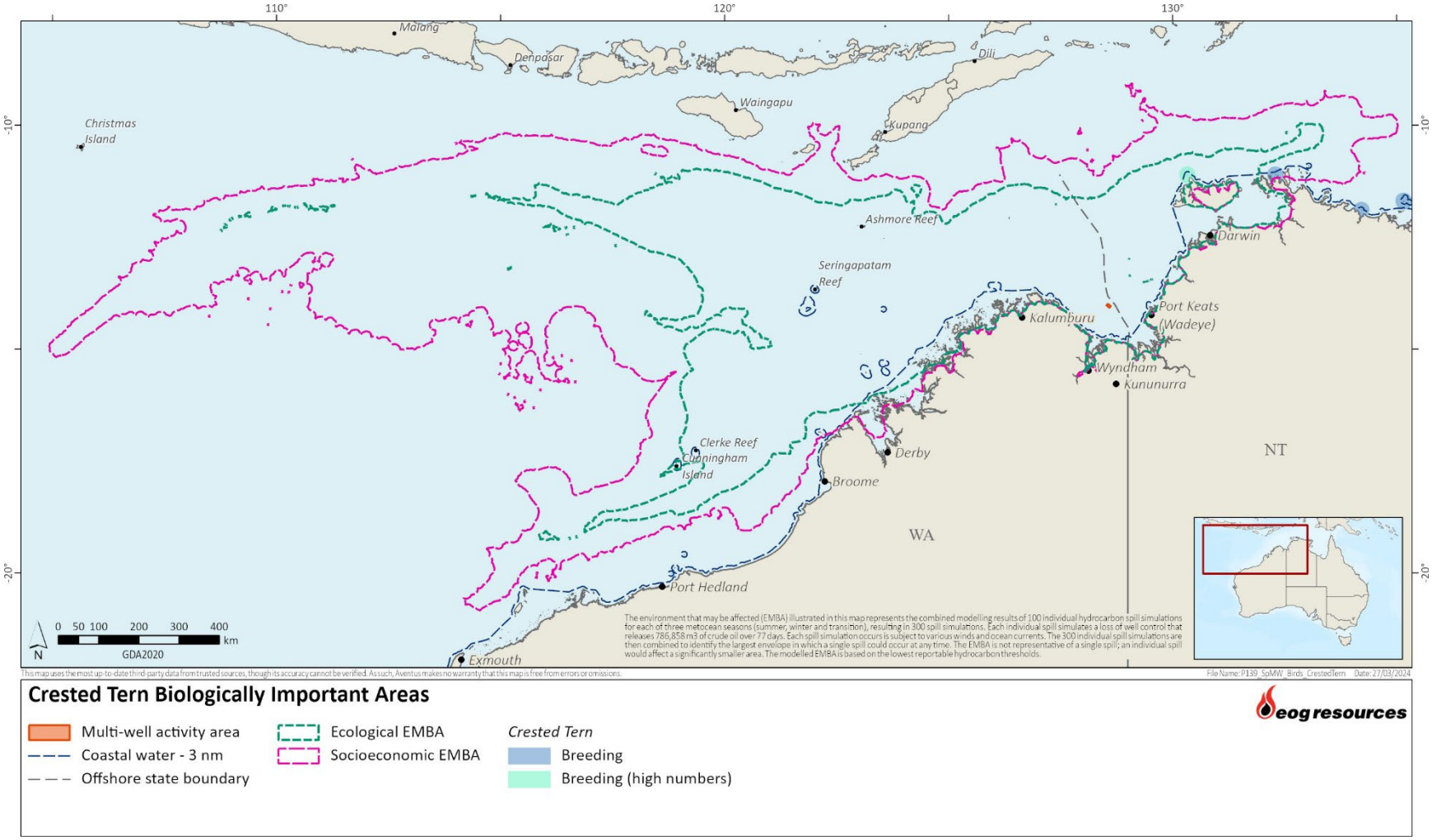


Figure 11.50 Crested tern BIA in the spill EMBA

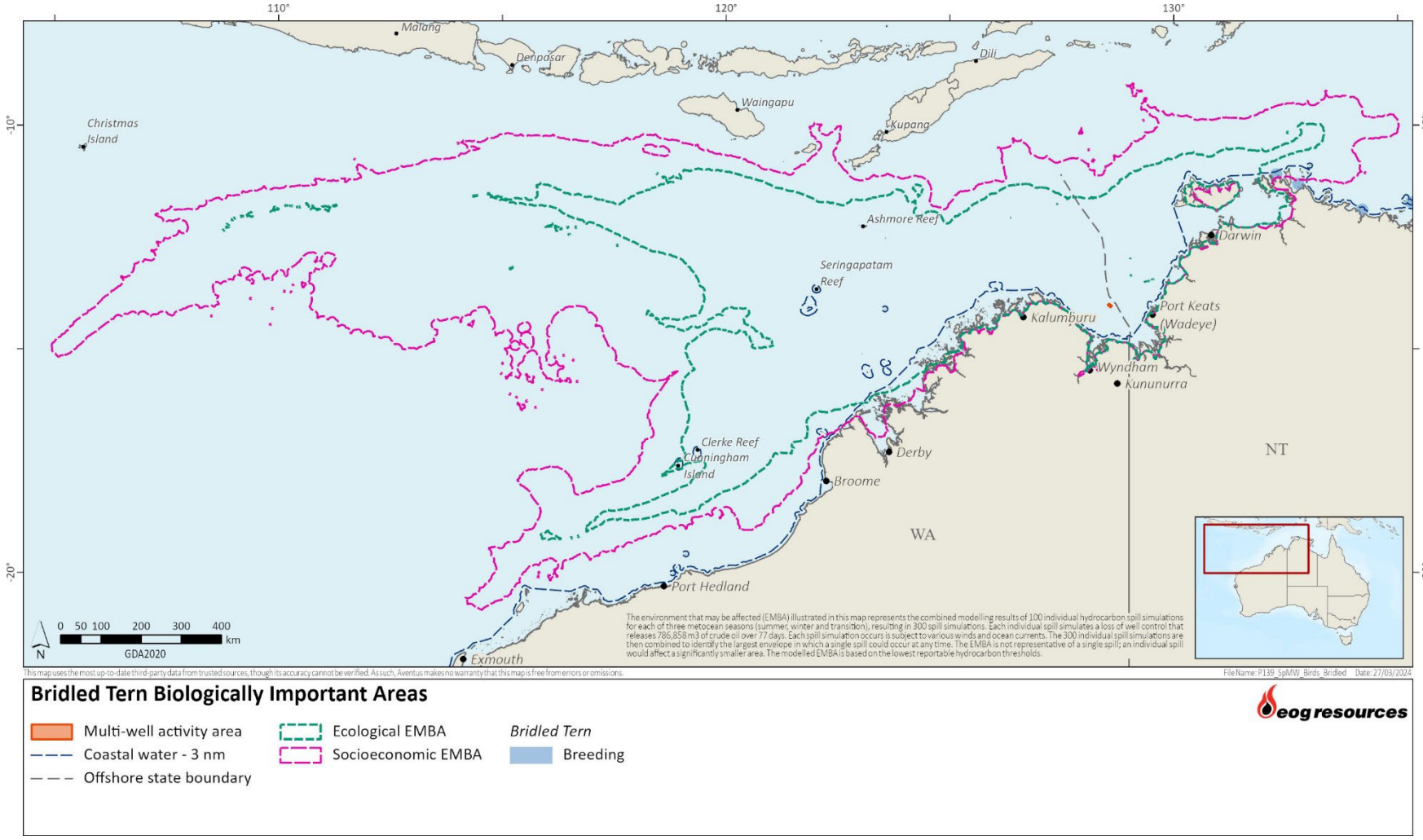


Figure 11.51 Bridled tern BIA in the spill EMBA

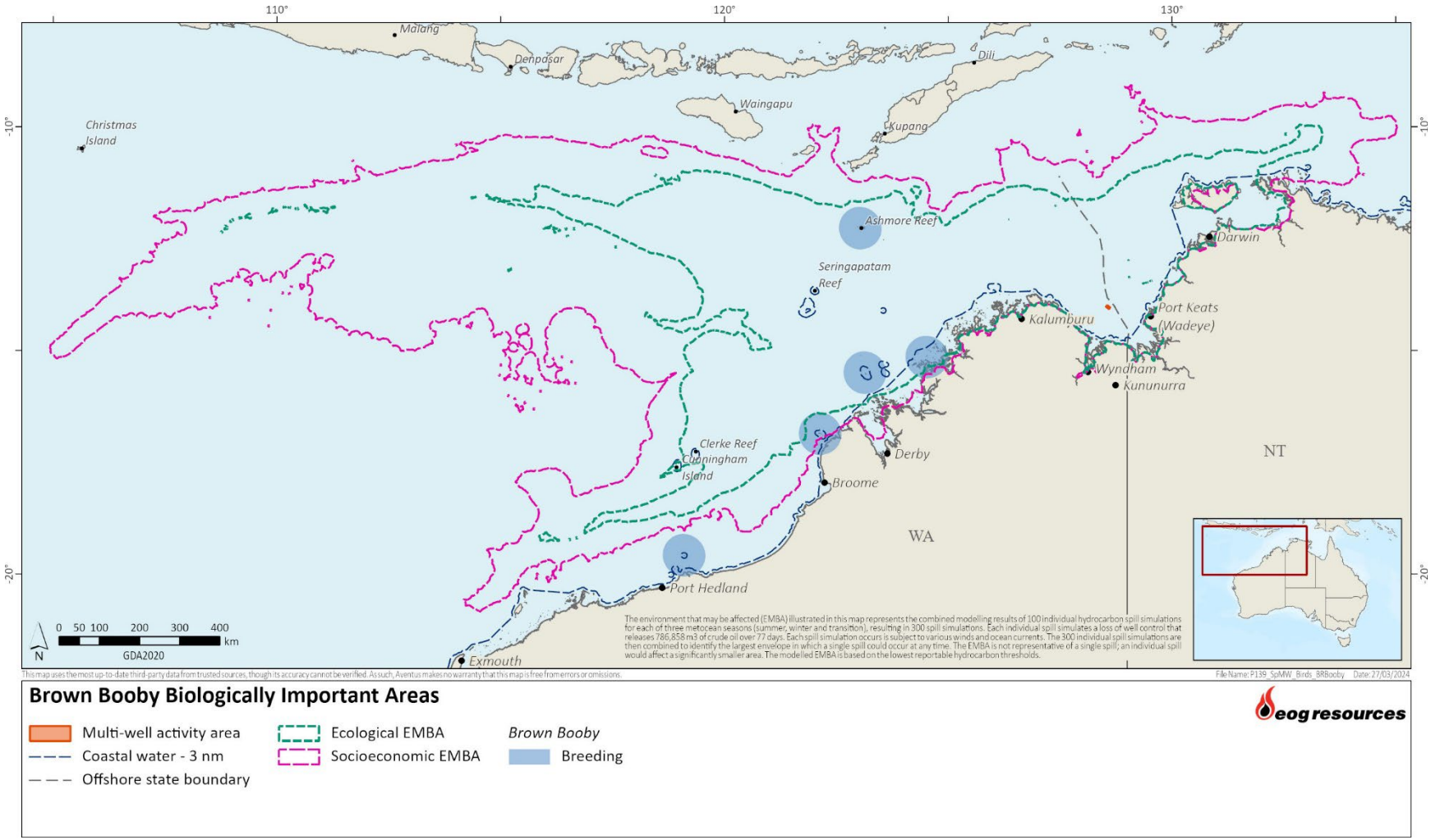


Figure 11.52 Brown booby BIA in the spill EMBA

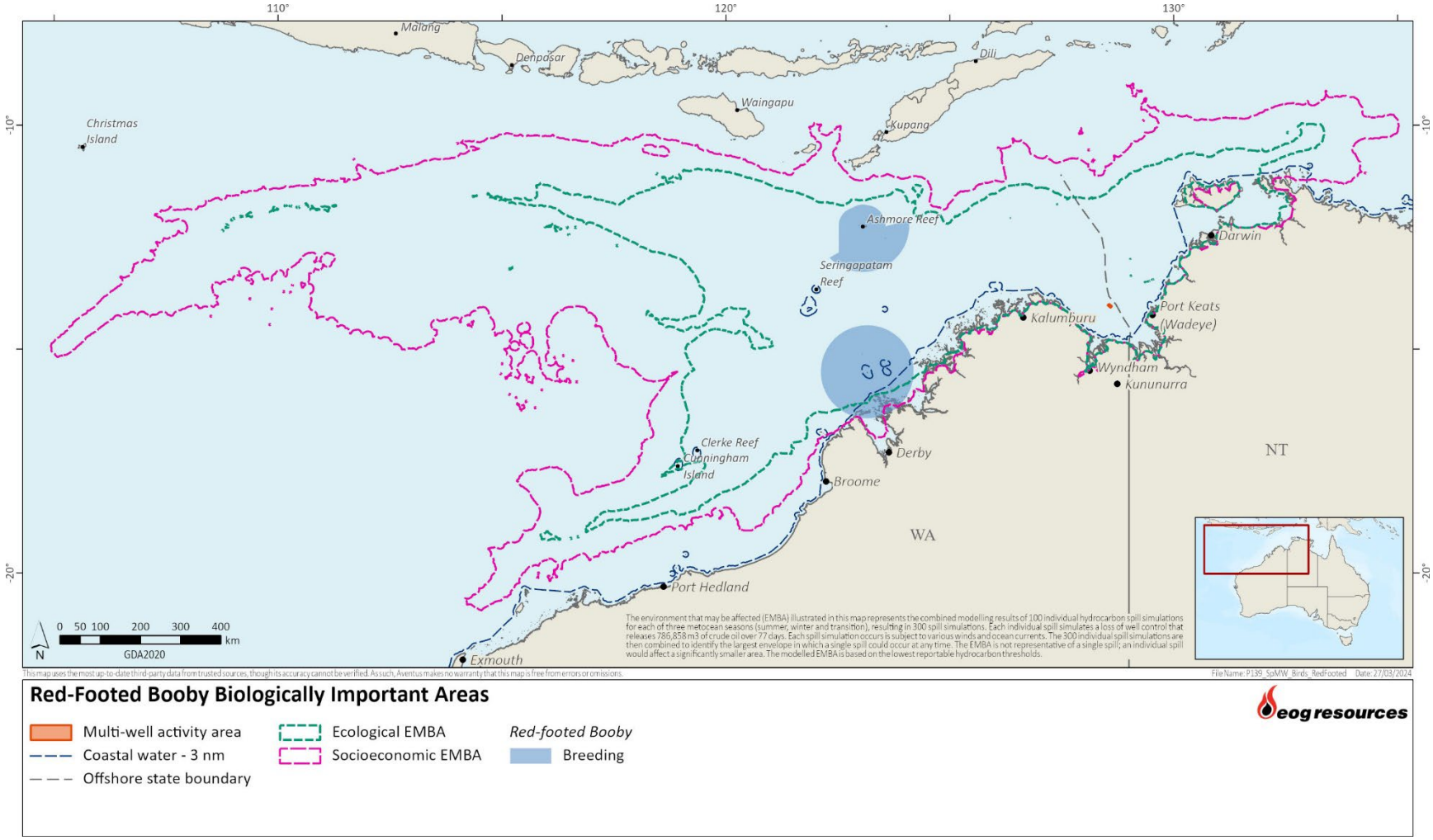


Figure 11.53 Red-footed booby BIA in the spill EMBA

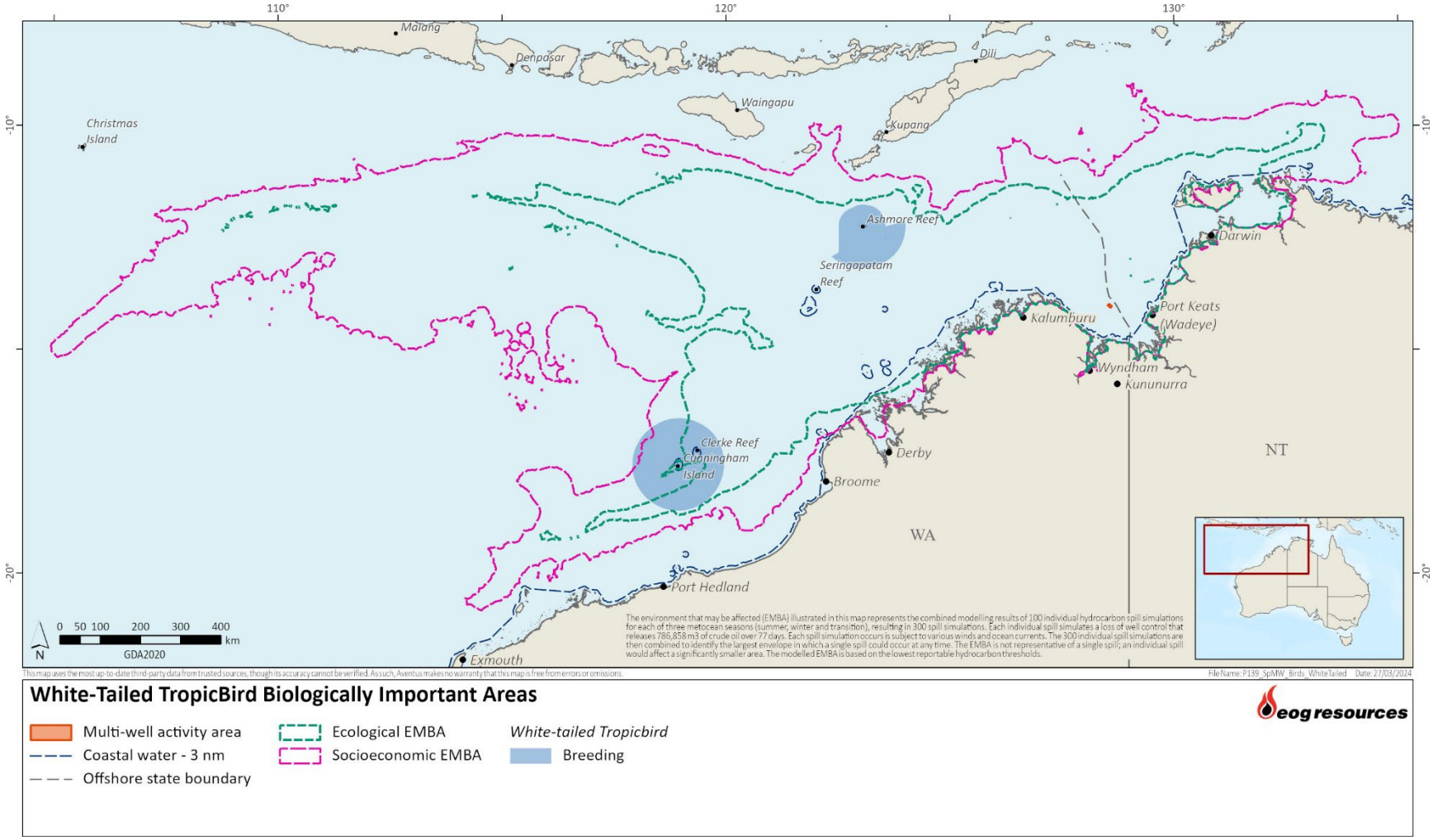


Figure 11.54 White tailed tropicbird BIA in the spill EMBA

Christmas Island white-tailed tropicbird (EPBC Act: Listed Endangered)

The Christmas Island white-tailed tropicbird (*Phaethon lepturus fulvus*) is endemic to Christmas Island, which is its only known breeding site (DoE, 2014d). It leaves the island to forage in the warm waters of the Indian Ocean (DoE, 2014d) mainly feeding on fish and cephlapods. The white-tailed tropicbird roosts at sea; only incubating or brooding adults remain on nests on the island at night (Stokes, 1988).

The National Conservation Values Atlas (DCCEEW, 2024c) does not identify any BIAs for this species within the activity area nor ecological EMBA.

Indian yellow-nosed albatross (EPBC Act: Listed vulnerable)

The Indian yellow-nosed albatross (Thalassarche carteri) is a is a marine bird, located in subtropical and warmer subantarctic waters (Marchant and Higgins, 1993). Foraging BIAs are located throughout the offshore waters of the south-west marine region, north to Shark Bay and extending east into Bass Strait. Although the PMST report identifies this species or its habitat may be present within the EMBA, the closest likely habitat is just south of Barrow Island (outside of the EMBA). There are no BIAs intersected by the spill EMBA; however, it is likely that individuals may transit through the EMBA.

Australian fairy tern (EPBC Act: Vulnerable)

This subspecies of the fairy tern (*Sternula nereis nereis*) is listed as vulnerable as there are less than 5,000 mature individuals remaining and the total population has undergone a substantial decline of approximately 24% (TSSC, 2011). The Australian fairy tern occurs along the coasts of NSW, Victoria, Tasmania, SA and WA in a variety of habitats including offshore, estuarine or lake islands, wetlands, beaches and spits (TSSC, 2011). They are suspected to migrate with southern WA and Tasmania due to their low records during winter months. Within northern WA, SA and Victoria they are more sedentary. Some of the main threats to the subspecies include predation from mammals, human disturbance and high salinity levels within their foraging waters.

The spill EMBA reaches a small area of their distribution (surrounding waters of Barrow Island and coastal waters of Karratha) (DCCEEW, 2024b).

Shorebirds

Ruddy turnstone (EPBC Act: Vulnerable, Migratory and Marine)

The ruddy turnstone (*Arenaria interpres*) became listed as vulnerable in January 2024. They are a stocky, medium-sized wader, with short orange-red legs. During the austral summer non-breeding season, the ruddy turnstone is widespread within Australia. In north Australia, they are known to occur in a wide variety of habitats and may prefer wide mudflats. The species has a preference for areas containing rotting seaweed where they can rummage for maggots, larvae, and other invertebrates. The species has occasionally been recorded chasing small crabs and using their beak to probe crab holes (DCCEEW, 2024j).

The species may be present within the coastal areas of the spill EMBA.

Curlew sandpiper (EPBC Act: Critically Endangered, Listed Migratory)

In Australia, the curlew sandpiper (*Calidris ferruginea*) occurs around the coasts and is also quite widespread inland, though in smaller numbers (DCCEEW, 2024b). They are rarely recorded in the northwest Kimberley, around Wyndham and Lake Argyle (DCCEEW, 2024b).

This species is unlikely to be present in the activity area due to its location offshore but given that the EMBA is adjacent to (without intersecting) critical habitat for this species (e.g., wetlands), it is

possible that this species would be present in the coastal sections of the EMBA during the summer months.

Sharp-tailed sandpiper (EPBC Act: Critically Endangered, Listed Migratory)

This species is described in Chapter 5 section 5.4.7. There are no BIAs (as defined by the NCVA) that exist within the EMBA.

Terek sandpiper (EPBC Act: Vulnerable, Marine and Migratory)

The terek sandpiper (*Xenus cinereus*) was listed as vulnerable in January 2024. The species has a distinctive long, upcurved bill and weights around 95 g. In Australia, the terek sandpiper has a primarily coastal distribution. The species is more widespread and common in northern and eastern Australia than southern Australia. In the NT, widespread records of the bird occur from Darwin, north to Melville Island, and east to the western section of the Gulf of Carpentaria, around Gove Peninsula, Groote Eylandt, Sir Edward Pellew Island, and the mouth of the McArthur River. Terek sandpipers are typically found in tropical mangrove-lined estuaries and mudflats and feed on crustaceans and insects (DCCEEW, 2024n).

The terek sandpiper may be present within the coastal areas of the EMBA, particularly within the NT.

Lesser sand plover (EPBC Act: Endangered, Listed Migratory)

The lesser sand plover (*Charadrius mongolus*) spends non-breeding periods in Australia. The species is widespread in coastal regions and has been recorded in all states within Australia but mainly occurs in northern and eastern Australia (DCCEEW, 2024b).

The species feeds mostly on extensive, freshly-exposed areas of intertidal sandflats and mudflats in estuaries or beaches, or in shallow ponds in saltworks (DCCEEW, 2024b). They also occasionally forage on coral reefs and on sandy or muddy river margins (DCCEEW, 2024b). The lesser sand plover roost near foraging areas, on beaches, banks and spits, banks of sand and shells, and occasionally on rocky spits, isles, or reefs (DCCEEW, 2024b).

This species is not predicted to occur in the activity area due to its distance from shore but may occur within the coastal areas of the EMBA and in the Cambridge Gulf.

Common greenshank (EPBC Act: Endangered, Listed Migratory and Marine)

The common green shank was listed as endangered in January 2024. The species is a large and heavily built wader with a long and slightly upturned bill. The common greenshank is widespread in coastal regions, occurs in all types of wetlands, and has one of the widest distributions of any shorebird in Australia. The species is known to occur fragmentedly along the WA and NT coast. The common greenshank forages at the edge of wetlands, in soft mud on mudflats, in channels, or within shallows around the edge of waterbodies. Their consists of insects and their larvae, crustaceans, annelids, molluscs, amphibians.

It is possible that the common greenshank will be encountered within the coastal regions of the EMBA.

Asian dowitcher (EPBC Act: Vulnerable, Migratory and Marine)

The Asian dowitcher (Limnodromus semipalmatus) become listed as vulnerable in January 2024. They are a large, distinctive shorebird with a long neck, long legs, and a long, straight, snipe-like bill. Within Australia, this species is only a regular visitor to coastal areas between Broome and Port Hedland. Elsewhere, the species occurrence is sporadic and rare. The species feeds in inter-tidal mudflats on small fish and insect larvae as well as molluscs (DCCEEW, 2024k).

Due to the species limited known range within coastal WA, it is unlikely that the Asian dowitcher will be present within the EMBA.

Eastern curlew (EPBC Act: Critically Endangered, Listed Migratory)

The eastern curlew (*Numenius madagascariensis*) has a primarily coastal distribution within Australia (DoE, 2015c). It does not breed in Australia and is found foraging on soft sheltered intertidal sandflats or mudflats, open and without vegetation or covered with seagrass, often near mangroves, on saltflats and in saltmarsh, rockpools and among rubble on coral reefs, and on ocean beaches near the tideline (DoE, 2015c).

Given that the EMBA is adjacent to (without overlapping) critical habitat for this species (e.g., wetlands), it is possible that this species occurs in the EMBA during the summer.

Black-tailed godwit (EPBC Act: Endangered, Marine and Migratory)

The black-tailed godwit (*Limosa limosa*) was listed as endangered in January 2024. Black-tailed godwits are 40–44 cm long, have a wingspan between 63–75 cm, and weigh between 200–300 g. During the austral summer non-breeding season, black-tailed godwits are found in all states and territories of Australia predominately in coastal regions. The largest populations are found on the north coast between Darwin, NT and Weipa, QLD. Feeding habitat includes areas of mud or soft, wet sand within sandflats, intertidal mudflats, saltmarshes, and the beaches of oceanic coastlines, bays, and estuaries. Their diet consists mainly of insects, crustaceans, molluscs, worms, larvae, spiders, fish eggs, frog eggs and tadpoles, which they probe from soft mud or shallow water (DCCEEW, 2024l).

This species may be present within the coastal regions of the EMBA, particularly within the NT.

Nunivak bar-tailed godwit (EPBC Act: Vulnerable)

The Nunivak bar-tailed godwit (*Limosa lapponica baueri*) is a large wader recorded in coastal areas of all states and territories of Australia (DCCEEW, 2024b). The species is found in coastal habitats such as large intertidal sand and mudflats, banks, estuaries, harbours, bays and coastal lagoons where it forages when the tide is out (DAWE, 2021b). Their diet consists of worms, molluscs, crustaceans, insects and some plant material (DCCEEW, 2024b). This species breeds in the northern hemisphere and migrates south for the winter, arriving in northwest Australia from August and departs before the end of April (DCCEEW, 2024b).

This species is not predicted to occur in the activity area due to its offshore location but may be present in the coastal sections of the EMBA between August and April.

Northern Siberian bar-tailed godwit (EPBC Act: Critically Endangered)

The northern Siberian bar-tailed godwit (*Limosa lapponica menzbieri*) is a large migratory shorebird (TSSC, 2016b). The northern Siberian bar-tailed godwit spends non-breeding periods in Australia and is found in all Australian states and territories (TSSC, 2016b). Populations have been recorded in northern Australia, from Darwin east to the Gulf of Carpentaria. The species forages near the edge of water or in shallow water, mainly on muddy coastlines, estuaries, inlets and mangroves feeding on worms, molluscs, crustacean, insects and plant material (TSSC, 2016b).

It is unlikely that this species would be present in the activity area due to its offshore location but this species may be present within the coastal sections of the EMBA.

Great knot (EPBC Act: Critically Endangered, Listed Migratory)

The great knot (*Calidris tenuirostris*) has been recorded around the entire Australian coast and spends non-breeding periods in Australia (DCCEEW, 2024b). The greatest numbers of this species are found in northern Australia, and most commonly on the coast of the Pilbara and Kimberley,

from the Dampier Archipelago to the NT border, and in the NT from Darwin and Melville Island, through Arnhem Land to the southeast Gulf of Carpentaria (DCCEEW, 2024b). This species typically prefers sheltered coastal habitats with large intertidal mudflats or sandflats (DCCEEW, 2024b). The great knot feeds on snails, worms and crustaceans, and forages on intertidal mudflats, estuaries, and in mangroves.

This species is not predicted to be encountered in the activity area due to its habitat preferences, although it is expected in parts of the coastal areas of the EMBA where its preferred habitat is available.

Red knot (EPBC Act: Endangered, Listed Migratory)

The red knot (*Calidris canutus*) is common in all the main suitable habitats around the coast of Australia (DCCEEW, 2024b), and very large numbers are regularly recorded in northwest Australia, with Eighty Mile Beach and Roebuck Bay being particular strongholds (both outside the EMBA). In WA, it is widespread on the coast from Ningaloo Reef and Barrow Island to the southwest Kimberley coastline. In the NT it is mainly recorded in Darwin.

The red knot is not predicted to occur within the activity area due to its habitat preferences but is likely to be present in parts of the coastal areas of the EMBA.

Alligator Rivers yellow chat (EPBC Act: Endangered)

The alligator rivers yellow chat (*Epthianura crocea tunneyi*) is a small bird that has been recorded from a several sites in the NT on the floodplains of the Adelaide, Mary, Wildman, South Alligator and East Alligator rivers (Garnett *et al.,* 2011). Most records are from within Kakadu National Park, however the relative importance of the different floodplains is unknown (Garnett *et al*., 2011). Occasional records elsewhere, mostly from between Darwin to Oenpelli, are probably dispersive individuals. The subspecies is presumed to be a single a contiguous population (Garnett et al., 2011).

The species is restricted to alluvial coastal and subcoastal grassy floodplains, primarily near floodplain depressions and channels, typically sparsely vegetated and feed mainly on insects (Armstrong, 2004). Given the habitat preference of the alligator rivers yellow chat, the species may be present in the coastal section of the NT. There are no known BIAs intersected by the EMBA.

Australian painted snipe (EPBC Act: Endangered)

The Australian painted snipe (*Rostratula australis*) is a wader and is found in wetlands throughout all Australian states and territories (DCCEEW, 2024b). The species generally inhabits freshwater wetlands, although can inhabit brackish water, saltmarshes and claypans (DCCEEW, 2024b). It feeds on vegetation, seeds, insects, worms, molluscs, crustaceans and other invertebrates (DCCEEW, 2024b). The Australian painted-snipe is not predicted to occur within the activity area, but is likely to be present in the EMBA.

Red goshawk (EPBC Act: Vulnerable)

The red goshawk is a large, swift and powerful rufous-brown hawk found in patchy, but widespread areas across coastal and sub-coastal regions of northern and eastern Australia. Historically it occurred from the north-east tip of New South Wales, across Queensland and the Northern Territory, to the north of WA (Marchant and Higgins, 1993). The species is thought to consist of two subpopulations, one on the Tiwi Islands containing approximately 200 adults, and a mainland population containing approximately 1200 adults (Garnett *et al.,* 2011). The red goshawk may transient through the coastal areas of northern WA and the NT within the EMBA. However, there are no BIAs for this species that overlap the EMBA.

Greater sand plover (EPBC Act: Vulnerable, Listed Migratory)

The greater sand plover (*Charadrius leschenaultia*) occurs in coastal areas throughout Australia with the greatest populations between the NW Cape and Roebuck Bay (DCCEEW, 2024b) (both outside the EMBA). The plover spends almost all its time in coastal habitats. Their diet consists mainly of molluscs, worms, crustaceans and insects (DCCEEW, 2024b). The species breeds in the northern hemisphere and migrates south for the boreal winter (DCCEEW, 2024b). The greater sand plover is one of the first migratory waders to return to northwest Australia, usually arriving in late July and departing in mid to late April (DCCEEW, 2024b).

The species is not predicted to occur in the activity area due to its habitat preferences, but may occur within the coastal areas of the EMBA from July to April.

Grey plover (EPBC Act: Vulnerable, Marine and Migratory)

The grey plover (*Pluvialis squatarola*) was listed as vulnerable in January of 2024. Grey plovers are medium-sized, long-legged plovers with a large head and large, dark eyes. During the austral summer non-breeding season, the grey plover is a regular migrant to Australia but is primarily found along the west and south coasts. Western Australian sites support about 38% of the Australian population. In the Northern Territory, small numbers of grey plovers are regularly recorded in the Top End. The species feeds on marine polychaete worms, molluscs, and crustaceans in mostly in mud or soft, wet sand of sandflats, intertidal mudflats, saltmarshes, and the beaches of oceanic coastlines, bays, and estuaries.

It is possible that the grey plover will be encountered in coastal regions of the EMBA, particularly in NT.

11.3.8 Marine Pests

It is widely recognised that marine pests can become invasive and cause significant impacts on economic, ecological, social and cultural values of marine environments. Impacts can include the introduction of new diseases, altering ecosystem processes and reducing biodiversity, causing major economic loss and disrupting human activities (Brusati and Grosholz, 2007).

The Marine Pests Interactive Map (DAFF, 2021) indicates that the major port likely to be used to support the activity (e.g., Darwin) is not known to harbour any marine pests. However, DAFF (2021) notes that the following species are listed to keep watch for in the Port of Darwin due to their high potential for accidental introduction:

- Asian green mussel (*Perna viridis*) – typically inhabits soft sediment bottoms from the low tide mark to shallow waters up to 42 m deep. Juveniles are bright green than turn brown in adults.
- American slipper limpet (*Crepidula fornicate*) – competes with native species for food and space and may alter sediment characteristics by removing suspended sediments from the water column. Its likely habitat includes mud, rocks and sand within shores and shall waters.
- Black striped false mussel (*Mytilopsis sallei*) – affects the productivity of commercial fisheries and aquaculture by competing with native species for food and space. The species usually inhabits shallow waters up to a few metres deep.
- Charru mussel (*Mytella charruana*) – successful invasive species globally due to its great dispersal ability and tolerance for a wide variety of habitats. Typically found on rocky or hard substrates in shallow waters

11.4 Conservation Values and Sensitivities

The conservation values and sensitivities within the EMBA are described in this section, with Table 11.11 providing an outline of the conservation categories described.

Table 11.11 Conservation values in the EMBA

Category	Conservation classification	Section
MNES under the EPBC Act	Australian Marine Parks (AMP)	Section 11.4.1
	World Heritage-listed properties	Section 11.4.2
	National Heritage-listed places	Section 11.4.3
	Wetlands of international importance	Section 11.4.5
	Nationally threatened species and threatened ecological communities	Throughout Section 11.3 and Section 11.4.6
	Migratory species	Throughout Section 11.3
	Great Barrier Reef Marine Park	Not applicable.
	Nuclear actions	Not applicable.
	A water resource, in relation to coal seam gas development and large coal mining development	Not applicable.
Other areas of national importance	Commonwealth heritage-listed places	Section 11.1.1
	Key Ecological Features (KEF)	Section 11.4.7
	Nationally important wetlands (NIW)	Section 11.4.8
State protected areas	State/territory protected areas	Section 11.4.9

11.4.1 Australian Marine Parks

Australian Marine Parks as proclaimed under the EPBC Act (in 2007 and 2013) are located in Commonwealth waters that start at the outer edge of state and territory waters, generally 3 nm (approximately 5.5 km) from the shore, and extend to the outer boundary of Australia's EEZ, 200 nautical miles (approximately 370 km) from the shore (DNP, 2018).

The AMP Network includes six marine regions being the Coral Sea, South-west, Temperate East, South-east, North and Northwest. The marine park networks applicable to the activity area and spill EMBA are the Northwest Marine Parks Network aligned with the NWMR; and North Parks Marine Network aligned to the NMR. Management plans have been developed and approved for each of these regions including zoning and related rules for managing activities in the marine park to ensure protection of marine habitats and species:

- North Marine Parks Network Management Plan 2018 (DNP, 2018a); and.
- Northwest Marine Parks Network Management Plan 2018 (DNP, 2018b).

The nearest AMPs to the multi-well location is the JBG AMP (located 30 km east) and the Kimberley AMP (located 235 km), described herein. AMPs in the EMBA and their zoning (IUCN classification as defined in Table 11.12) are listed in Table 11.13. AMPs within the EMBA are shown in Figure 11.55.

Table 11.12 Definition of AMP zones

Special Purpose Zone (IUCN category VI)—managed to allow specific activities though special purpose management arrangements while conserving ecosystems, habitats and native species. The zone allows orprohibits specific activities.
Multiple Use Zone (IUCN category VI)—managed to allow ecologically sustainable use while conserving ecosystems, habitats and native species. The zone allows for a range of sustainable uses, including commercial fishing and mining where they are consistent with park values.
Habitat Protection Zone (IUCN category IV)—managed to allow activities that do not harm or cause destruction to seafloor habitats, while conserving ecosystems, habitats and native species in as natural astate as possible.
Recreational Use Zone (IUCN category IV)—managed to allow recreational use, while conserving ecosystems, habitats and native species in as natural a state as possible. The zone allows for recreationalfishing, but not commercial fishing.
National Park Zone (IUCN category II)—managed to protect and conserve ecosystems, habitats and native species in as natural a state as possible. The zone only allows non-extractive activities unless authorised for research and monitoring.
Sanctuary Zone (IUCN category Ia)—managed to conserve ecosystems, habitats and native species in as natural and undisturbed a state as possible. The zone allows only authorised scientific research and monitoring.

Table 11.13 Australian Marine Parks in the spill EMBA

AMP	Distance and direction to multi-well location	Zone or IUCN Classification	Presence	
			Ecological EMBA	Socio-economic EMBA
North Marine Region (NMR)				
Oceanic Shoals	151 km north	Multiple Use Zone (IUCN VI)	Yes	Yes
Arafura	555 km north northeast	Multiple Use Zone (IUCN VI)	Yes	Yes
		Special Purpose Zone (Trawl) (IUCN VI)	-	Yes

AMP	Distance and direction to multi-well location	Zone or IUCN Classification	Presence	
			Ecological EMBA	Socio-economic EMBA
Arnhem	613 km northeast	Special Purpose Zone (Trawl) (IUCN VI)	-	Yes
Northwest Marine Region (NWMR)				
Argo-Rowley Terrace	885 km west	National Park Zone (IUCN II)	Yes	Yes
		Multiple Use Zone (IUCN VI)	Yes	Yes
		Special Purpose Zone (Trawl) (IUCN VI)	Yes	Yes
Ashmore Reef	602 km northwest	Recreational Use Zone (IUCN IV)	Yes	Yes
		Sanctuary Zone (IUCN 1a)	Yes	Yes
Cartier Island	555 km west	Sanctuary Zone (IUCN 1a)	Yes	Yes
Joseph Bonaparte Gulf	30 km east	Multiple Use Zone (IUCN VI)	Yes	Yes
		Special Purpose Zone (IUCN VI)	Yes	Yes
Kimberley	235 km west	Multiple Use Zone (IUCN VI)	Yes	Yes
		National Park Zone (IUCN II)	Yes	Yes
		Habitat Protection Zone (ICUN IV)	Yes	Yes
Mermaid Reef	1003 km south southwest	National Park Zone (IUCN II)	Yes	Yes
Montebello	1491 km south southwest	Multiple Use Zone (IUCN VI)	-	Yes

Note: Although Oceanic Shoals AMP is part of the North Marine Region, it also overlaps the NWMR, where the EMBA extends.

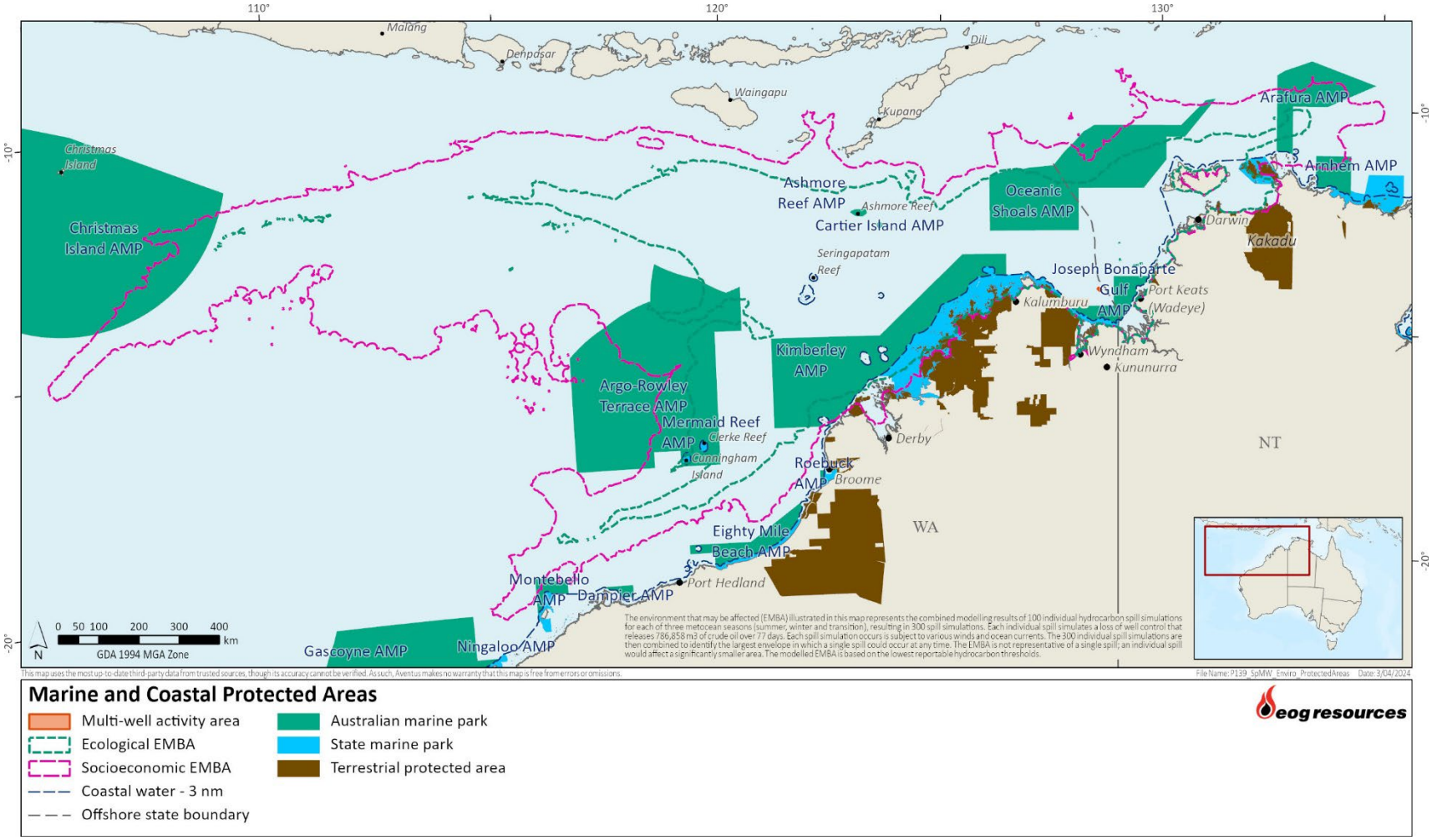


Figure 11.55 Protected areas in the spill EMBA

Oceanic Shoals AMP

The Oceanic Shoals AMP is located west of the Tiwi Islands, approximately 155 km north-west of Darwin, Northern Territory and 305 km north of Wyndham, Western Australia. It extends to the limit of Australia's Exclusive Economic Zone (EEZ). The Oceanic Shoals AMP covers an area of 71,743 km² and water depths from less than 15 m to 500 m and is the largest marine park in the North Marine Parks Network.

The Oceanic Shoals AMP is characterised by:

- Examples of ecosystems representative of the Northwest Shelf Transition. The pinnacles, carbonate banks and shoals within the AMP are sites of enhanced biological productivity.
- Four KEFs (refer to Section 11.4.7), namely:
  - Carbonate bank and terrace systems of the Van Diemen Rise;
  - Carbonate bank and terrace system of the Sahul Shelf;
  - Pinnacles of the Bonaparte Basin; and
  - Shelf break and slope of the Arafura Shelf.
- Foraging and internesting BIA for marine turtles (Section 11.3.6).
- Sea country within the marine park is valued for Indigenous cultural identity, health and wellbeing.
- Commercial fishing and mining are important activities in the AMP.

Arafura AMP

The Arafura AMP covers an area of 22,924 km^2 with depths from less than 15 m to 500 m. It is located approximately 256 km northeast of Darwin. The marine park extends from NT waters to the limit of Australia's EEZ. The Arafura Marine Park is significant because it contains habitats, species and ecological communities associated with the Northern Shelf Province and Timor Transition. It contains one KEF known as the tributary canyons of the Arafura Depression, an area that contains canyons that are approximately 80 to 100 km long and 20 km wide with sediments including sand, mud and rock. The canyons channel deep ocean waters, enhancing productivity and supporting large predatory fish, whale sharks, sawfish and marine turtles, deep sea sponges, and barnacles (DNP, 2018a).

In addition, it is in close proximity to important wetland systems including the Cobourg Peninsula Ramsar site, and provides important foraging habitat for seabirds (DNP, 2018a). Biologically important areas within the marine park include inter-nesting habitat for marine turtles and important foraging and breeding habitat for seabirds. According to the North Marine Parks Network Management Plan 2018, there are no international, Commonwealth or national heritage listings apply to the marine park No international, Commonwealth or national heritage listings apply to the marine park Commercial fishing, tourism, and recreation, including fishing occur in the marine park (DNP, 2018a).

Arnhem AMP

The Arnhem AMP located 60 km southeast of the Arafura Marine Park, is extends from NT waters surrounding the Goulburn Islands, to the waters north of Maningrida. The marine park covers an area of 7,125 km² and water depth ranges from less than 15 m to 70 m. The marine park is significant because it contains habitats, species and ecological communities associated with the Northern Shelf Province. It includes dynamic habitats due to gently sloping shelf topped with a number of pinnacles, at depths ranging from 5 m to 30 m. It is nearby important wetland systems

including the Blyth-Cadell Floodplain and Boucaut Bay Nationally Important Wetland (outside of the EMBA, 667 km east of the activity area) and provides important foraging habitat for seabirds (DNP, 2018a).

Internal currents in the region drive a net clockwise movement of nutrient-rich coastal water contributing to high biological diversity. Tidal eddies induce localised upwellings and hotspots of productivity that correspond with aggregations of marine life within the marine park. No international, Commonwealth or national heritage listings apply to the marine park. Commercial fishing, tourism, and recreation, including fishing also occur in the marine park (DNP, 2018a).

Argo-Rowley Terrace AMP

The Argo-Rowley AMP covers an area of 146,003 km^2 and water depths between 220 m and 600 m. It is the largest in the Northwest Network, and is adjacent to the Mermaid Reef Marine Park and the WA Rowley Shoals Marine Park. It includes the deeper waters of the region and a range of seafloor features such as canyons on the slope between the Argo Abyssal Plain, Rowley Terrace and Scott Plateau. These are believed to be up to 50 million years old and are associated with small, periodic upwellings that results in localised higher levels of biological productivity (DNP, 2018b).

The Argo-Rowley Marine Park is significant because it contains habitats, species and ecological communities associated with the Northwest Transition and Timor Province. It includes two KEFs:

- Canyons linking the Argo Abyssal Plain with the Scott Plateau and Mermaid Reef; and
- Commonwealth waters surrounding Rowley Shoals.

This AMP supports a range of species including species listed as threatened, migratory, marine or cetacean under the EPBC Act. BIAs within the Marine Park include resting and breeding habitat for seabirds and a migratory pathway for the pygmy blue whale (DNP, 2018b). Commercial fishing and mining are important activities in the marine park (DNP, 2018b).

Ashmore Reef AMP

The Ashmore Reef AMP is in the Australian External Territory (AET) of Ashmore and Cartier Islands, approximately 630 km north of Broome, WA. It covers 583 km², with depths less than 15 m to 500 m. The Ashmore Reef AMP is comprised of three small islands, lagoons, sand flats, reef flats with a high diversity of hard and soft corals and sponges, and large seagrass meadows. The AMP is a Sanctuary Zone with a small Recreational Use Zone allowing access to the most westerly island.

The Ashmore Reef AMP is characterised by:

- The presence of around 100,000 seabirds than come to breed each year, including greater crested terns, white-tailed tropicbirds and greater frigatebirds, and tens of thousands of migratory shorebirds that forage in the surrounding waters, such as curlew sandpipers, bar-tailed godwits and great knots. It is also a breeding site for green turtles.
- Sea country within the AMP is valued for Indigenous cultural identity, health and wellbeing.
- Tourism, recreation and scientific research are important activities in the Marine Park.
- Two KEFs, namely:
    - The continental slope demersal fish communities KEF; and
    - The Ashmore Reef and Cartier Island and surrounding Commonwealth waters KEF.
- The presence of the Ashmore Reef National Nature Reserve Ramsar site.

Further information on KEFs and Ramsar sites is provided in Section 11.4.7 and Section 11.4.5 respectively.

Cartier Island AMP

The Cartier Island AMP lies in the Timor Sea within the AET of Ashmore and Cartier Islands, approximately 600 km north of Broome, WA. It covers 172 km², with water depths from less than 15 m to 500 m. The south-flowing Leeuwin Current originates in this region, and transports marine life southwards.

The entire Carter Island AMP is characterised by:

- Important habitat for seasnakes, turtles, whale sharks, corals, sea fans and sponges. This marine park and the nearby Ashmore Reef AMP are marine biodiversity hotspots, supporting a rich diversity of species and high numbers of individuals.
- Sea country within the marine park is valued for Indigenous cultural identity, health and wellbeing.
- Scientific research is an important activity in the AMP.
- Two KEFs, namely:
    - The continental slope demersal fish communities KEF, characterised by high levels of endemic fish; and
    - The Ashmore Reef and Cartier Island and surrounding Commonwealth waters KEF characterised by enhanced primarily productivity and aggregations of marine life.

Joseph Bonaparte Gulf AMP

The JBG AMP covers an area of 8,597 km^2 and water depths within the AMP range from less than 15 m to 75 m (Galaiduk *et al*., 2018). The JBG AMP is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Transition provincial bioregion and the Oceanic Shoals meso-scale bioregion (Galaiduk *et al*., 2018). The AMP contains a number of prominent shallow seafloor features including an emergent reef system, shoals and sand banks (Galaiduk *et al*., 2018). It also includes one key ecological feature, the Carbonate Bank and Terrace System of the Sahul Shelf, which is valued as a unique seafloor feature with ecological properties of regional significance (Galaiduk, *et al*., 2018). The Miriuwung, Gajerrong, Doolboong, Wardenybeng and Gija and Balangarra people have responsibilities for sea country in this AMP (DNP, 2018a).

Ranger led marine ecological surveys were conducted at the Joseph Bonaparte Gulf Marine Park (JBGMP) in 2021 and 2022. Results of the survey were released in 2023 (Udyawer et al., 2023). Overall, the surveys conducted at Emu Reefs, Emu Break and Howland Shoal highlighted the rich and diverse fish fauna within the JBGMP. The project established a baseline dataset of at least 59 species recorded within the JBGMP, including 10 species with threatened status (according to the IUCN). The BRUVs biodiversity data corroborates previous information from fisheries assessments on the common occurrence of Emperor and Snapper species (*Lutjanus spp. and Lethrinus spp.)*. The sightings of a large number of threatened species which include reef sharks, rays and wedgefish within the region highlights the healthy ecosystem within the Marine Park (Udyawer et al., 2023).

Kimberley AMP

The Kimberley AMP is located approximately 100 km north of Broome, WA and the central part of the Kimberley AMP is adjacent to the WA Camden Sound State Marine Park. It covers 74,469 km^2, with depths from less than 15 m to 800 m.

The Kimberley AMP is characterised by:

- High numbers of marine mammals such as dolphins, whales and dugong. The humpback whale breeds and calves in the Kimberley AMP annually after undertaking an extensive migration from Antarctica. Three dolphin species (Australian snubfin dolphin, Australian humpback dolphin and spotted bottlenose dolphin) use the Kimberley AMP to forage within and travel to coastal waters to calve and raise their young in inshore, protected waters.
- Important foraging rounds for seabirds and shorebirds known to breed on Adele Island (outside of the EMBA), including critically endangered eastern curlews and curlew sandpipers.
- Sea country within the AMP is valued for Indigenous cultural identity, health and wellbeing.
- Tourism, commercial fishing, mining, recreation (including fishing) and traditional use are important activities in the AMP.

There are no KEFs within the Kimberley AMP.

Mermaid Reef AMP

The Mermaid Reef AMP adjacent to the Argo–Rowley Terrace Marine Park, is located 280 km northwest of Broome and approximately 13 km from the Rowley Shoals Marine Park which falls under WA state jurisdiction. The Mermaid Reef Marine Park covers an area of 540 km² and water depths from less than 15 m to 500 m (DNP, 2018b).

It is significant because it contains habitats, species and ecological communities associated with the Northwest Transition. It includes the Mermaid Reef and Commonwealth waters surrounding Rowley Shoals KEF, and is one of three reefs forming the Rowley Shoals. The other two are Clerke Reef and Imperieuse Reef, to the southwest of the marine park, which are included in the WA Rowley Shoals Marine Park (DNP, 2018b).

Ecosystems of the Marine Park are associated with emergent reef flat, deep reef flat, lagoon, and submerged sand habitats. The marine park supports a range of species, including species listed as threatened, migratory, marine or cetacean under the EPBC Act. Biologically important areas within the marine park include breeding habitat for seabirds and a migratory pathway for the pygmy blue whale. Important activities in the marine park include marine tourism, recreation, and scientific research (DNP, 2018b).

Montebello AMP

The Montebello AMP covers an area of 3,413 km² and water depths from less than 15 m to 150 m. It is significant because it contains habitats, species and ecological communities associated with the Northwest Shelf Province. It includes one KEF: the ancient coastline at the 125-m depth contour. When tides are low, two coral reefs called Tryal Rocks emerge above the water (DNP, 2018b)

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 four species of marine turtles, a migratory pathway for humpback whales and foraging habitat for whale sharks (DNP, 2018b). Tourism, commercial fishing, mining and recreation are important activities in this AMP (DNP, 2018b).

AMP Pressures

Section 2.4 of the North Marine Parks Network Management Plan 2018 (DNP, 2018a) and Section 2.4 of the North-west Marine Parks Network Management Plan 2018 (DNP, 2018b) identify pressures relevant to the marine park networks. Pressures are defined as human-driven processes, events and activities that may detrimentally affect the values of the reserves network. Table 11.14 summarises the pressures and sources of pressure on the conservation values of the of the NMR and NWMR Reserves Network.

Table 11.14 Summary of environmental pressures in the NWMR and NMR

Pressure	Description
Climate change	Climate change impacts on marine environments are complex and interrelated and may include changes in sea temperature, sea level, ocean acidification, sea currents, increased storm frequency and intensity and species range extension or local extinction. Examples of features and species vulnerable to climate change impacts include submerged coral reefs, sawfish, sharks, dolphins, seabirds and marine turtles.
Changes in hydrology	Coastal developments and agriculture have the potential to discharge increased sediment loads and pollutants to rivers, estuaries and nearshore coastal environments. This can result in increased turbidity and siltation, which in turn impacts species that spawn or inhabit coastal, nearshore or offshore waters. Habitats and species vulnerable to changes in hydrology include seagrass meadows, reefs, sawfish, shark and dugong.
Extraction of living resources	Sustainable fishing as well as illegal or unregulated fishing can modify natural populations and disproportionately target select valuable species. Species vulnerable to extraction include shark, sawfish, turtles, sea snakes, fish and dugong.
Habitat modification	Offshore infrastructure developments can impact habitat within marine parks through physical disturbance and indirectly through the physical presence of infrastructure. Benthic habitats may be impacted by direct discharges to the seabed resulting in smothering or a reduction in the quantity of light reaching the seabed. Habitats and species vulnerable to habitat modification include reefs, shoals and pinnacle habitats, turtles, fish, sea snakes, dolphins and dugong.
Human presence	Wildlife watching, camping, boating, diving and snorkelling are drawcard activities for people to the region and have the potential to impact natural wildlife behaviour or result in damage to fragile marine environments. Habitats and species vulnerable to these impacts include reefs, turtles and seabirds.
Invasive species	Accidental introduction and establishment of invasive species can have potentially debilitating impacts on island, reef or shallow-water marine ecosystems. Direct impacts from predation or damage to important habitat and indirect impacts from competition for food resources can affect native populations. Habitats and species vulnerable to invasive species include reefs, turtles, seabirds and saltwater crocodiles.
Marine pollution	Land-based and marine activities that result in pollution have the potential to impact marine park values. Discharges of emissions including light, marine debris, noise, oil and chemicals can be detrimental to marine life and cause contamination of ecosystems and entanglement of marine fauna. Habitats and species vulnerable to marine pollution include islands, reefs, shallow-water habitats, dolphins, whales, turtles, sawfish, sharks and seabirds.

11.4.2 World Heritage-Listed Properties

World Heritage-Listed properties are examples of sites that represent the best examples of the world's cultural and heritage values, of which Australia has 19 properties (DCCEEW, 2024e). In Australia, these properties are protected under Chapter 5, Part 15 of the EPBC Act.

The spill EMBA overlaps with the coastal areas of Kakadu National Park as well as Djidbordu (Barron Island) and Gardangarl (Field Island). This World Heritage-listed property is described below and illustrated in Figure 11.56.

Kakadu National Park

Kakadu's natural formations and wildlife habitats are one of the primary contributors to its listing as a UNESCO world heritage site. Over 100 reptiles inhabit the park, the saltwater crocodile being the most renowned (Kakadu Tourism, 2024). Kakadu also has its own flatback turtle population that nest on Field Island (within the spill EMBA) and a few beaches near West Alligator Head. Green turtles (*Chelonia mydas*) are seen swimming around the Kakadu coastline. The hawksbill turtle (*Eretmochelys imbricata*) feed in Kakadu, however, they do not nest in the area. There are very few reliable sightings of loggerhead turtles (*Caretta caretta*) in Kakadu as the water is not deep enough for their preferred habitat. The olive ridley turtle (*Lepidochelys olivacea*) has few remaining nesting sites in the world and there is one unconfirmed record of a nest in Kakadu (O'Dea, 2014).

Other threatened marine species that reside in the park include the Indo-Pacific humpback dolphin (*Sousa chinensis*), snubfin dolphin (*Orcaella heinsohni*), dugong (*Dugong dugon*), largetooth sawfish (*Pristis pristis*), dwarf sawfish (*Dwarf sawfish*), northern river shark (*Glyphis garricki*), and the speartooth shark (*Glyphis glyphis*) (O'Dea, 2014).

Several shorebirds including the eastern curlew (*Numenius madagascariensis*), Asian dowitcher (*limnodromus semipalmatus*), great knot (*Calidris tenuirostris*), red knot (*Calidris canutus*), bar-tailed godwit (*Limosa lapponica*), lesser sand-plover (*Charadrius mongolus)*, greater sand-plover (*Charadrius leschenaultii leschenaultia*) and the curlew sandpiper (*Calidris ferruginea*) feed on the well protected coast of Kakadu's mainland and Field and Barren islands (within the EMBA) (O'Dea, 2014). The Australian painted snipe (*Rostratula australis*) has only been recorded once within the park.

Kakadu National Park is also a recognised as a RAMSAR wetland and is described in Section 11.4.5.

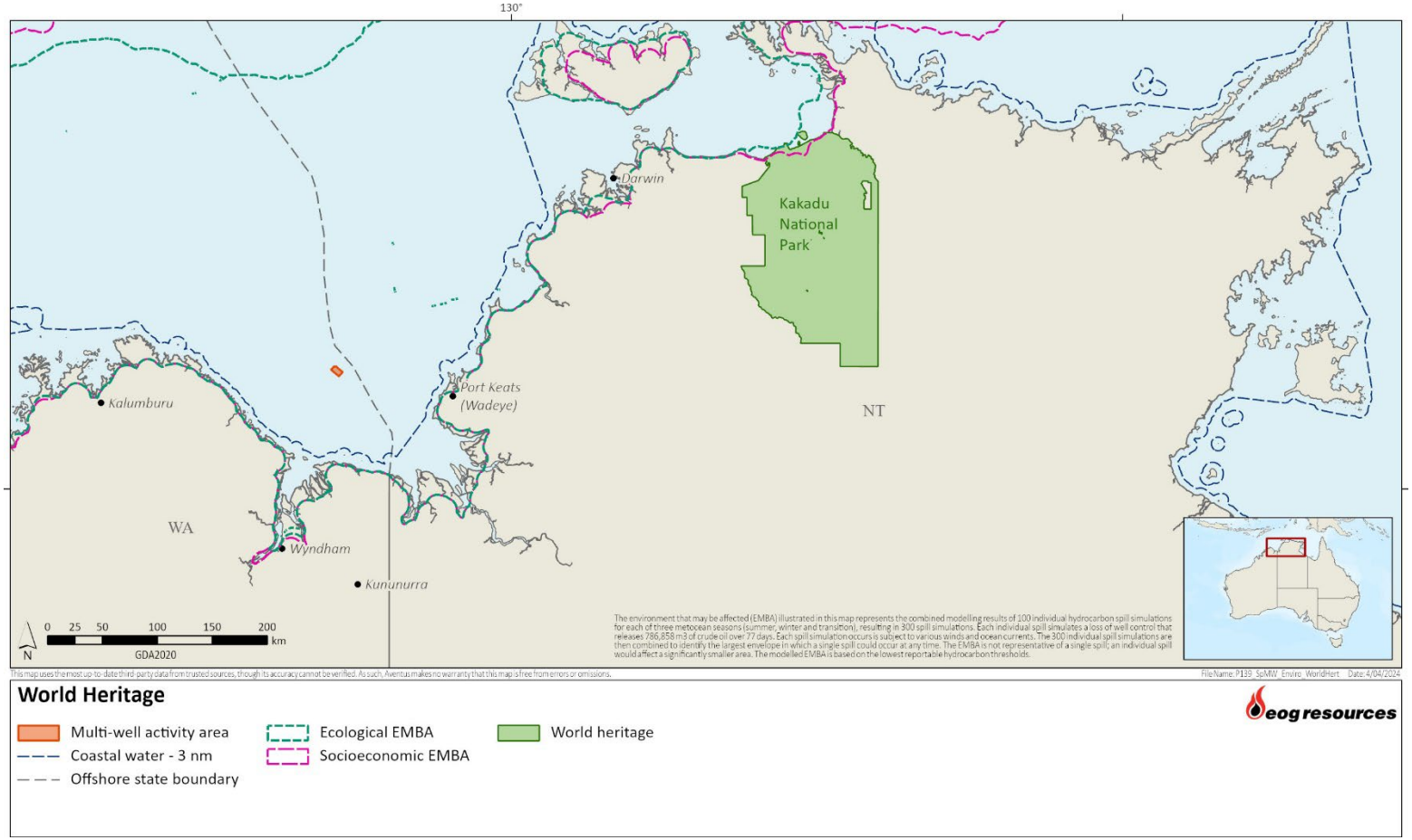


Figure 11.56 World heritage-listed Properties in the spill EMBA

11.4.3 Commonwealth Heritage-Listed Properties

Commonwealth Heritage Listed places are Indigenous, historic, and natural heritage places owned or controlled by the Australian Government. These include places connected to defence, maritime safety, communications, customs, and other government activities that also reflect Australia's development as a nation (DCCEEW, 2024h).

Several Commonwealth Heritage Listed properties were detected by the PMST (see Figure 11.57). Only properties that are marine/coastal and classed as 'natural' are discussed in this section.

Mermaid Reef – Rowley Shoals

Mermaid Reef is an AMP and described in section 11.4.1, Mermaid Reef - Rowley Sholas is also a KEF which is described in section 11.4.7.

Ashmore Reef Nature Reserve

Ashmore Reef is an AMP and NIW and described in section 11.4.1, 11.4.8 and Section 11.3.1.

Scott reef and surrounds

Scott Reef is described in in section 11.3.1.

Yampi Defence Area

Yampi Defence Area located on Koolan Island, WA displays a complex mosaic of landforms in the transition from the sandstone plateaux of the north-west Kimberley, to the broad plains and pindan scrub of the south-west Kimberley (DCCEEW, 2024h).The diversity of landforms results in a high concentration of small refugial habitats supporting regionally rich vertebrate as well as supporting several fauna and flora species that are listed as specially protected, threatened or having priority status in WA.

Bradshaw Defence Area

Bounded by the Fitzmaurice and Victoria Rivers on the shores of the JBG, Bradshaw Defence Field Training Area comprises a vast and rugged habitat endowed with a diverse array of plants and animals (DCCEEW, 2024h). Bradshaw has an unusually rich vertebrate fauna, second only to Kakadu National Park a total of 377 vertebrate species are known to occur within the place, comprising 22 frog, 77 reptile, 212 bird, 50 mammal species and 26 fish species.

11.4.4 National Heritage-Listed Properties

The National Heritage List is Australia's list of natural, historic and Indigenous places of outstanding significance to the nation (DCCEEW, 2024f). These places are protected under Chapter 5, Part 15 of the EPBC Act.

The socio-economic EMBA intersects the West Kimberley National Heritage Place and Kakadu National Park (which is described in section 11.4.2) as illustrated in Figure 11.57. This West Kimberley National Heritage Place is described below.

West Kimberley National Heritage Place

The West Kimberley was included on the National Heritage List in 2011 and has numerous values which contribute to the significance of the property, including indigenous, historic, aesthetic, cultural and natural heritage values (DCCEEW, 2024f). The West Kimberley National Heritage place covers a vast area that is characterised by a diversity of landscapes and biological richness found in its cliffs, headlands, sandy beaches, rivers, waterfalls and islands.

The values most relevant to the marine environment is Roebuck Bay as a migratory hub for shorebirds (Roebuck Bay does not fall within the EMBA).

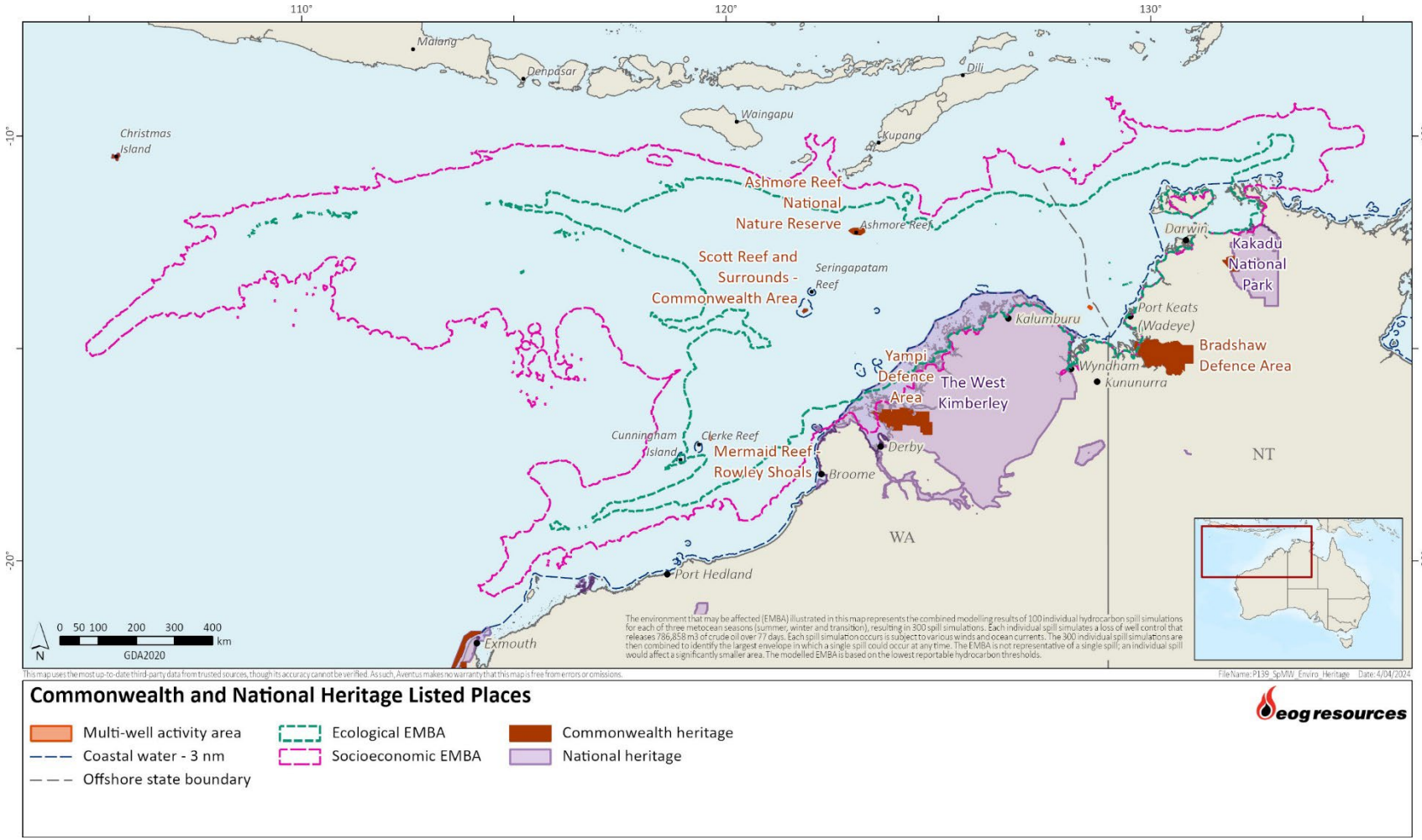


Figure 11.57 National Heritage and Commonwealth Heritage-listed Places in the spill EMBA

11.4.5 Wetlands of International Importance

Australia has 66 wetlands of international importance ('Ramsar wetlands') that cover more than 8.3 million hectares (as of September 2021) (DCCEEW, 2024g). Ramsar wetlands are those that are representative, rare or unique wetlands, or are important for conserving biological diversity, and are included on the List of Wetlands of International Importance developed under the Ramsar Convention. These wetlands are protected under Chapter 5, Part 15 of the EPBC Act.

There are four Ramsar-listed wetlands intersected by the EMBA (Figure 11.58), described here.

Ord River Floodplain

The Ord River Floodplain Ramsar site is a floodplain and estuarine wetland system located 87 km south of multi-well location. North of the lagoons, the site includes the Ord River Estuary leading into the Cambridge Gulf while the northeast end of the site heads around the coast to include a series of extensive intertidal creeks and flats known as the False Mouths of the Ord. The upstream portion of the floodplain and river tends to be freshwater and becomes more saline as the river approaches the Cambridge Gulf and falls under tidal influence (DCCEEW, 2024g).

Mangroves are the most common vegetation in the site, extending from the False Mouths of the Ord to the upstream sections of the estuary. The mangroves form narrow fringes along the intertidal areas, with saltmarsh on higher ground. The intertidal mangroves support many species of birds and bats and are a breeding area for banana prawns (DCCEEW, 2024g).

Over 200 species of birds have been recorded within the site including waterfowl, migratory shorebirds, mangrove birds and terrestrial species. The site supports the nationally threatened Australian painted snipe. The wetlands are habitat for many fish species that require migration between marine and more freshwater environments during their life, including the nationally threatened species largetooth sawfish, green sawfish and northern river shark. Reptiles that use the site include the freshwater crocodile and saltwater crocodile (DCCEEW, 2024g).

The Ord River Floodplain Ramsar site lies within the boundaries of six Indigenous language groups: Miriuwung, Gajerrong, Dulbung, Guluwaring, Djangade and Biambarr. The site contains Indigenous burial sites, artefact scatters, quarries, paintings and ceremonial sites (DCCEEW, 2024g). The Ord River Nature Reserve is gazetted for the conservation of flora and fauna. The Lower Ord River and the False Mouths of the Ord are popular destinations for locals and visitors for recreational fishing, crabbing and boating (DCCEEW, 2024g).

The *Ord River and Parry Lagoons nature reserves management plan 77 2012* (DEC 2012) is the approved management plan for the Ord River Floodplain Ramsar Site.

Ashmore Reef National Nature Reserve

The Ashmore Reef National Nature Ramsar site (Ashmore Reef Ramsar site) is located in the Indian Ocean approximately 840 km west of Darwin, 610 km north of Broome and 602 km northwest of multi-well location.

There are a number of other coral atolls and reefs within the Timor Province including Cartier Island, Seringapatam Reef and Scott Reef. These contain some of the same types of wetlands and habitats as Ashmore Reef Ramsar site, notably coral reefs, intertidal sand flats and sub-tidal beds (Hale and Butcher, 2013). However, Ashmore is the largest of the atolls in the region and has been managed for the purposes of conservation for three decades. Each of the wetland types present at Ashmore Reef Ramsar site is in near natural condition, with low densities of coral predators and disease (Hale and Butcher, 2013). The Ashmore Reef Ramsar site also has the highest seagrass cover in the bioregion (Hale and Butcher, 2013). In addition, the three islands at Ashmore Reef

Ramsar site (West, Middle and East) represent the only vegetated islands within the Timor Province bioregion (DEWHA 2008a). Thus, by definition the site contains bioregionally unique examples of wetland type E (sand, shingle or pebble shores) (Hale and Butcher, 2013).

Cobourg Peninsula

The Cobourg Peninsula Ramsar site is located approximately 163 km northeast of Darwin and 458 km northeast of multi-well location .

This Ramsar site occupies the entire peninsula and several nearby islands including the Sir George Hope Islands group, Sandy Island, Allaru Island, High Black Rock and Burford Island (BMT WBM, 2011) with the offshore islands (Figure 11.22). consisting of sandy shores, and the latter consisting of rocky shores; and tidal flats (sand, mud, sediment) and mangroves respectively. The Cobourg Peninsula Ramsar site is composed of a diversity of coastal and inland wetland types. Wetland types present include intertidal forested wetlands and salt flats, seasonal freshwater marshes and permanent freshwater pools. Using the Ramsar typology, there are ten coastal types and ten inland types within the site.

Cobourg Peninsula supports populations of threatened species including support for key life-cycle functions such as marine turtle breeding, waterbird breeding fish nursery and spawning habitats. The critical component of the site is the diversity and connectivity of a wide range of wetland habitat types, and is supported by populations of waterbirds, terrestrial ecosystems and freshwater fish and invertebrates (BMT WBM, 2011). Recent or continuing threats that are notable in the context of the site that may affect future ecological character include invasive species, climate change, tourism, marine debris, and resource extraction.

Kakadu National Park

The Kakadu National Park Ramsar site is located approximately 200 km east of Darwin and 422 km northeast of multi-well location. This Ramsar site is mainly an inland wetland ranging from intertidal forested wetlands and mudflats to seasonal freshwater marshes and permanent freshwater pools (BMT WBM, 2010). The socio-economic EMBA only intersects the coastal section of the Kakadu Park Ramsar site. The shoreline in this area consists of tidal flats (sand, mud, and sediment) and mangrove habitat.

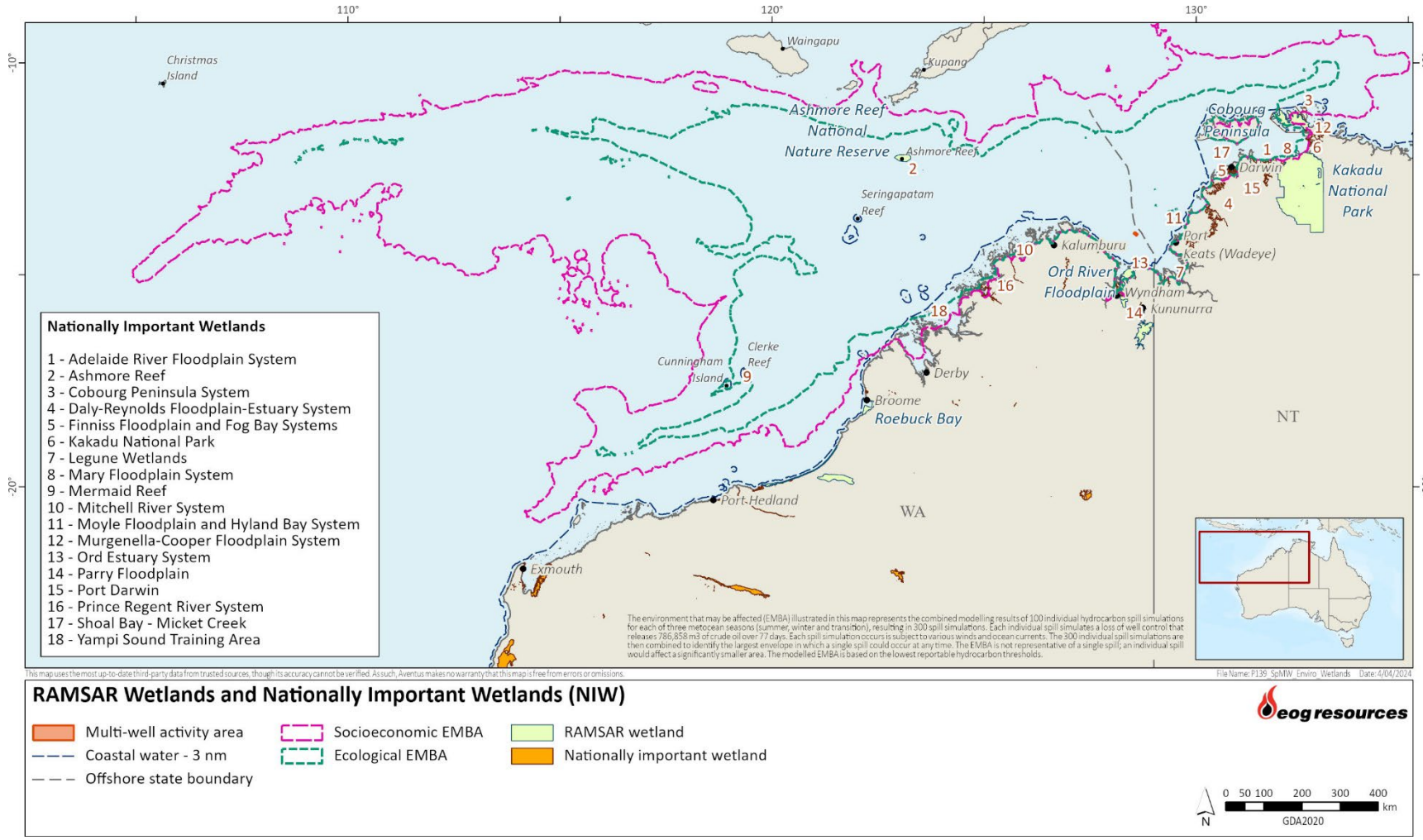


Figure 11.58 Wetlands of international importance and NIWs in the spill EMBA

11.4.6 Threatened Ecological Communities

The Australian Government is responsible for identifying and protecting MNES through the EPBC Act. Threatened Ecological Communities (TECs) are a MNES under the EPBC Act. TECs provide wildlife corridors and/or habitat refuges for many plant and animal species, and listing a TEC provides a form of landscape or systems-level conservation (including threatened species).

One TEC is identified in the spill EMBA, which is described below.

Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula

The vine thickets of the Dampier Peninsula are a very distinctive type of rainforest in the Kimberley region. This TEC is located about 641 km southwest of multi-well location.

This type of vine thicket is confined to the Peninsula between Broome and Derby, along with the coastal dune formations on which it occurs. Vine thickets occur as discrete areas of dense vegetation and can occur as a stand of a few trees or as larger patches. The 90 known occurrences vary in size from about 0.3 ha up to 507 ha, with a mean size of about 33 ha. They can occur as clumps or narrow linear stands (Black *et al*., 2010). The vine thicket community contains many plants with fleshy fruits that provide important food sources for fauna such as agile wallabies, bats, bower-birds and fruit-doves. They are also an important traditional resource for Indigenous people.

11.4.7 Key Ecological Features

KEFs are components of the marine ecosystem that are considered to be important for biodiversity or ecosystem function and integrity of the Commonwealth Marine Area.

There are several KEFs in the spill EMBA, which are illustrated in Figure 11.59 and described herein.

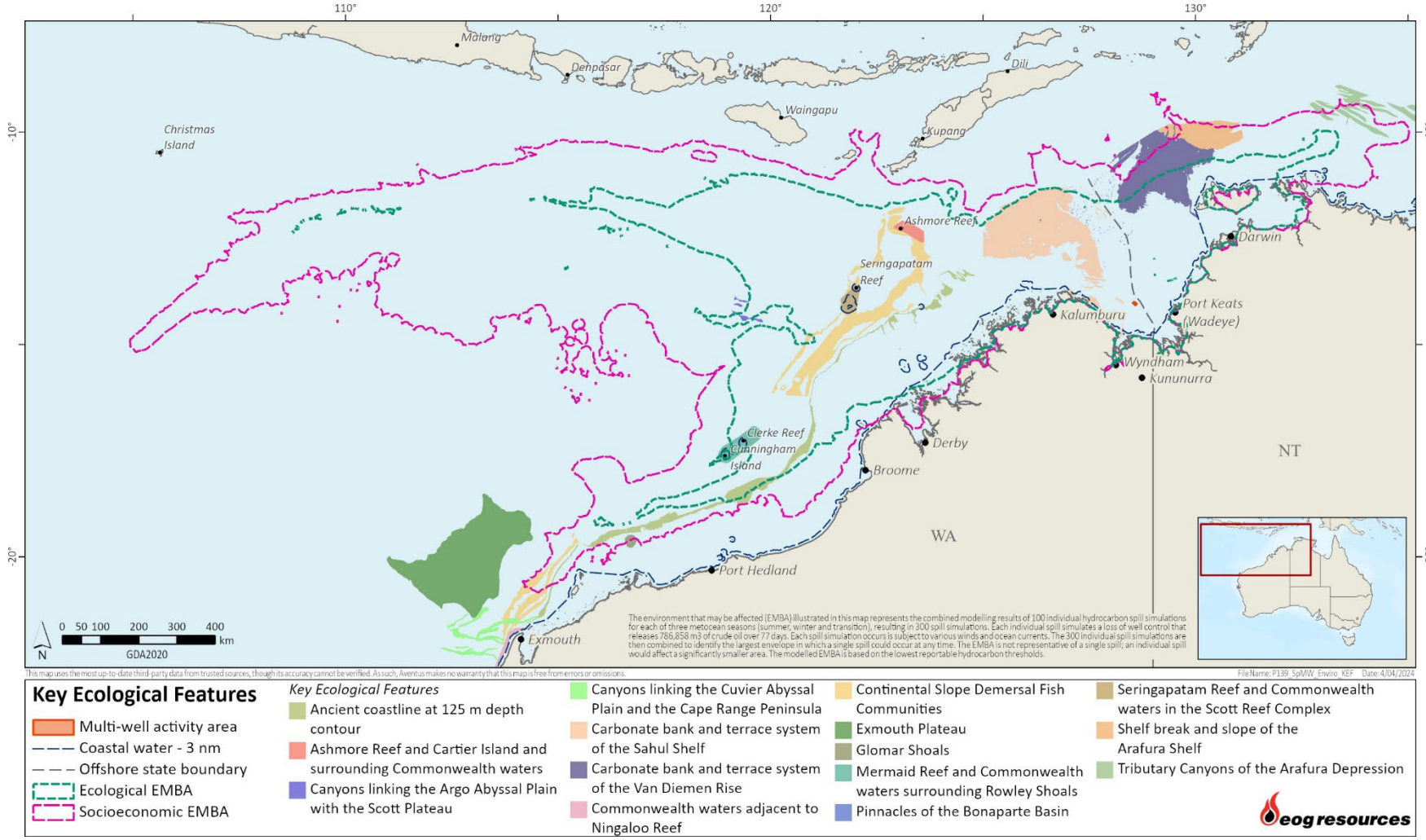


Figure 11.59 KEFs in the spill EMBA

Carbonate bank and terrace system of the Sahul Shelf

The carbonate bank and terrace system of the Sahul Shelf KEF is located in the western JBG and to the north of Cape Bougainville and Cape Londonderry. It is located 21 km west of multi-well location at its closest point.

The carbonate banks and terrace system of the Sahul Shelf is defined as a KEF for its role in enhancing biodiversity and local productivity relative to its surrounds as it is a unique seafloor feature supporting relatively high species diversity, making it regionally significant.

The KEF provides areas of hard substrate in an otherwise soft sediment environment, which is important for sessile species. Banks rise from depths of approximately 80 m to within 30 m of the surface. Banks that rise to within 45 m water depth support more biodiversity, such as communities of sessile benthic invertebrates including hard and soft corals, sponges, whips, fans and bryozoans (Brewer *et al*., 2007; Nichol *et al*., 2013). Brewer et al (2007) also noted that banks within the KEF support aggregations of demersal fish species such as snappers, emperors and groupers.

The banks are recognised as a biodiversity hotspot for sponges with more species and different communities than the surrounding seafloor (DCCEEW, 2024b). The KEF is also known as a foraging area for flatback, olive ridley and loggerhead turtles (DSEWPC, 2012).

Threats to the KEF include changes in sea temperature and ocean acidification, both resulting from climate change, as well as extraction of living sources from illegal, unreported and unregulated fishing (Brewer *et al*., 2007; Nichol *et al*., 2013).

Pinnacles of the Bonaparte Basin

The limestone pinnacles of the Bonaparte Basin lie on the mid-outer shelf in the western JBG. It is located 116 km northwest of multi-well location at its closest point. The pinnacles are defined as a KEF because they are a unique seafloor feature with ecological properties of regional significance.

The pinnacles provide areas of hard substrate in an otherwise soft sediment environment and are therefore important for sessile species. Pinnacles typically rise steeply from depths of about 80 m and emerge to within 30 m of the water surface, allowing light dependent organisms to thrive. Pinnacles that rise to within at least 45 m of the water surface support more biodiversity. Communities include sessile benthic invertebrates including hard and soft corals, sponges, whips, fans, bryozoans and aggregations of demersal fish species such as snappers, emperors and groupers (Brewer *et al*., 2007; Nichol *et al*., 2013). The pinnacles are also recognised as a biodiversity hotspot for sponges as they are home to more sponge species and different communities than the surrounding seafloor.

Carbonate bank and terrace system of Van Diemen Rise

The carbonate bank and terrace system of the Van Diemen Rise KEF is located on the north-eastern side of the JBG and partially overlaps with the north-east of the EMBA. It is located 229 km north of multi-well location at its closest point.

The KEF is considered important for its role in enhancing biodiversity and local productivity relative to its surrounds and for supporting relatively high species diversity. The KEF covers an area of 31,278 km^2.

The KEF is characterised by banks, ridges and terraces with relatively high proportions of hard substrate (DCCEEW, 2024b). Channel systems between the banks range from approximately 60–150 m to 10–40 m in depth (Anderson *et al.,* 2011) and supports sponge and octocoral gardens by providing epifauna habitat in an otherwise flat environment (Przeslawski *et al*., 2011). Whilst reef-

forming corals are rare throughout the JBG, some locally dense hard corals were found on the banks of the Van Diemen rise during marine surveys in 2009 and 2010 (Przeslawski *et al*., 2011).

A study of the sponge diversity and ecology of the Van Diemen Rise identified the region as a sponge biodiversity hotspot (Przeslawski *et al*., 2014). Sponges were collected with a benthic sled from five geomorphic features (banks, terrace, ridge, plain and valley), resulting in the identification of 283 species. The study found that sponge diversity was generally highest further offshore and on raised geomorphic features, particularly banks. Pelagic fish such as mackerel, red snapper and a distinct gene pool of goldband snapper are found in the Van Diemen Rise (Blaber *et al*., 2005; Salini *et al*., 2006). Olive ridley turtles, seasnakes and sharks have also been reported to occur in the area (DCCEEW, 2024b).

Ancient Coastline at 125 m depth contour

The ancient coastline at 125 m depth contour KEF comprises a series of several steps and terraces that form an escarpment along north-west WA centred around the 125 m isobath, although this feature is not continuous. It is located 410 km west of multi-well location at its closest point.

The KEF is an important divide between carbonate, cemented sands and the fine, less cemented slope materials found offshore. It is valued as a unique seabed feature with ecological properties of regional significance. Hard substrate areas of the ancient coastline are thought to provide biologically important habitat in an area predominantly made up of soft sediment (DCCEEW, 2024b).

Continental slope demersal fish communities

The continental slope demersal fish communities KEF is considered important due to its high levels of endemism (DEWHA 2008b). It is located 528 km west of multi-well location at its closest point.

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 (DEWHA 2008b). The KEF supports two distinct demersal community types (biomes) associated with the upper slope (water depth of 225–500 m) and the mid-slope (750–1,000 m) (DCCEEW, 2024b). Although poorly known, demersal-slope communities are thought to rely on bacteria and detritus-based systems comprised of infauna and epifauna, which in turn become prey for a range of teleost fish, molluscs and crustaceans (Brewer *et al*., 2007). Higher-order consumers may include carnivorous fish, deep water sharks, large squid and toothed whales (Brewer *et al*., 2007).

Glomar Shoals

The Glomar Shoals are a submerged littoral feature located approximately 150 km north of Dampier on the Rowley shelf at water depths of 33 m to 77 m (Falkner *et al.,* 2009). The shoals are defined as a KEF primarily due to their high productivity and aggregations of marine life.

The shoals consist of a high percentage of marine-derived sediments with high carbonate content and gravels of weathered coralline algae and shells (McLoughlin and Young, 1985). The area's higher concentrations of coarse material in comparison to surrounding areas are indicative of a high-energy environment subject to strong sea-floor currents (Falkner *et al.,* 2009).

While the biodiversity associated with the Glomar Shoals has not been studied, the shoals are known to be an important area for a number of commercial and recreational fish species such as rankin cod, brown striped snapper, red emperor, crimson snapper, bream and yellow-spotted triggerfish (Falkner *et al.,* 2009; Fletcher and Santoro, 2009). These species have recorded high catch rates associated with the Glomar Shoals, indicating that the shoals are likely to be an area of high productivity.

Mermaid Reef and Commonwealth waters including Rowley Shoals

The Mermaid Reef and Commonwealth waters surrounding Rowley Shoals is defined as a KEF for its enhanced productivity and high species richness and benthic and pelagic habitats within the feature. The Rowley Shoals are a collection of three atoll reefs, Clerke, Imperieuse and Mermaid, which are located about 300 km northwest of Broome. This KEF encompasses Mermaid Reef Commonwealth Marine Reserve as well as waters from 3 nm out to 6 nm surrounding Clerke and Imperieuse reefs (DCCEEW, 2024a). Mermaid Reef lies 29 km north of Clerke and Imperieuse reefs and is totally submerged at high tide. Mermaid Reef falls under Commonwealth jurisdiction. Clerke and Imperieuse reefs constitute the Rowley Shoals Marine Park, which falls under WA Government jurisdiction (DCCEEW, 2024a).

Mermaid Reef and Commonwealth waters surrounding Rowley Shoals are regionally important in supporting high species richness, higher productivity and aggregations of marine life associated with the adjoining reefs themselves (Done *et al.,* 1994). The reefs provide a distinctive biophysical environment in the region as there are few offshore reefs in the northwest. They have steep and distinct reef slopes and associated fish communities. In evolutionary terms, the reefs may play a role in supplying coral and fish larvae to reefs further south via the southward flowing Indonesian Throughflow. Both coral communities and fish assemblages differ from similar habitats in eastern Australia (Done *et al.,* 1994).

Ashmore Reef and Cartier Island and surrounding Commonwealth waters

The Ashmore Reef and Cartier Island and surrounding Commonwealth waters KEF is regarded as a biodiversity hotspot which supports a diverse array of pelagic and benthic marine species. It is located 557 km northwest of multi-well location. The KEF is considered important due to its aggregations of marine life and enhanced primarily productivity in an otherwise low-nutrient environment.

Ashmore Reef and Cartier Island are situated on the shallow upper slope of the Sahul Shelf, north of Scott and Seringapatam reefs. They form part of a series of submerged reef platforms along the outer edge of the continental slope of the NWMR. Localised upwelling and turbulent mixing in the surrounding Commonwealth waters provide nutrients to support the reef structure and ecology (DEWHA 2008b).

Ashmore Reef and Cartier Island and the surrounding Commonwealth waters are regionally important for feeding and breeding aggregations of birds and other marine life, including an unusually high diversity of sea snakes, a genetically distinct breeding population of green turtles and foraging grounds for green, loggerhead and hawksbill turtles (Limpus, 2008). The reef system is an important staging post for seabirds and migratory shorebirds and the area is home to some of the most important seabird colonies in the NWMR (Milton, 2005). Ashmore Reef supports the highest number of coral species of any reef off the WA coast.

Canyons linking the Argo Abyssal Plain with the Scott Plateau

The canyons linking the Argo Abyssal Plain with the Scott Plateau is defined as a KEF for their high productivity and aggregations of marine life (DCCEEW, 2024a). These values apply to both the benthic and pelagic habitats within the feature.

The spatial boundary of this KEF includes three canyons, adjacent to the south-west corner of Scott Plateau. The canyons cut deeply into the south-west margin of the Scott Plateau at an approximate depth of 2,000 m to 3,000 m, and act as conduits for transport of sediments to depths of more than 5,500 m on the Argo Abyssal Plain. The water masses at these depths are deep Indian Ocean water on the Scott Plateau and Antarctic bottom water on the Argo Abyssal Plain. Both water masses are cold, dense and nutrient-rich (DCCEEW, 2024a).

Seringapatam Reef and Commonwealth waters in the Scott Reef complex

The Seringapatam reef and Commonwealth waters in the Scott reef complex are defined as a KEF as they support diverse aggregations of marine life, have high primary productivity relative to other parts of the region, are relatively pristine and have high species richness, which apply to both the benthic and pelagic habitats within the feature (DCCEEW, 2024a).

Scott and Seringapatam reefs are part of a series of submerged reef platforms that rise steeply from the sea floor between the 300–700 m contours on the northwest continental slope and lie in the Timor Province (Falkner *et al.,* 2009). Scott and Seringapatam reefs provide an important biophysical environment in the region as one of few offshore reefs in the northwest. The spatial boundary of this KEF includes both reefs plus the adjacent apron/fan features, and the canyon approximately 10 km to the west of Scott Reef. The southern edge of the KEF is defined by the state water boundary around Scott Reef (DCCEEW, 2024a).

As two of the few offshore reefs in the north-west, they provide an important biophysical environment in the region (DCCEEW, 2024a). The coral communities at Scott and Seringapatam reefs play a key role in maintaining the species richness and subsequent aggregations of marine life. Scott and Seringapatam reefs and the waters surrounding them attract aggregations of marine life including humpback whales and other cetacean species, whale sharks and several species of sea snake. Two species of marine turtle nest and forage during the summer months, and this KEF also provides foraging areas for various seabird species (DCCEEW, 2024a).

Shelf break and slope of the Arafura Shelf

The shelf break and slope of the Arafura Shelf is located north of the Tiwi Islands, near the edge of the Australian EEZ. It is defined as a KEF for its ecological significance associated with productivity emanating from the slope and forms part of a unique biogeographic province (Last *et al.,* 2005). The spatial boundary of this KEF includes the area of slope north of the Van Diemen Rise, an adjacent area of shelf, extending south to the terrace edge of the Van Diemen Rise in the western part and bounded by the 100 m depth contour in the east. At the eastern end, the area of shelf included extends to approximately the eastern extent of the slope. The slope and shelf areas contain pinnacles and reefs (DCCEEW, 2024a).

Phytoplankton and invertebrates have been sampled in the area (Hallegraeff and Jeffrey 1984; Wilson, 2005), and primary production of phytoplankton is thought to form the basis for offshore food webs (DEWHA, 2007). Fish communities that occur in this key ecological feature represent the break between the Timor Province provincial bioregion and the Timor Transition provincial bioregion (Last *et al*., 2005). Records show at least 284 demersal fish species are found in the area (Last *et al.,* 2005), including commercially fished red snapper species. The area is also likely to support whale sharks, sharks and marine turtles (DEWHA, 2007).

Tributary canyons of the Arafura Depression

The Tributary canyons of the Arafura Depression are defined as a KEF for their high productivity and high levels of biodiversity and endemism, in both the benthic and pelagic habitats within this feature (DCCEEW, 2024a).

Nearly all the canyons in the NMR are located within this KEF in which endemic benthic species are thought to occur (Wilson, 2005). Primary productivity in this feature is likely to be associated with movements of water through the canyons and surface water circulation driven by seasonal north-west monsoon winds.

Biological diversity and ecosystem processes in the area are influenced by the state of the canyon habitats. The steep topography of the canyons, their diverse current regimes, nutrient enrichment

and entrapment, detritus funnelling and diverse substrate types form widely divergent ecosystems (McClain and Barry 2010; Vetter, 1994; Vinogradova, 1959), coupled with the regional setting and geological origins of the area, strongly influence species biodiversity (Kloser *et al.,* 2010).

At least 245 macroscopic species, including a diverse variety of invertebrates (e.g. sponges, corals, sea anemones, tunicates, worms, crustaceans, brittle stars, feather stars) and six small fish species have previously been sampled (Wilson, 2005). It is estimated that a further 500 species could be identified from post-survey analysis of grab and dredge samples (Wilson, 2005). Marine turtles, likely to be olive ridleys, have been reported to feed in the vicinity of the canyons (Whiting *et al.,* 2007).

11.4.8 Nationally Important Wetlands

NIWs are considered significant for a variety of reasons, including their importance for maintaining ecological and hydrological roles in wetland systems, providing important habitat for animals at a vulnerable or particular stage in their life cycle, supporting 1% or more of the national population of any native plant or animal taxa or for its outstanding historical or cultural significance (DCCEEW, 2024i).

There are 18 NIWs that are intersected by the EMBA, as illustrated in Figure 11.58 and described in Table 11.15. Information provided in Table 11.15 is sourced from DAWE's online Directory of Important Wetlands (DCCEEW, 2024i). Noting there are NIWs shown in Figure 11.58 that are in close proximity and/or outside of the EMBA, these are not discussed further in this section.

Table 11.15 Nationally important wetlands in the spill EMBA

Name	Distance from multi-well location	Description
WA		
Ord Estuary	88 km south	The Ord River system is a floodplain and estuarine wetland system consisting of broad floodplains known to periodically flood and dry out; and permanent waterholes (known as the Parry Lagoons) (DCCEEW, 2024i). The wetlands are a habitat for many diadromous fish species (that migrate between salt water and freshwater environments), including nationally threatened species such as freshwater sawfish, green sawfish and the northern river shark. Freshwater and saltwater crocodiles are also known to use the wetland (DCCEEW, 2024i).
Mitchell River System	317 km southwest	The Mitchell River system consists of a relatively small river system and estuary, with an of escarpment of vertical multi-stage waterfalls (e.g., Mitchell Falls). Tributaries of the system are Camp Creek (off Mitchell Plateau), Youngs Creek and Leichardt Creek. The creeks and upper reaches of Mitchell River are seasonal; the entrenched lower reaches are permanent or near-permanent; twice-daily tides occur in the estuary. At least 10 species of freshwater fish are known to inhabit the waters of the Mitchell River. Seven waterbird species have been recorded in the system (DCCEEW, 2024i).
Parry Floodplain	133 km south	The Parry floodplain is a good example of a tropical floodplain with permanent billabongs, seasonal marshes and wooded swamp (one of the few such floodplains of substantial area in WA). The site comprises the lower reaches and floodplain of Parry Creek including Parry Lagoons and numerous other lagoons, billabongs including claypans. The floodplain is 5 km southwest of the Ord River and

Name	Distance from multi-well location	Description
		adjoins tidal wetlands of the Ord estuary system in the north. Surface water flows in the floodplain from upper Parry Creek, originating 25 km south of the site in disturbed (fire and grazing) catchment, and from several short creeks; and occasionally from the Ord River. Seventy-seven waterbird species (including 24 shorebirds and four terns) are recorded in this system (one of the highest totals in the Kimberley); with 22 listed under treaties. Both freshwater crocodile and saltwater crocodile occur in the permanent billabongs (DCCEEW, 2024i).
Prince Regent River System	393 km southwest	The Prince Regent River System is a tropical estuary and river system incised in a plateau. There are nine major tributaries to this river, originating 11 km to 32 km from their junctions with the river (e.g., Youwanjela Creek from north-east, Cascade Creek from south southwest). The water catchments are relatively undisturbed and the only known habitat of two freshwater fishes; habitat to 15 waterbird species and an important breeding and non-breeding area for saltwater crocodile (DCCEEW, 2024i). The area is nominated as an IBA (Birdlife International, 2022)
Yampi Sound Training Area	576 km southwest	The Yampi Sound Training Area contains large areas of coastline. The central and southwestern region is flat, consisting of the low lying flood plains of the Robinson River and its tributaries. The average annual rainfall in the training area is approximately 1,000 mm, which falls almost entirely during the summer wet season from November to April. During this time numerous permanent and semi-permanent pools along both major and minor watercourses are maintained. The Robinson River is tidal, with extensive tidal flats bordering King Sound. Tides are up to 11 m (DCCEEW, 2024i). Threatened species such as the Little Tern, Gouldian Finch and Western Partridge Pigeon have been recorded in the area (DCCEEW, 2024i).
Mermaid Reef	1,020 km southwest	Mermaid reef is the most north-easterly atoll of the Rowley Shoals, which comprises three distinct reef systems arising from depths of between 300 and 700 m along the edge of the continental shelf. The reef experiences a semi-diurnal tidal cycle with a spring range of about 4.5m (DCCEEW, 2024i). Fauna surveys indicate the reef has a rich and diverse fauna which is regionally important, which includes some endemics and species not occurring elsewhere in Western Australia (Berry ,1986; Done *et. al.,* 1994). In addition to the diverse range of coral species, other benthic groups include sponges, bryozoans, ascidians (sea squirts) polychaetes, molluscs, echinoderms, crustaceans and cnidarians (jellyfish) (DCCEEW, 2024i).
Ashmore Reef	621 km northwest	Ashmore Reef is described in Section 11.3.1 and 11.4.1. Ashmore Reef is one of only three emergent oceanic reefs in the north eastern Indian Ocean, and the only one having vegetated islands (DCCEEW, 2024i). Some 95 species of bird have been recorded from the reef and its adjacent waters. Forty-three of these species are listed on the Japan-Australia and China-Australia Migratory Birds Agreements. The islets are an important staging point for wading birds migrating between Australia and the northern hemisphere. The islands are major seabird nesting sites with 20 breeding species

Name	Distance from multi-well location	Description
		recorded to date. The total bird population has been estimated to exceed 100,000 during the peak breeding season (DCCEEW, 2024i).
NT		
Legune (JBG) Wetlands	128 km southeast	The Legune wetlands are floodplain including meso and microscale pools and channels. The Legune Homestead Swamps are regionally significant Eleocharis-dominated wetland supporting significant waterbird numbers in the dry season, and breeding magpie geese in the wet season. The Osmans Lake System is the main area of open shallow wetland in the Keep River drainage. In combination the swamps and lake systems provide a good diversity of wetland habitat in a relatively small area. Forty-seven species of waterbirds have been recorded in the wetlands, 14 of them listed under treaties (JAMBA/CAMBA) (DCCEEW, 2024i). The wetlands are also nominated as an IBA (Birdlife International, 2022)
Moyle Floodplain and Hyland Bay System	119 km east	Located in the Bonaparte Gulf Basin, the Moyle Floodplain and Hyland Bay System is classed as a megascale irregular floodplain with mesoscale sinuous channel and several mesoscale sumplands. Water supply to the floodplain is from surface inflow from creeks originating 10 km to 22 km southwest and southeast, with surface inflow to the east and north from the Moyle River. Forty-seven bird species known to occur on floodplain and adjacent coast, with 26 listed under treaties (JAMBA, CAMBA, BONN). The floodplain is a significant breeding area for magpie geese, with especially large breeding populations in drier years. The mudflats of Hyland Bay support relatively high numbers of migrant shorebirds. There are at least two significant waterbird breeding rookeries in the area which include darter and cormorant species (BirdLife, 2022; Whitehead *et al.,* 1992) and the area is nominated as an IBA. The tidal estuary and creeks support a particularly high density of Saltwater Crocodiles, that also breed on the floodplain channel (DCCEEW, 2024i).
Daly-Reynolds Floodplain Estuary System	187 km northeast	One of the largest floodplains in the NT with the largest catchment of any major freshwater floodplain system. Water supply to the floodplain esturary is primarily from the Daly River, originating 275-300 km east north-east to south-south-east (catchment area of 49 000 km^2), and the Reynolds River, originating 60 km south-east (catchment area of 10 000 km^2); with substantial inflow from from Hermit-Door Creek system, Kilfoyle, Lookout, Woomeroo and unnamed Creeks. More than 80 fauna species, with at least 30 species listed under treaties (JAMBA/CAMBA), are known to occur within the site and is an IBA (Birdlife International, 2022). The system supports a large number of magpie geese. Reptiles (frogs, freshwater turtles) are known to occur in areas of the system, which also acts as an important breeding area for saltwater crocodile (in swamps and billabongs) and habitat for freshwater crocodiles (further upstream) (DCCEEW, 2024i).
Finniss Floodplain and Fog Bay Systems	205 km northeast	A megascale irregular floodplain, with a network of microscale irregular creeks and a series of mesoscale (almost closed loop) irregular channels, also several microscale irregular estuaries and a macroscale embayment (mudflats part, up to 1.5 km wide). Surface

Name	Distance from multi-well location	Description
		water inflow is mainly from the Finniss river originating 50 km southeast (catchment area exceeds 110 000 ha), and several creeks. This system supports a major breeding area for magpie geese, at times a significant dry season refuge area for waterbirds (whistling-ducks); a major migration stop-over area for shorebirds; and a major breeding area for saltwater crocodile (DCCEEW, 2024i). The site is nominated as an IBA (Birdlife International, 2022).
Port Darwin	291 km northeast	A shallow branching embayment supporting one of the largest discrete areas of mangrove swamp in the NT. The wetland acts as a major nursery area for estuarine and offshore fish and crustaceans in the Beagle Gulf area. At least 48 bird species occur, 25 listed under treaties (JAMBA, CAMBA, BONN); including four cormorants, nine herons and allies, three rails, 23 shorebirds and six gulls and terns. Dolphins and turtles are commonly observed (DCCEEW, 2024i).
Adelaide River Floodplain System	350 km northeast	A major floodplain-tidal wetland system typical of the Top End region, consisting of the largest blocks of mangrove associated with a floodplain, a tightly meandering major tidal river, and several marginal lakes and swamps including the largest floodplain lake (Lake Finniss), and near-permanent marsh (Fogg Dam, Melacca Swamp), considered a rare wetland type in NT. Records indicate there are 88 waterbird species, 43 of them listed under treaties (JAMBA/CAMBA). Saltwater crocodiles, freshwater crocodiles, freshwater turtles, water python, snakes, frogs and numerous fish species are associated with the floodplain, fringing billabongs and swamps. Dolphins and dugongs occur in the lower part of the estuary (DCCEEW, 2024i). The area is nominated as an IBA (Birdlife International, 2022).
Shoal Bay - Micket Creek	312 km northeast	The Shoal Bay – Micket creek is a spring fed coastal freshwater floodplain consisting of wetland marshes, mangrove woodlands, beaches, mudflats, creeks and estuaries. The wetland area stretches from Lee Point, which is outside Defence property, around the coast to Gunn Point. Micket Creek is a tidal estuary flowing into Shoal Bay. King creek, other smaller creeks, and water from Noogoo Swamp flow into Shoal Bay. The Micket Creek area is a significant bird habitat with over 200 species of birds recorded and is an IBA (Birdlide International, 2022). It is also a dry season refuge for waterfowl and birds of prey. High numbers of migratory shorebirds regularly use the areas' mudflats with counts of more than 15,000 waders. The estuary creeks provide a significant nursery for Barramundi. Twenty-five migratory birds listed on international agreements with Japan and China (JAMBA/CAMBA) have been recorded from intertidal feeding sites, saline flats and local sewage ponds. The most common of these birds are the greenshank, sharp-tailed sandpiper, bar-tailed godwit, black-tailed godwit, great knot, large sand plover and red-necked stint. The area is also notable for the nationally endangered little tern (DCCEEW, 2024i).
Mary Floodplain System	362 km northeast	A major floodplain-tidal wetland system typical of the Top End region, however unusual due to a lack of coherent river channel or major river estuary. The Mary Floodplain adjoins the Adelaide River Floodplain System located in the northwest. The site includes some of

Name	Distance from multi-well location	Description
		the largest areas of wooded swamp (apart from Arafura Swamp) in the NT and featuring a complex network of channels and billabongs. At least 75 bird species have been recorded, 33 listed under treaties (JAMBA, CAMBA, BONN. The site is one of the two to three most important breeding areas for magpie goose in part due to an abundance of nesting sites and feeding habitat (DCCEEW, 2024i).
Kakadu National Park	415 km northeast	Kakadu National Park is a Ramsar site of contiguous wetlands comprising the catchments of two large river systems, the East and South Alligator rivers, seasonal creeks and the lower reaches of the East Alligator River. It also includes the Magela Creek floodplain, the lower South Alligator floodplain, the entire West Alligator River system and nearly all the Wildman River system. During the dry season water contracts into lagoons and billabongs and up to two million waterbirds frequent the floodplains. At least 53 species of waterbirds use the Ramsar site including large concentrations of magpie geese and wandering whistling-duck. These and many other species breed in the wetlands but most species are dry season migrants (DCCEEW, 2024i). Both freshwater and saltwater crocodiles are known to breed within the Ramsar site. Fifty-nine fish species are known from the wetland, including eight with narrowly restricted ranges (DCCEEW, 2024i).
Murgenella-Cooper Floodplain System	487 km northeast	A good example of a floodplain-tidal wetland system of the Top End region, with relatively low volume of freshwater inflow. Surface water flows into the system mainly from Cooper Creek, originating 70 km east south-east (catchment area of 165 000 ha), and several unnamed creeks including minor creeks. At least 71 bird species have been recorded in the area, 26 on treaties (JAMBA, CAMBA, BONN). Magpie geese breed extensively on both Murgenella and Cooper Floodplains. Although, the Murgenella floodplain is not known as a breeding area for saltwater crocodile, Cooper creek swamps are thought to have high numbers (DCCEEW, 2024i).
Cobourg Peninsula System	453 km northeast	The Coburg Peninsula system is a good example of mangrove swamp occurring around tidal channels and islands not associated with substantial riverine inflow. It is has one of the largest discrete blocks of mangroves in the NT. Most of the site's wetlands are tidal, with numerous creeks flowing into the tidal areas. 58 species of bird species have been recorded, at least 21 listed under treaties (JAMBA/CAMBA); includes four darters and cormorants, 12 herons and allies (e.g., eastern reef egret), 23 shorebirds (e.g., eastern curlew) and six gulls and terns. Saltwater crocodile are present in the tidal areas (e.g., south ends of Port Bremer and Raffles Bay) but densities are relatively low. At least 13 frog species occur on the peninsula. Marine turtles (green and hawksbill turtles) occur at most of the islands and headlands, with all species known to breed in the NT. Dugong occur in the Minimini channels and widely in adjacent shallow seas, with high densities in some northern embayments (DCCEEW, 2024i).

11.4.9 State/Territory Protected Areas

There are several WA and NT managed marine protected areas intersected by the EMBA, (see Figure 11.55) and described in Table 11.16.

Table 11.16 Marine protected areas in the spill EMBA

Name	Distance from multi-well location	Description
WA		
North Kimberley Marine Park	66 km south	The North Kimberley Marine Park is the largest state marine park in WA, covering an area of approximately 18,450 km^2. The park is located in state waters and extends from York Sound to Cape Londonderry, to the JBG and up to the WA/NT border (DPW, 2016). The park is managed under a joint management plan between the Department of Parks and Wildlife (DPW) and the Uunguu, Balangarra, Miriuwung Gajerrong and Wilinggin traditional owners (DPW, 2016). The coastline of this marine park (from west coast of Cambridge Gulf) is a National Heritage Place (Indigenous). The North Kimberley Marine Park covers a large variety of marine habitats including sub-tidal and inter-tidal (fringing) coral reefs, seagrass, mangroves and macroalgal communities. More than 1,000 islands and associated intertidal and subtidal habitats are contained within its boundaries. Seagrass beds found around Cape Londonderry (162 km west of the activity area) provide foraging areas for dugong and marine turtles (DPW, 2016). The marine park surrounds thousands of islands with diverse and rich habitats. Marine turtle nesting sites and breeding sites for seabirds and migratory shorebirds have been identified within the marine park, and fringing reefs line the shores of almost all of the islands (DPAW, 2016). Fringing reefs occur along sectors of the mainland coast (Elsie Island to Cape Talbot, Cape Bougainville) (Christiansen *et al*., 2010). The productive deep waters that surround the islands and open sea reefs provide foraging habitat for marine mammals and pelagic fish, such as mackerel (DPW, 2016). The complex coastline of the mainland also creates a variety of habitats and communities, including important areas for dugongs, Australian snubfin dolphins and Australian humpback dolphins (DPW, 2016). Hotspots for dugongs occur to the northeast of Bigge Island to the Maret and Montalivet Islands and around the Anjo Peninsula in Vansittart and Napier Broome Bays (DPW, 2016). The MP is a globally significant area for sawfish, with finfish targeted by commercial and recreational fishermen (DPW, 2016). The marine park also contains many places of cultural and spiritual importance to traditional owners (DPW, 2016). Environmentally significant areas with the marine park include: • King Shoals Sanctuary Zone – supports a wide diversity of organisms including corals and other reef dwelling species. The area is likely to be foraging grounds for flatback turtles and sawfish. King Shoals falls within the critical habitat zone for flatback turtles (all year) (DoEE, 2017).

Name	Distance from multi-well location	Description
		• Cape Domett Special Purpose Zone – is a globally significant nesting area for flatback turtles, and the surrounding waters provide habitat for sawfish, Australian snubfin dolphins and include mangroves. Cape Domett is nominated as a critical habitat for the flatback turtle (all year, peaking July to September) (DoEE, 2017). Social values (recreation, tourism and community values) within the park include nature-based, cultural and recreational activities and tourism experiences. Tourism is a significant industry for the Kimberley, estimated to directly employ 2,500 people (DPW, 2016). The expedition cruise boat industry operates in the dry season (April to October) between Broome and Wyndham/Darwin (estimated to be valued at $63 million). Visitors also access the coast by road with more than 1,000 visitors (2016) to the coast near Kalumburu each year (DPW, 2016).
Malaya Marine Park	586 km southwest	The Mayala Marine Park is located in the west Kimberley region of WA, within the Mayala people's Native Title determination area. The park has remained a place of exceptional value for the Mayala people for tens of thousands of years. The Mayala Marine Park makes up 315,000 hectares of the Kimberley marine reserves (DBCA, 2022a). The marine park is managed under the Mayala Marine Park joint management plan, which was released in July of 2022. The plan represents the joint management of the park between the Mayala Traditional Owners and the DBCA and their shared vision to preserve the natural, recreational, commercial, cultural and heritage values of the park for future generations (DBCA, 2022a). The Mayala Marine Park is home to an array of biocultural and ecological values and features including coral and reef communities, mangroves, seagrass and macroalgae communities, high water and sediment quality, geomorphology (including beaches), subtidal filter feeding communities, intertidal sand and mudflat communities, turtles (all six species described in this EP), fish, sharks and rays, dugongs, whales and dolphins, saltwater crocodiles, sea and shore birds and invertebrates. The majority of the listed values are known to be in good or undisturbed condition or are assumed to be, with management strategies highlighting the need for further research, monitoring and reporting (DBCA, 2022a).
Bardi Jawi Gaarra Marine Park	626 km southwest	The Bardi Jawi Gaarra Marine Park is located in the west Kimberley region of WA within the Bardi and Jawi Native Title determination area. The park has remained a place of exceptional value for the Bardi and Jawi people for tens of thousands of years. The Bardi Jawi Gaarra Marine Park makes up 204,000 ha of the Kimberley marine reserves (DBCA, 2022b). The marine park is managed under the Bardi Jawi Gaarra Marine Park joint management plan, which was released in July 2022. The plan represents the joint management of the park between the Bardi and Jawi Traditional Owners and the DBCA and their shared vision to preserve the natural, recreational, commercial, cultural and heritage values of the park for future generations (DBCA, 2022b).

Name	Distance from multi-well location	Description
		The Bardi Jawi Gaarra Marine Park is home to an array of biocultural and ecological values and features including coral and reef communities, mangroves, creeks and saltmarsh communities, seagrass and macroalgae communities, high water and sediment quality, geomorphology (including beaches), subtidal filter feeding communities, intertidal sand and mudflat communities and freshwater soaks, turtles (all six species described in this EP), fish, sharks and rays, dugongs, whales and dolphins, saltwater crocodiles, sea and shore birds and invertebrates. The majority of the listed values are known to be in good or undisturbed condition or are assumed to be, with management strategies highlighting the need for further research, monitoring and reporting (DBCA, 2022b)
Lalang-gaddam Marine Park	397 km southwest	The Lalang-gaddam Marine Park has been formed from the amalgamation of four marine parks: the Lalang-garram/Camden Sound Marine Park, the Lalang-garram/Horizontal Falls Marine Park, the North Lalang-garram Marine Park and the Maiyalam Marine Park (DBCA, 2022c). This Marine Park is located in the Kimberley region of WA and covers approximately 1,308,500 ha within the Dambimangari Native Title determination area adjacent to the Shire of Derby-West Kimberley and the Shire of Wyndham East Kimberley. For tens of thousands of years, Dambeemangarddee people have depended on and looked after their traditional land and Sea Country and the area remains one of the last relatively undamaged coastal areas left in the world (DBCA, 2022c). The marine park is managed under the Lalang-gaddam Marine Park Joint Management Plan which was released in July 2022. The plan represents the joint management of the park between the Dambeemangarddee Traditional Owners with input from stakeholders and the DBCA and their shared vision to preserve the natural, recreational, commercial, cultural and heritage values of the park for future generations (DBCA, 2022c). The Lalang-gaddam Marine Park is home to an array of biocultural and ecological values and features including coral and reef communities, mangroves and saltmarsh communities, seagrass and macroalgae communities, high water and sediment quality, geomorphology, subtidal filter feeding communities, intertidal sand and mudflat communities, turtles (all six species described in this EP), fish, sharks and rays, dugongs, whales and dolphins, saltwater crocodiles, sea and shore birds and invertebrates. The majority of the listed values are known to be in good or undisturbed condition or are assumed to be, with management strategies highlighting the need for further research, monitoring and reporting (DBCA, 2022c).
Rowley Shoals Marine Park	1,040 km southwest	The Rowley Shoals Marine Park is a WA managed marine park adjacent to Mermaid Reef, Commonwealth managed Marine Park . The Rowley Shoals Marine Park protect a chain of three coral atolls at the edge of Australia's continental shelf. The atolls have shallow lagoons inhabited by diverse corals and abundant marine life. Each cover around 80km-

Name	Distance from multi-well location	Description
		90km, rising with near-vertical sides from very deep water. At low tide the water becomes ponded within the reef walls, and gushes over the edge like waterfalls. At high tide, the reefs disappear beneath the sea, with only the sandy islands of Clerke and Imperieuse visible (DBCA, 2017). Corals form a spectacular chain of reef systems, each covering about 80km2. Shallow lagoons within the reefs provide sheltered waters that are inhabited by diverse and abundant tropical marine life. Further offshore, the seafloor slopes away to the abyssal plain, some 6000m below. Undersea canyons slice the slope: these features are commonly associated with diverse communities of deep-water corals and sponges and create localised upwellings that aggregate pelagic species like tunas and billfish (DBCA, 2017).
Montebello Islands Marine Park	1,493 km southwest	Refer to previous information provided in Section 11.4.1.
Ord River Nature Reserve (R 31967)	85 km southwest	Section 11.4.5 describes the Ord River in the context of its Ramsar listing. The following description has been extracted from the Ord River and Parry Lagoons Nature Reserves Management Plan 77 2012 (DEC, 2012). The Ord River Nature Reserve covers an area of 79,842 ha and is comprised of the False Mouths of the Ord, featuring vast areas of mudflats, mangrove communities and a maze of tidal creeks (DEC, 2012). Of the 18 species of mangrove found in WA, 16 have been recorded within the reserve. The wetland areas of the reserve regularly support more than 20,000 waterbirds at a time and provides important breeding habitat for 16 species of wetland dependent birds as well as supporting mangrove dependent bird species. Lands within the reserve are also considered important habitat and breeding sites for the saltwater crocodile (DEC, 2012). The nature reserve also includes nurseries, foraging and breeding areas for at least 50 species of fish and supports the migratory route between marine and freshwater habitats for 15 species of fish (DEC, 2012). Ord River Nature Reserve also holds significant heritage and cultural values to First Nations people and the wider community as well as recreational value.
NT		
Garig Gunak Barlu National Park	456 km northeast	Garig Gunak Barlu National Park is a protected area on the Cobourg Peninsula and some adjoining waters approximately 216 km northeast of Darwin. It covers an area of 4,500 km^2 and is one of only two areas in the NT which contains adjoining land and marine parks. The national park includes the entire Cobourg Peninsula, the surrounding waters of the Arafura Sea and Van Diemen Gulf, including some of the neighbouring islands (e.g., Burford Island) (NT Government, 2020b).

Name	Distance from multi-well location	Description
		The protected area was established by joining the former Gurig National Park and the Cobourg Marine Park. Garig Gunak Barlu is Aboriginal owned land, jointly managed by a Board consisting of Iwaidja speaking peoples of the Cobourg Peninsula and NT Government representatives (NT Government, 2020b). The Park consists of sandy beaches, dunes and associated coastal grasslands, mangroves, rainforest patches, swamps, lagoons, coral reefs, sea grass meadows and rich marine life. The park supports rare species such as dugong and marine turtles as listed under the EPBC Act (Table 11.5). In addition, the park is home to the largest wild herd of Banteng (Indonesian cattle) which are an endangered species in their native habitat park (NT Government, 2020b).
Charles Darwin National Park	301 km northeast	Charles Darwin National Park is located in proximity to Darwin. The Park comprises of extensive littoral and estuarine vegetation communities, a large portion which are undisturbed mangrove forests with expansive mudflats. The intertidal mudflats are rich in birdlife, many protected under international agreements and are listed as a NIW. The park also supports 21 reptile, 17 mammal and 9 amphibian species (DEPWS, n.d.). Several aboriginal shell middens and a number of World War II bunkers of cultural and historic significance are located in the park (DEPWS, nd).
Casuarina Coastal Reserve	302 km northeast	Casuarina Coastal Reserve is a protected area in the northern area of Darwin. It offers 8 km of unspoilt beaches and is fringed by cliffs and casuarina trees. Wading and migratory birds together with nesting turtles occur at this location (NT Government, 2022). This is a significant area for the Larrakia people. Darriba Nunggalinya (Old Man Rock) can be seen at low tide. In addition, heritage ruins from World War II are scattered through the reserve (NT Government, 2022).
Vernon Islands Conservation Reserve	338 km northeast	The Vernon Islands are located in the Clarence Strait between the mainland and Melville Island. There are three major islands in the group plus a large reef, numerous lesser reefs and sand islands. The islands are generally fringed with mangroves and surrounded by mudflats and rocks/reef at low tide (TLC, 2013). The natural values of the islands include extensive and species rich mangrove forests, rich coral reef system, rocky shelves and stacks and seagrass and algal beds. The waters surrounding the Vernon Islands support dugong and turtles (TLC, 2013). Recreational values relate to fishing and boating which shipwrecks in the area popular for divers (TLC, 2013).

11.5 Cultural Heritage Values and Sensitivities

Cultural heritage includes both tangible and intangible values, and the definition of cultural heritage has evolved in recent decades as non-tangible cultural heritage continues to develop. Non-tangible cultural heritage includes oral traditions, performing arts, social practices, rituals, festive events, knowledge, and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts (UNESCO, 2022). Tangible cultural heritage includes artefacts, monuments, a group of buildings and sites and museums that have a diversity of values including symbolic, historic, artistic, aesthetic, ethnological or anthropological, scientific, and social significance. Cultural heritage also captures natural heritage such as culturally significant landscapes (UNESCO, 2009).

Underwater cultural heritage is defined in Section 5.6.1 of the EP.

During the relevant persons consultation process for the Beehive-1 EP, EOG consulted with the NT Department of Territory Families, Housing & Communities (TFHC) heritage branch in an effort obtain cultural heritage data specific to the spill EMBA. The TFHC were unable to provide specific cultural heritage data relating to the spill EMBA due to its size and because many sites are unlocated. Given the spill EMBA is exactly the same for this EP, this comment relating to cultural heritage values within the spill EMBA remains applicable.

This section describes the cultural heritage values of the spill EMBA (which includes the coastline up to the high-water mark).

Table 11.17 outlines the cultural heritage sites identified by the WA inHerit cultural heritage database (Government of Western Australia, 2021) and the NT Heritage Register (NT Heritage Council, 2023) within the spill EMBA moving from east to west.

Table 11.17 Cultural heritage sites within the spill EMBA

Site No.	Site name	Local Government Area	Description
NT			
-	Hope Inlet Archaeological Sites, Shoal Bay	Litchfield	The Hope Inlet Archaeological Sites are an exceptional group of over 200 sites that represent a period of Aboriginal coastal occupation from 2,500 years ago to 500 years ago. During this period the inhabitants built many large mounds of shell and earth, the largest of which rises seven metres above the surrounding landscape. These sites are the remains of subsistence and ceremonial activities, which include shellfish gathering, fishing, hunting, stone artefact manufacture, large gatherings of people and the use of ochre. Hearth stones, charcoal, and faunal remains indicate that a variety of resources such as fish, shellfish, crabs, kangaroos, possums, snakes, and birds were cooked in these shell and earth mounds.
WA			
9609	Seaplane Bay	Wyndham-East Kimberley	Seaplane Bay is the location where two German aviators were forced to land due to a fuel shortage on a journey from Timor to Darwin in 1932. The pair were found 38 days after the landing by an Aboriginal from Drysdale River Mission. Seaplane Bay is situated near Cape Bernier, called Quourmayer by the Aboriginal meaning "two fella German".

9613	Koolama Bay	Wyndham-East Kimberley	Koolama Bay is named after the Koolama 1 state passenger ship that was bombed by the Japanese 25-40 miles off the coast near Cape Rulhieres in 1942. The vessel was abandoned by 160 passengers and crew at Koolama Bay. 93 men walked overland to Drysdale River Mission, and the women and children were taken to safety by Captain Crave of the MV Kimberley.
18783	B24 Liberator Submerged Aircraft Crash Site	Wyndham-East Kimberley	Located in Vansittart Bay (off Truscott Airbase) in crocodile infested waters the B24 Liberator Submerged Aircraft Crash Site is a submerged World War II aircraft crash site. The plane is broken into three main sections and is believed to be in a pristine condition. Nothing besides the easily accessible human remains were recovered at the time of the accident, and there has been none of the customary scavenging by treasure hunters, suggesting the site holds a high level of integrity and authenticity.
9621	Swift Bay	Wyndham-East Kimberley	Swift Bay is the landing site of 56 Chinese refugees on 31 December 1992 in an Indonesian boat. The first two refugees walked into King Edward River Station the 16th of January 1992. This began what was probably the biggest search and rescue operation Australia has ever seen. By the 25th of January 55 of the refugees had been found, and the search was then scaled down. "Mrs Lucky" was found, thin and weak, dragging himself along a path on his knees on the same day having walked in excess of 200 kilometres.
9558	Careening Bay & Boab Tree	Wyndham-East Kimberley	Philip Parker King staggered the ship *His Majesty's Cutter (HMC) Mermaid* on the beach in Careening Bay in 1820, whilst on one of its journeys to complete Matthew Flinders' task of mapping Australia. The crew inscribed the date and name of the ship on a large boab tree which is situated approximately 60 metres from the high-water mark. Parker King and his crew camped here for 17 days to repair the ship.
4155	Camden Harbour	Wyndham-East Kimberley	Camden Harbour is known for the rise and fall of early settlement between 1864-1865. In 1864 a group of interested settlers from the east of Australia formed the Camden Harbour Pastoral Association. They arrived in December with a small amount of breeding stock, ample provisions, and farming equipment. The first settlers faced horrendous conditions. The second ship arrived with a load of settlers and supplies on Christmas Day 1864. The settlement limped on, continuing to face many difficulties. Problems, including insects, heat, humidity, tropical ulcers, sharks, and crocodiles made life difficult for the people and the stock. The settlers did not have any knowledge of local food sources and their relations with the local Aboriginals was not cordial. All the people of Camden Harbour had withdrawn from the settlement by October 1865. In the ten months of the Association, nine people died. Six of which are buried on Sheep Island. A quarter of all stock brought to Camden harbour had also died.
26353	Dampier Coast - Broome Sandstone	Broome	The Broome Sandstone is exposed discontinuously for over at least 100 km of coastline from Gulbunwilla on Roebuck Bay east of Broome north to Minarriny (Coloumb Point), and possibly as far north as Cape Leveque. At most places

	Dinosaur Footprints		where this rock formation has been uncovered, whether by gradual erosion or the pounding of cyclonic seas, dinosaur footprints have been found. At least 21 different types of footprints are recognised, making this the most diverse collections of dinosaurian trace fossils in the world. Over 70 discrete track sites have been identified. The tracks are also linked to the Dreamtime stories of the indigenous people along the Dampier Peninsula coastline.

Source: Government of Western Australia, 2021 & NT Heritage Council, 2023

11.5.1 Aboriginal Heritage Sites

Indigenous Australian people have a strong continuing connection with the area that extends back some 50,000 years. The existence of any unknown Aboriginal sites or artefacts of significance within the offshore waters of northern Australia is considered highly unlikely.

The Kimberley coastline between King Sound and the western shoreline of Cambridge Gulf (including State waters) is listed as a National Heritage Place ('The West Kimberley') (DCCEEW, 2024f). The area contains dramatic and relatively undisturbed landscapes that have great biological richness and provide important geological and fossil evidence of Australian history. The indigenous values of the West Kimberley National Heritage Place are not definitively mapped. Indigenous people are the primary source of information on the value of their heritage in this region (DCCEEW, 2024f).

A search of the WA Department of Aboriginal Affairs' Aboriginal Heritage Inquiry System (AHIS) indicates there are approximately 473 registered Aboriginal sites within the spill EMBA. The majority of the registered sites are located along the coastline between the Derby-West Kimberley, Mitchell River and Wyndham-East Kimberley shoreline sectors which are considered to be remote unpopulated areas in northern WA (see Figure 11.9). Figure 11.60 displays the sites identified by the AHIS that are intersected by the spill EMBA.

During the relevant persons consultation process for the Beehive-1 EP, EOG made an application to the Aboriginal Areas Protection Authority (AAPA) for an abstract of records under regulation 7 of the *Northern Territory Aboriginal Sacred Sites Regulations 2004* (NT) (the Regulations). The returned abstract advised that for the application area:

i. *there are registered sacred sites located on the spill EMBA;*

ii. *there are recorded sacred sites located on the spill EMBA;*

iii. *there are restricted work areas in the spill EMBA which are provided for in a previously issued Authority Certificate.*

The information relating to i, ii and iii is restricted and confidential in nature and is excluded from information published for public exhibition but has been submitted to NOPSEMA as sensitive information. It is an offence under s38 of the *Sacred Sites* Act to permit access to, or furnish a document produced for a purpose of the Act without the written permission of the Authority. Given the spill EMBA is exactly the same for this EP, this information regarding Aboriginal heritage sites within the spill EMBA remains appliable.

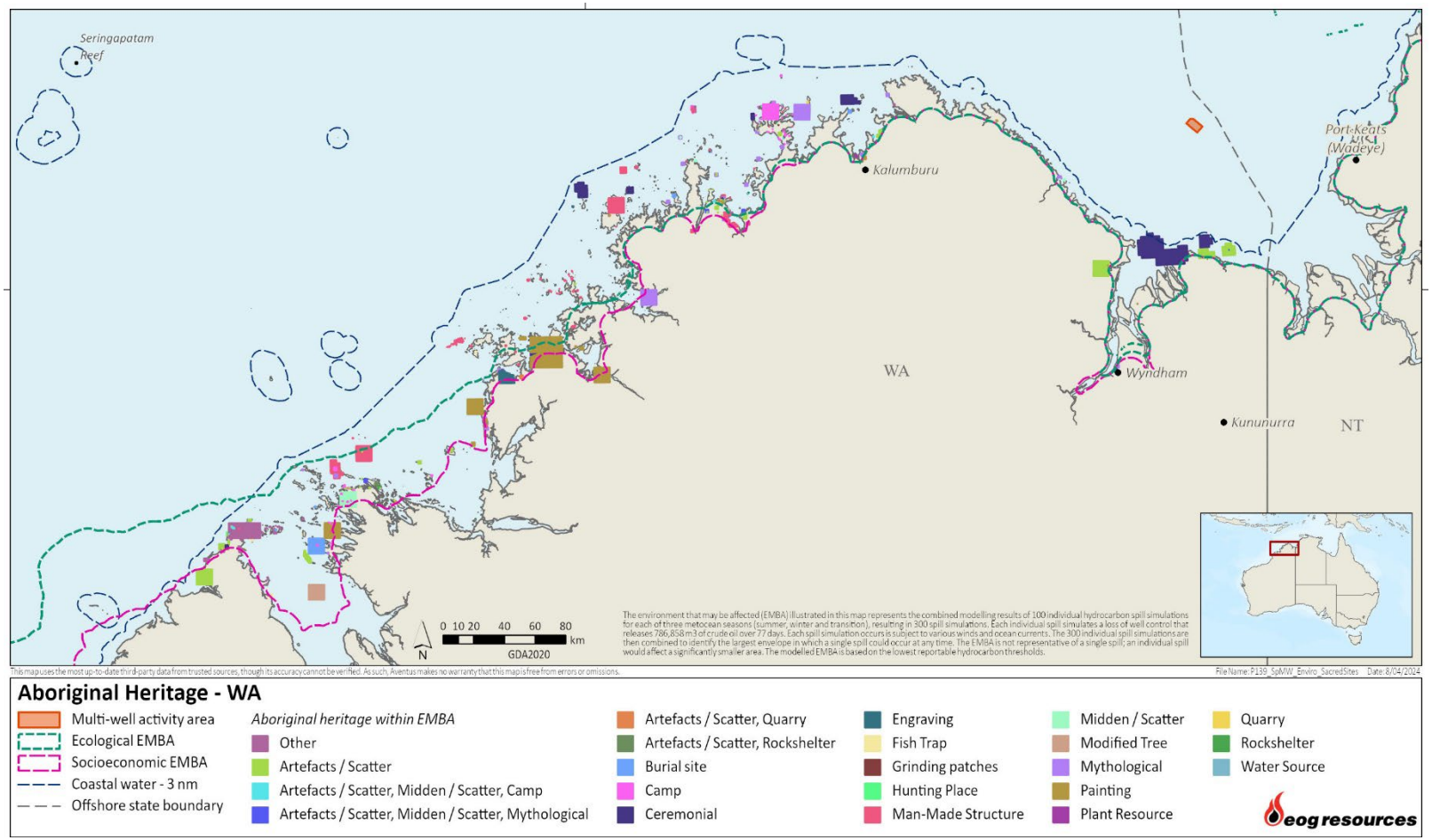


Figure 11.60 Registered Aboriginal heritage sites within the spill EMBA

11.5.2 Information from Consultation

This section draws on information derived from the relevant persons consultation process undertaken for the Beehive-1 EP. Given the multi-well activity area encompasses the Beehive-1 location, the information gathered regarding cultural heritage values remains applicable to this activity.

Consultation specifically undertaken during the development of the Beehive-1 EP included several in-person information sessions, as listed in Table 4.6 of the EP. These meetings identified a number of particular values and sensitivities, and concerns relevant to this EP.

The Broome meeting (7 June 2023) identified that:

- Introduced species pest management (particularly example of cane toads) is an issue of importance.
- Turtle and dugong are migratory species and important cultural animals to manage in the project area.

The Ardyaloon meeting (8 June 2023) did not identify any concerns with this activity but did identify concerns related to offshore oil and gas in general, including:

- Hunting resources – Could an event impact freshwater hunting resources - “this is our food bowl”. This includes sea country - fishing and dugong and turtle (including cultural significance of the resources).

The Kalumburu meeting (13 June 2023) identified:

- Important fishing areas for oysters, scallops, fish, crabs and sting rays.
- That marine life needs to be protected, particularly turtles, whales and mangroves.
- There are important cultural heritage resources in the area, including rock art, marine resources and camping locations along the shore.
- That EOG should ensure that there are no negative impacts on tourism.
- The Aboriginal Sea Company requested information on the processes of reporting:
    - Accidental waste discharges.
    - Damage to sea life on the sea floor, such as, giant clam and any other protected or endangered species.

During the relevant persons consultation for the Beehive-1 EP, a Tiwi Islands Land Council anthropologist confirmed that due to the location of the proposed activity, there will be no cultural impacts to the Tiwi Islands. Given the multi-well location encompasses the Beehive-1 location, this comment referring to cultural heritage impacts at the Tiwi Islands remains applicable.

EOG has sent project information to all other relevant persons and invited comments, including Native Title determination group representatives, Aboriginal land councils and other Aboriginal relevant persons intersected by the spill EMBA. To date, no information from these groups regarding their cultural values and sensitivities have been obtained.

11.5.3 Healthy Country Plans

The spill EMBA has the potential to encounter areas containing important cultural features to First Nations people. The information presented here is based on information obtained during the consultation process undertaken for the Beehive-1 EP, and desktop research only, primarily Healthy Country Plans (HCPs). Where HCPs are unavailable, other online sources and publications have been

interrogated to gain an understanding of applicable marine values. Note that some areas lack publicly available and documented localised knowledge of the areas, and therefore, data was not able to be obtained via desktop research. Table 11.18 details the marine values for each of the relevant groups (based on Native Title determination areas) within the spill EMBA moving from east to west. Given the spill EMBA is exactly the same as the one in the Beehive-1 EP, this section remains applicable.

Table 11.18 Marine values of coastal First Nation groups within the EMBA

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
NT			
1. Croker Island (see Figure 11.61)	Yuwurruma members of the Mandilarri-Ildugij, Mangalara, Murran, Gadura-Minaga, and Ngaynjaharr clans	Native Title Report 2000: Chapter 3: Native title and sea rights. Cobourg Marine Park Plan of Management (2011)	Due to the absence of a HCP for Croker Island, information from the Native Title Report 2000 (Chapter 3) has been used to describe the marine values applicable to the determination area. The report quotes Mary Yamirr, one of the main Indigenous witnesses in the hearing of the Croker Island case 'As far as my eyes can carry me' was her answer under cross-examination to the question of the extent of her traditional Sea Country. The quote holds significant influence as it exemplifies the gap between Indigenous and non-Indigenous understandings of the coastal seas. However, the report does not detail specific marine values relating to Croker Island. The Cobourg Marine Park Plan of Management (2011), which is adjacent to Croker Island, provides the following information regarding marine values within the region that are important to the traditional owners of Cobourg Peninsula. Managing for Aboriginal values: • Cobourg Aboriginal people have responsibility and obligation to care for sea country. • Managing and maintaining sacred sites and sites of cultural significance through ceremony and ritual. • Passing on indigenous knowledge of the marine environment, rehouses and traditional management. • Desire to develop a secure economic base from the sustainable use of the Marine Park. • Hunt, use marine resources and conduct customary management practices in the park. • Concerns: marine debris, by-catch.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			Traditional resource use and cultural significance: • Section 122 of the *Territory Parks and Wildlife Conservation Act* provides for traditional use of land and water by Aboriginal people that have traditional rights. • Section 53 of the *NT Fisheries Act* reaffirms the rights of Aboriginal people to continue to use the resources of an area of land or water in the traditional manner in which they have done so historically. • Traditional owners live on Croker Island • Dugongs, turtle, crabs, fish and shellfish are important part of Cobourg Aboriginal people's diets. • Dugongs and turtles have spiritual, ritual and mythological significance. • Sacred sites and sites of significance – dreaming tracks and sacred sites in and under the sea. • Concerns: much traditional management knowledge in not written and may be lost with the passing of Elders.
2. Larrakia (see Figure 11.62)	Larrakia people	Larrika nation annual report (2022-2023)	Due to the absence of a HCP for the Larrakia region, the Larrika nation annual report (2022-2023) has been used to describe applicable marine values. The Larrakia people are the traditional owners of the Darwin region. Despite Larrakia's native title rights being rejected in 2006, they have a dedicated land and sea ranger program. According to the Larrika nation annual report (2022-2023), the Larrika rangers were involved in monthly shorebird counts, daily turtle nesting surveys during peak nesting season, the annual dolphin survey of Shoal Bay and Darwin Harbour and the annual helicopter survey of Darwin Harbour for shore birds, marine megafauna, and crocodiles. A total of 67 days were spent undertaking marine based activities and 1,287 kg of marine debris was cleaned up (Larrakia Nation Aboriginal Corporation, 2023).
3. Legune (see Figure 11.63)	Gajerrong-Wadanybang, Gajerrong-Gurrbjim	N/A	No information is publicly available.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
	and Gajerrong-Djarrajarrany groups		
4. Spirit Hills (see Figure 11.64)	Miriuwung-Nyawam Nyawam, Miriuwung-Bindjen, Gajerrong-Gurrbijim, Gajerrong-Djarradjarrany , Gajerrong-Djandumi and the Gajerrong-Wadanybang groups	N/A	No information is publicly available.
WA			
5. Miriuwung-Gajerrong (see Figure 11.65 & Figure 11.66)	Miriuwung, Gajerrong, Doolboong, Wardenybeng and Gija groups	Miriuwung-Gajerrong Cultural Planning Framework (Hill *et al*., 2008) Ecological Character Description of the Ord River Floodplain Ramsar Site (Hale, 2008) Allocating for the Future of the Lower Ord River: Balancing Ecological, Social, Cultural, and Consumptive Water Requirement (Storey and Trayler 2006)	There is no HCP plan specific to the Miriuwung-Gajerrong region. However, the publications outlined in the previous column have provided some detail regarding marine values within the region. The planning framework (Hill *et al*., 2008) mentions fish, turtle, crab, crocodile and barramundi being of importance as well as dreaming stories surrounding saltwater. The Ord River is a major feature within the determination area that connects to the sea. Hale et al (2008) lists the Aboriginal sites that hold great cultural significance to local indigenous people within the site, including: • Burial sites. • Artefact scatters. • Mythological sites. • Quarries. • Paintings. • Ceremonial sites. Storey and Trayler (2006) discuss the past sociocultural values of the Ord River including: • Provided food, particularly waterbirds, such as jabiru, pelican, flying fox, white crane, 'black divers', magpie goose, burdekin duck, black swan, and 'black and yellow ducks' (presumed to be whistling duck).

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			• Freshwater turtles and freshwater crocodiles were collected from waterholes. • Fishing. • House Roof Hill, Bolgumirri and Adolphus Island, and Burrunungun are dreaming locations. • Wetland-dependent animals that appeared in stories; for example, brolgas (Gurrandalang), jabiru (Dariimbagang), and white crane (Djalarrang); and • The Kununurra diversion dam was built on an important cultural site known as Darram (Bandicoot Bar). In Aboriginal mythology, the rocky pool was formed by women, who, in the Dreamtime, attempted to trap barramundi with rolls of spinifex. Storey and Trayler (2006) also discuss the present socio-cultural values of the Ord River including: • Gather vegetable foods and hunt animals. • Use the riverbanks for hunting goannas, turtles, and wallabies, and fish the spillway of the Kununurra diversion dam and other parts of the river. • Cultural activities occur in close association with the river, which remains central to their society and worldview, in much the same way as the adjacent Fitzroy River does to the people associated with it.
6. Balanggarra (see Figure 11.67, Figure 11.68 & Figure 11.69)	Balanggarra	Balanggarra HCP 2012-2022 (BAC/KLC, 2011)	The Balanggarra HCP (BAC/KLC, 2011) provides the following information, relating to marine values. The nine most important things to the Balanggarra community are: 1. Balanggarra law and culture. 2. Our Gra (Country). 3. Cultural sites (rock art sites, burial sites, heritage places). 4. Right way fire. 5. Native animals. 6. Bush tucker and medicine plants. 7. Freshwater (places and freshwater fish) 8. Saltwater fish. 9. Migratory saltwater animals (turtle, dugong, whales, dolphins).

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			Marine species mentioned in the HCP (target 8: saltwater fish & seafood and target 9: migratory saltwater animals): • Green turtle (most popular turtle species hunted for flesh). • Hawksbill turtle (poisonous to consume). • Flatback turtle (eggs are harvested). • Dugong. • Saltwater crocodiles. • Whale. • Snubfin dolphin. • Mullet. • Silver bream. • Coral trout. • Stingrays. • Oysters. • Cockle shells. • Baler shells. • Turtle eggs. Other species listed in the HCP (Matters of National Significance): • Common noddy. • Fork-tailed swift. • Great egret. • Cattle egret. • Streaked shearwater. • Little tern. • Brown booby. • White-bellied sea-eagle. • Blue whale. • Humpback whale. • Killer whale. • Bryde's whale. • Irriwaddy dolphin. • Indo-pacific humpback dolphin. • Spotted bottlenose dolphin. • Whale shark.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			• Loggerhead turtle. • Olive Ridley turtle. • Leatherback turtle. Geomorphic habitats mapped in the HCP: • Channel. • Flood-and ebb-tide delta. • Intertidal flats. • Mangrove. • Rocky reef. • Saltmarsh/sandflat. • Tidal sand banks. Main threats: • Lack of traditional owner consultation. • Lack of infrastructure to access country. • Climate change. • Weeds. • Cane toads. • Lack of land and sea management capacity. • Unmanaged wildfires. • Large, introduced animals. • Uncontrolled visitor access.
7. Uunguu (see Figure 11.70 & Figure 11.71)	Wanjina Wunggurr Community	Wunambal Gaambera HCP (Wunambal Gaambera Aboriginal Corporation, 2010)	The Wunambal Gaambera HCP (Wunambal Gaambera Aboriginal Corporation, 2010) provides the following information, relating to marine values. The ten most important things for looking after Uunguu are: 1. Wanjina Wunggurr Law – our culture. 2. Right way fire. 3. Aamba (kangaroos and wallabies) and other meat foods. 4. Wulo (rainforest). 5. Yawal (waterholes). 6. Bush plants. 7. Rock art. 8. Cultural places on islands. 9. Fish and other seafoods.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			10. Mangguru (marine turtles) and balguja (dugong). Saltwater resources of Wunambal Gaambera Country: • Mangrove snapper. • Barramundi. • Bream. • Mud-crab. • Mangrove worms. • Oysters. • Periwinkles. • Saltwater crocodile. • Stingrays. • Blue-bone groper. • Saddletail snapper. • Queenfish. • Potato cod. • Reefs. • Seagrass. Target 10: Mangguru (marine turtles) and balguja (dugong): • Dugong. • Green turtle (hunted the most for food). • Hawksbill turtle (poisonous). • Turtle eggs (consumption). • Sand goanna. • Whale. • Dolphin. • Snub-fin dolphin. • Birds. Appendix 3: Nested targets – cultural significance or cultural resource: • North-western Western Australia coral beds. • Northern river shark. • Speartooth shark.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			• Sandy beaches. • Reefs. • Mangrove species and communities. • Sharks. • Stingrays. • Blue-spotted stingray. • Mud-crab. • Clams. • White lips (*Plectorphynchus sp*). • Mangrove worms. • Oyster. • Barramundi. • Mangrove snapper. • Periwinkles. • White-bellied sea-eagle. • Blue-bone groper. • Rock cod. • Queenfish. • Trepang. • Green turtle. • Hawksbill turtle. • Flatback turtle. • Loggerhead turtle. • Leatherback turtle. • Olive Ridley turtle. • Dugong. • Seagrass. • Reefs. • Common dolphin. • Indo-pacific humpback dolphin. • Striped dolphin. • Spinner dolphin. • Snub-fin dolphin.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			The main threats: • Loss of traditional knowledge. • Not being secure on country. • Bauxite mining. • Climate change. • Wrong way fire. • Visitors not being respectful. • Lack of land and sea management capacity. • Weeds. • Feral animals. • Commercial fishing.
8. Dambimangari (see Figure 11.72)	Wanjina Wunggurr Community	Dambimangari Healthy Country Plan 2012-2022 (Dambimangari Aboriginal Corporation, 2012)	The Dambimangari HCP (Dambimangari Aboriginal Corporation, 2012) provides the following information, relating to marine values. Nine most important things to focus on: 1. Cultural sites ○ Rock art sites. ○ Stone arrangements. ○ Burial sites. ○ Important camping sites where old people rested while travelling through saltwater country. 2. Reefs, beaches & islands 3. Saltwater fish ○ Rock-cod. ○ Baler shell. ○ Mangrove Jack. ○ Mullet. ○ Barramundi. ○ Bluebone. ○ Spanish flag. ○ Oysters. 4. Turtle & dugong ○ Green turtle (meat). ○ Hawksbill turtle (mainly shell for ornaments/artefacts).

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			○ Loggerhead turtle. ○ Flatback turtle (meat but mainly eggs). 5. Whales & dolphins ○ Humpback whales (stories of creation). ○ Common dolphin. ○ Humpback dolphin. ○ Snubnose dolphin. 6. Rivers, waterholes, waterfalls & wetlands (freshwater systems). 7. Culturally important native animals. 8. Bush fruits & medicine plants. 9. Right-way fire. Main threats: • Lack of culturally appropriate consultation with Traditional Owners. • Climate change. • Lack of Land and Sea Management capacity. • Visitors not being respectful. • Wrong-way fire (unmanaged). • Landowners prohibiting Traditional Owner access. • Lack of infrastructure to access country. • Mining/Industrial development. • Cane toads. • Weeds. • Gas/oil drilling. • Feral animals (cattle/pigs).
9. Mayala (see Figure 11.73 & Figure 11.74)	Kudumili, Galawa, Ngalgarrgard, Jabadayim, and Ulgirr/Oolgir	Mayala Country Plan 2019-2029 (Mayala Inninalang Aboriginal Corporation, 2019)	Cultural land and seascapes include: ○ Islands • Long yam. ○ Reefs. ○ Saltwater. • Food ▪ Saltwater fish. ▪ Mangrove jack. ▪ Golden lined spinefoot.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			▪ Spinefoot. ▪ Surgeonfish. ▪ Spanish Flag. ▪ Cod. ▪ Turtles – green turtles. ▪ Turtle eggs – green turtles and flatback turtles. ▪ Dugong. ▪ Crabs. ▪ Oysters. ▪ Trumpet shell. ▪ Baler shell. • Cultural. ▪ Humpback whales. ▪ Whale sharks. ○ Loo (tidal streams or currents). ○ Wetlands & Springs. ○ Cultural & historical sites. • Graveyard within Strickland Bay. ○ Seasonal camping areas. • Brue Reef. • Irvine/Bathurst Island. • Mermaid Island . • Herbert Islands Group. • Silica Beach. ○ Language. ○ Medicine. • Glycine spp. • Buchanania obovate. • Mimosops elengi. • Ficus virens. • Cyperus bulbosus. • Mangrove tree. • Paperbark. • Pandanus.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			• Big yam. ○ Food. • Figs • Oysters. • Trochus. • Clam shell. • Pearl shell – significant cultural species. • Fishes. • Turtle. • Octopus. • Blue crab. • Monsoonal vine thicket. • Acacia spp. Main threats: ○ Loss of connection to country. ○ Unmanaged tourism. ○ Illegal fishing. ○ Overfishing. ○ Introduced species. ○ Climate change. ○ Wrong-way fire. ○ Pollution. ○ Safety. ○ No-go zones.
10. Bardi and Jawi (see Figure 11.75)	Bardi and Jawi People	Bardi Jawi indigenous protected area management plan 2013-2023 (KLC/Bardi Jawi Niimidiman Aboriginal Corporation, 2013)	The seven identified targets are: 1. Marnany (Fringing Reefs). 2. Aarli (Fish). 3. Odorr (Dugong) and Goorlil (Turtle). 4. Significant sites. 5. Language, law and culture. 6. Traditional Oola (Water) places. 7. Indigenous plant resources.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			1. Target: marnany (fringing reefs): • Aarli (fish) species. • Abalone. • Banyjarr (clam shell). • Alngir (trochus). • Goowarn (pearl shell). • Oysters. • Dugong. Target: aarli (fish): • Goolan (small bluebone). • Barrambarr (large bluebone). • Jirral and Yawilil (trevally, numerous species). • Joordoo (mullet). • Joorloo (spanish flag). • Barrbal (yellow-lined spinefoot). • Maarrarn (mangrove jack). • Biindarral (coral trout). • Biidib (rock cod). • Birrinyan (queenfish). • Gambarl (surgeon fish). • Gooloorrganjoon (mackerel). • Barnamb (stingray). • Ngarrangg (mud crab). Target: goorlil (turtle) & odorr (dugong): • Green turtle (hunted for food). • Odorr (dugong). Target: significant sites: • Many significant sites associated with law are interconnected through songlines and stories that refer to mythological beings and places far afield. • Some sites are only for men while others belong to women who, traditionally, would meet to pass on knowledge and gather food.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			Target: Language, law and culture: • Law ceremonies are held and run by the Majamajin (law bosses). • Ceremonies take place in some significant sites, respected by Bardi Jawi people for that purpose. • In Bardi Jawi law, Balil (young boys) are initiated according to the ceremony Arnkooy. • Some parts of Bardi Jawi Law are kept secret but others are public ceremonies, in which women and families play a major part. • Bardi and Jawi language reflects a deep understanding of the land and sea, the plants and animals. • Bardi Jawi people have an obligation to respect Jawal (law teacher) and Alood (in-law) relationships, and other customs that are still largely followed. • Old people are much respected and many Traditional Owners try to make sure their old people receive fish, turtle, dugong or other favourite foods from country when they have been caught or collected. Habitat types: • Vine thicket. • Seagrass meadows. • Sandy flats. • Beaches. • Mangroves. • Fringing reefs. • Islands. Threats • Climate change. • Bushfire. • Mining. • Marine pests. • Visitors to country. • Weeds. • Lack of control over marine resource. • People not living on country.

Determination name	Affiliated language groups	Relevant HCP/publication	Marine values
			• Lack of transmission of knowledge. • People not looking after country. • Pearling leases and land-based infrastructure.
11. Warrwa Mawadjala Gadjidgar (see Figure 11.76)	Warrwa Mawadjala Gadjidgar people	N/A	No information is publicly available.
12. Bindunbur (see Figure 11.77)	Jabirr Jabirr/Ngumbarl, Nyul Nyul and Nimanburr people	N/A	No information is publicly available.

Marine Species

Table 11.19 summarises the marine species that hold significance to the coastal First Nation groups within the EMBA based on the information presented in Table 11.18. This shows that the marine species identified as being important across the majority of groups (according to publicly available data) include dugong, dolphins, whales, turtles, assorted fish species and molluscs. All of these provide sustenance and are embedded in their lifestyle and culture. Section 11.3.5 discusses the presence of the dugong within the spill EMBA as well as the cultural significance. Section 11.3.6 discusses the presence of marine turtles within the spill EMBA as well as the cultural significance. Threatened fish species within the spill EMBA are listed and described in Section 11.3.4 and molluscs are described in Section 11.3.1. Traditional fishing is also described in Section 11.5.6.

Table 11.19 Marine species that hold significance to the coastal First Nation groups within the EMBA

	Marine species														
	Dugong	Dolphins	Whales	Saltwater crocodile	Turtles	Turtle eggs	Fish (assorted species)	Sharks	Octopus	Stingrays	Crab	Molluscs	Mangrove worms	Seabirds	Waterbirds
1	■				■		■				■	■			
2		■	■	■	■									■	
3	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
4	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
5				■	■		■				■				■
6	■	■	■	■	■	■	■	■		■		■		■	
7	■	■	■	■	■	■	■	■		■	■	■	■	■	
8	■	■	■		■	■	■					■			
9	■		■		■	■	■		■		■	■			
10	■				■		■			■	■	■			
11	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
12	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd

Key:

1	Croker Island, NT	5	Miriuwung-Gajerrong, WA	9	Mayala, WA
2	Larrakia, NT	6	Balanggarra, WA	10	Bardi and Jawi, WA
3	Legune, NT	7	Uunguu, WA	11	Warrwa Mawadjala Gadjidgar, WA
4	Spirit Hills, NT	8	Dambimangari, WA	12	Bindunbur, WA
dd	Data deficient				
	Green shading denotes the presence of the value				

Intangible Values

Table 11.20 summarises the intangible values that hold significance to the coastal First Nation groups within the EMBA based on the information presented in Table 11.18. Intangible cultural heritage is defined in Section 11.5. Sea Country (described in Section 11.5.5) is a value uniformly recognised across all First Nation groups that exist within the coastal region of the EMBA.

Table 11.20 Intangible values that hold significance to the coastal First Nation groups within the EMBA

	Intangible values					
	Sea Country	Law and culture	Dreaming	Sacred sites	Mythological sites	Ceremonial sites
1						
2						
3	dd	dd	dd	dd	dd	dd
4	dd	dd	dd	dd	dd	dd
5						
6						
7						
8						
9						
10						
11	dd	dd	dd	dd	dd	dd
12	dd	dd	dd	dd	dd	dd

Same key as Table 11.19.

Tangible Values

Table 11.21 summarises the tangible values that hold significance to the coastal First Nation groups within the EMBA based on the information presented in Table 11.18. Tangible cultural heritage is defined in Section 11.5. Paintings/rock art is the most commonly listed tangible value across the First Nation groups within the spill EMBA (according to publicly available data). Section 11.5.7 also discusses Aboriginal rock art within the spill EMBA.

Table 11.21 Tangible values that hold significance to the coastal First Nation groups within the EMBA

	Tangible values				
	Burial sites	Important camping sites	Artefact scatters	Stone arrangements	Paintings/ rock art
1					
2					
3	dd	dd	dd	dd	dd
4	dd	dd	dd	dd	dd
5					
6					
7					
8					
9					
10					
11	dd	dd	dd	dd	dd
12	dd	dd	dd	dd	dd

Same key as Table 11.19.

Geomorphic Features/Habitat

Table 11.22 summarises the geomorphic features/habitat that hold significance to the coastal First Nation groups within the EMBA based on the information presented in Table 11.18.

Geomorphic features and habitat hold intrinsic value to the coastal First Nation groups within the EMBA. Habitats signify the health of Country, provide food and resources and represent changes in landscape in dreaming and creation stories. Geomorphology of the spill EMBA is described in Section 11.1.7 and mapped in Figure 11.8. Coastal environments of the spill EMBA are described in section 11.2 and Table 11.1 and mapped in Figure 11.9 - Figure 11.23. Reef/rocky reef/fringing reef are the most commonly listed feature (according to publicly available data). Reefs within the EMBA are described in Section 11.3.1.

Table 11.22 Geomorphic features/habitat that hold significance to the coastal First Nation groups within the EMBA

	Geomorphic features/habitat												
	Channel/ rivers	Flood-and ebb-tide delta	Intertidal flats	Mangrove	Coral	Reef/rocky reef/fringing reef	Saltmarsh /sandflat	Tidal sand banks	Islands	Beaches	Seagrass	Vine thicket	Tidal streams or currents
1													
2													
3	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
4	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
5													
6													
7													
8													
9													
10													
11	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
12	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd

Same key as Table 11.19.

Threats

Table 11.23 summarises the major threats that are marine in nature that hold significance to the coastal First Nation groups within the spill EMBA based on the information presented in Table 11.18. An extensive list of threats is listed in Table 11.18. The following threats in relation to the activity have been addressed in the impact and risk assessment in Sections 7 and 8 of the EP.

- Climate change: Section 7.4 of the EP discusses the routine atmospheric emissions that will occur during the activity and evaluates the impacts.
- Pollution: Sections 7.6 – 7.11 of the EP discuss the discharges of drill cuttings and muds, discharges of cement and routine vessel discharges associated with the activity, and evaluates the impacts. Section 8.1 of the EP discusses the risks associated with accidental release of waste overboard and evaluates the potential impacts. Section 8.6 of the EP discusses the risks associated with MDO release and evaluates the potential impacts. Section 8.7 of the EP discusses the risks associated with a LoWC and major oil spill and evaluates the potential impacts. Chapter 9 of the EP evaluates the potential impacts associated with hydrocarbon spill response activities.
- Marine Pests: Section 8.3 discusses the risk of introducing and establishing invasive marine species and evaluates the potential impacts.
- Oil drilling: The entire impact assessment chapter (Chapter 7) and risk assessment chapters (Chapter 8 & 9) evaluate all the impacts (planned activities) and risks (unplanned events) associated with exploration drilling for the proposed multi-well. The EIA & ERA conclude that all residual impacts are negligible, and all residual risks range from negligible to medium (once all controls have been adopted).

Table 11.23 Threats that hold significance to the coastal First Nation groups within the EMBA.

	Threats												
	Lack of Traditional Owners consultation	Lack of infrastructure to access country	Climate change	Lack of land and sea management capacity/ Lack of control over marine resource	Uncontrolled visitor access/ visitors not being respectful	Loss of traditional knowledge/ Loss of connection to country/ People not living on country	Gas/oil drilling	Pearling leases	Commercial fishing/ illegal fishing/ overfishing	Pollution	Safety	No-go zones	Marine pests
1													
2	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
3	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
4	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
5	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
6													
7													
8													
9													
10													
11	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd
12	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd	dd

Same key as Table 11.19.

11.5.4 Native Title

Native Title is the recognition that Aboriginal and Torres Strait Islander people have rights and interests to land and waters, according to their traditional law and customs as set out in the Australian Law (KLC, 2022).

A determination of Native Title is a decision on whether Native Title exists in relation to a particular area of land, or waters and a Native Title claim is an area that is undergoing assessment for determination. Table 11.24 describes the Native Title determination areas within the spill EMBA (moving from east to west) using search records from the National Native Title Tribunal (NNTT) Register. There are currently no Native Title claims present within the spill EMBA.

Table 11.24 Native Title Determination areas within the spill EMBA (east to west)

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
Croker Island (Figure 11.61)	523 km northeast	Represented by the Top End (Default prescribed bodies corporate (PBC/CLA) Aboriginal Corporation registered Native Title body corporate (RNTBC). The determination area includes the sea and seabed surrounding Croker Island, Templer Island, Valencia Island, Darch Island, Grant Island, Lawson Island, Oxley Island and Mc Cluer Island. Native Title was determined in 1998 and is held by the Yuwurruma members of the Mandilarri-Ildugij, Mangalara, Murran, Gadura-Minaga, and Ngaynjaharr clans.	Entrained oil	*Minjilang* Entrained: Summer – 8% (low) Winter – N/A Transitional – N/A *Oxley Island* Entrained: Summer – 8% (low) Winter – N/A Transitional – N/A *Lawson Island* Entrained: Summer – 6% (low) Winter -N/A Transitional – N/A *Grant Island* Entrained: Summer – 4% (low) Winter – N/A Transitional – N/A *McCluer Island*

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
				Entrained: Summer – 7% (low) Winter – N/A Transitional – N/A
Larrakia (Part A - consolidated proceeding) (Figure 11.62)	296 km southwest	Represented by the Northern Territory Aboriginal/ Torres Strait Islander (A/TSI) body area. The determination area includes waters near and surrounding Darwin Port including the Darwin waterfront and Darwin municipality. In 2006 the court made the decision that Native Title does not exist within this area on the basis that the current laws and customs were not 'traditional' as required under the Native Title Act. This is the second claim within the Darwin region to be denied a Native Title determination. This hearing was consolidated with other claims within the area seeking Native Title determinations.	Primarily dissolved oil, with small levels of entrained, surface oil and shoreline oil.	*Darwin* Dissolved: Summer – 12% (low), 5% (moderate), 1% (high) Winter – N/A Transitional – 1% (low) Entrained: Summer – 28% (low), 22% (high) Winter –1% (low), 1% (high) Transitional – N/A Surface: Summer – 78 days Winter – N/A Transitional – N/A Shoreline: Summer – 48 days (low) 51 days (moderate) Winter – N/A Transitional – N/A
Legune Pastoral Lease	114 km southeast	Represented by the Top End (Default PBC/CLA) Aboriginal Corporation RNTBC. The determination area is in the NT near	Surface oil and shoreline oil.	*Turtle Point* Surface:

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
(Figure 11.63)		the Keep River National Park Extension. Native Title was determined in 2011 and is held by the Gajerrong-Wadanybang, Gajerrong-Gurrbjim and Gajerrong-Djarrajarrany groups.		Summer -23 days (low) Winter – 14 days (low) Transitional – 29 days (low) <u>Shoreline:</u> Summer – 18 days (low), 24 days (moderate) Winter – 13 days (low), 14 days (moderate) Transitional – 22 days (low), 24 days (moderate)
Spirit Hills Pastoral Lease No.2 (Figure 11.64)	99 km southeast	Represented by Top End (Default PBC/CLA) Aboriginal Corporation RNTBC. The western boundary of the determination area is on the WA/NT border and includes the land and waters associated with six estates or pastoral leases on the NT mainland. Native Title was determined in 2011 and is held by the Miriuwung-Nyawam Nyawam, Miriuwung-Bindjen, Gajerrong-Gurrbijim, Gajerrong-Djarradjarrany , Gajerrong-Djandumi and the Gajerrong-Wadanybang groups.	Primarily shoreline and surface oil and small amounts of dissolved oil.	*Turtle Point* <u>Surface:</u> Summer -23 days (low) Winter – 14 days (low) Transitional – 29 days (low) <u>Shoreline:</u> Summer – 18 days (low), 24 days (moderate) Winter – 13 days (low), 14 days (moderate) Transitional – 22 days (low), 24 days (moderate)
Miriuwung Gajerrong (WA and #4) (Figure 11.65 and Figure 11.66)	WA - 77 km south #4 - 84 km south	Both areas are represented by the Miriuwung and Gajerrong Aboriginal Corporation (MG Corporation). The determination areas extend to intertidal areas and sea country intersected by the EMBA in the Cambridge Gulf and eastern Kimberley region. Native Title was determined in 2003 for the WA section as is and is held by the members of the Miriuwung (including Yirralalem, Ngamoowalem, Wiram, Yardanggarlm, Nganalam and Mandangala), Gajerrong, Doolboong, Wardenybeng and Gija and, in respect to Boorroongoong (Lacrosse Island), also Balangarra.	The intertidal areas of both determination areas are exposed primarily to dissolved oil, shoreline and surface oil, with	*East Cape Domett – WA- NT Border (C)* <u>Shoreline:</u> Summer – 16 days (low), 17 days (moderate), 42 days (high) Winter – 15 days (low), 26 days (moderate), 90 days (high) Transitional – 11 days (low), 12 days (moderate), 51 days (high)

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
		Native Title for section #4 was determined in 2006 and is held by members of the Miriuwung, Gajerrong, Doolboong, Wardenybeng and Gija groups and other Aboriginal people who are acknowledged by these groups as having rights in the determination area.	small amounts of entrained oil.	
Balanggarra (#4) (Figure 11.67)	118 km southwest	Represented by the Balanggarra Aboriginal Corporation RNTBC. The Native Title determination covers all land comprising Adolphus Island, above the high-water mark. Native Title was determined in 2015 and is held by the members of the Balanggarra community.	Shoreline and surface oil.	*Bare Hill - East Cape Domett (B)* Shoreline: Summer – 33 days (low), 45 days (moderate) Winter – 34 days (low), 39 days (moderate) Transitional – 23 days (low), 35 days (moderate)
Balanggarra (#3) (Figure 11.68)	130 km southwest	Represented by the Balanggarra Aboriginal Corporation RNTBC. The northern boundary of the area is situated south of Adolphus Island and continues south along the Ord River. Native Title was determined in 2013 and is held by the Balanggarra community.	Primarily dissolved and entrained oil with a small amount of surface and shoreline oil.	*Bare Hill - East Cape Domett (A)* Shoreline: Summer – 36 days (low), 64 days (moderate) Winter - 44 days (low), 74 days (moderate) Transitional – 36 days (low, 83 days (moderate) *Ord river floodplain* Surface oil: Summer- 28 days (low) Winter – 47 days (low) Transitional – 46 days (low) Dissolved: Summer – 33% (low), 18% (moderate), 1% (high) Winter – 50% (low), 27% (moderate), 2% (high)

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
				Transitional -36% (low), 25% (moderate), 5% (high) Entrained: Summer – 67% (low), 37% (high) Winter – 68% (low), 64% (high) Transitional - 45% (low), 39% (high)
Balanggarra (Combined) (Figure 11.69)	69 km southwest	Represented by the Balanggarra Aboriginal Corporation RNTBC. The determination area includes waters at the 3 nautical mile coastal water limit including Lacrosse Island (above the low water mark) and Adolphus Island (above the high-water mark). Native Title was determined in 2013 and is held by members of the Balanggarra community.	Primarily shoreline and surface oil with small areas of dissolved oil.	*Wyndham – East Kimberley* Dissolved: Summer – 61% (low), 49% (moderate), 27% (high) Winter –97% (low) 95% (moderate), 82% (high) Transitional – 79% (low), 68% (moderate), 40% (high) Surface: Summer – 21 days (low) Winter – 54 days (low) Transitional – 29 days (low) Shoreline: Summer - 11 days (low), 12 days (moderate), 27 days (high) Winter – 16 days (low), 17 days (moderate), 28 days (high) Transitional – 11 days (low), 12 days (moderate), 25 days (high) Entrained: Summer – 82% (low), 62% (high)

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
				Winter – 97% (low), 97% (high) Transitional – 86% (low), 72% (high)
Uunguu Part A (Figure 11.70) Uunguu Area B (Figure 11.71)	Uunguu Part A - 212 km west Uunguu Area B – 285 km southwest	The Uunguu Part A is represented by Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC. The determination area includes the offshore islands and waters of York Sound, Montague Sound, and Admiralty Gulf. Native Title was determined in 2011 and is held by the members of the Wanjina Wunggurr Community. The Uunguu Area B is represented by Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC. The determination area includes the nearshore waters of Port Warrendah and the adjacent Kimberley mainland. Native Title was determined in 2012 and is held by the members of the Wanjina Wunggurr Community.	Surface, dissolved and entrained.	*Tait Bank* Surface oil: Summer – 37 days (low) Winter – 19 days (low) Transitional – 29 days (low) Dissolved: Summer – 42% (low), 36% (moderate), 14% (high) Winter – 83% (low), 62% (moderate), 8% (high) Transitional – 58% (low), 47% (moderate), 12% (high) Entrained: Summer – 50% (low), 43% (high)_ Winter – 93% (low), 88% (high) Transitional - 68% (low), 88% (high) *Long Reef* Surface oil: Summer – 40 days (low) Winter – 23 days (low) Transitional – 29 days (low) Dissolved:

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
				Summer – 42% (low), 33% (moderate), 19% (high) Winter – 72% (low), 50% (moderate), 5% (high) Transitional – 59% (low), 54% (moderate), 16% (high) <u>Entrained:</u> Summer – 43% (low), 43% (high) Winter – 87% (low), 78% (high) Transitional – 60% (low), 60% (high) *Jamieson Reef* <u>Surface oil:</u> Summer – 59 days (low) Winter – 31 days (low) Transitional – 34 days (low) <u>Dissolved:</u> Summer – 31% (low), 25% (moderate), 5% (high) Winter – 56% (low), 30% (moderate), 3% (high) Transitional – 57% (low), 51% (moderate), 7% (high) <u>Entrained:</u> Summer – 38 % (low), 35% (high) Winter – 74% (low), 67% (high) Transitional -60% (low), 59% (high)

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
Dambimangari (Figure 11.72)	372 km southwest	Represented by Wanjina-Wunggurr (Native Title) Aboriginal Corporation RNTBC. The determination area covers the Shire of Derby, West Kimberley and Shire of Wyndham-East Kimberley. Native Title was determined in 2011 and is held by the Wanjina Wunggurr Community.	Primarily dissolved and entrained oil.	*Derby – West Kimberley* Entrained: Summer – 8% (low) Winter – 5% (low) Transitional – 13% (low), 1% (high) *Cockell reefs* Entrained: Summer – 9% (low) Winter – 4% low, 1% (high) Transitional – 11% (low) *Wildcat Reefs* Dissolved: Summer – 5% (low) Winter – 3% (low) Transitional – 4% low Entrained: Summer – 5% (low), 8% (high) Winter – 12% (low), 5% (low) Transitional – 35% (low), 15% (high)
Mayala People (Figure 11.73)	571 km southwest	Represented by the Mayala Inninalang Aboriginal Corporation. The determination includes parts of King Sound, Cone Bay, Strickland Bay, Yampi Sound and numerous offshore islands off the Derby-West Kimberley sector including Bathurst Island and	Primarily entrained oil, small amount of dissolved oil.	*Brue Reef* Entrained: Summer – 9% (low), 9% (high)

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
		Sir Frederick Island. Native Title was determined in 2018 and is held by descendants (including such people descended by adoption and are accepted in accordance with traditional law and custom) of the following persons Kudumili, Galawa, Ngalgarrgard, Jabadayim, and Ulgirr/Oolgir.		Winter – 10% (low), 2% (high) Transitional – 18% (low), 9% (high)_ Dissolved: Summer – 3% (low) Winter – 2% (low), 1% (moderate) Transitional – 4% (low), 1% (moderate)
Mayala #2 (Figure 11.74)	587 km southwest	Represented by the Mayala Inninalang Aboriginal Corporation. The native title exists in parts of the determination area on two islands (Area 1 and Area 2) east of Arbidej Island and one island (Area 3) northeast of Umida island. Native Title was determined in 2019, The Mayala Inninalang Aboriginal Corporation ICN 9067 hold the determined native title in trust for the native title holders pursuant to section 56(2)(b) of the Native Title Act 1993 (Cth).	Entrained oil.	*Brue Reef* Entrained: Summer – 9% (low), 9% (high) Winter – 10% (low), 2% (high) Transitional – 18% (low), 9% (high)_
Bardi and Jawi (Figure 11.75)	626 km southwest	Represented by the Bardi and Jawi Niimidiman Aboriginal Corporation RNTBC. The determination area includes the waters from Pender Bay, Thomas Bay, Curlew Bay, Cygnet Bay and Goodenough Bay. Native Title was determined in 2019 and is held by the Bardi and Jawi People.	Entrained oil	*Broome* Entrained oil: Summer – 2% (low) Winter –1% (low) Transitional – 7% (low)
Warrwa Mawadjala Gadjidgar (Figure 11.76)	609 km southwest	Represented by the Kimberley A/TSI. The determination area includes the land and sea surrounding the Port of Derby and encompasses both branches of Doctors Creek. Native Title was determined in 2020 and is held by the Warrwa Mawadjala Gadjidgar people.	Entrained oil	*Derby – West Kimberley* Entrained: Summer – 8% (low) Winter – 5% (low) Transitional – 13% (low), 1% (high)

Native Title Determination area	Distance from multi-well location	Description	Type of exposure to spill EMBA	Earliest time to contact and/or probability of exposure (reported by WAMOPRA DoT cells and RPS OSTM)
Bindunbur (Figure 11.77)	622 km southwest	Represented by the Gogolanyngor Aboriginal Corporation, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation. Coastal parts of determination area within the spill EMBA include Lacepede Islands and its surrounding waters offshore and Goodenough Bay on the Dampier Peninsula. Native Title was determined in 2018 and is held by the Jabirr Jabirr/Ngumbarl, Nyul Nyul and Nimanburr people.	Primarily entrained oil. Small amount of shoreline oil on Lacepede Islands	*Broome* Entrained oil: Summer – 2% (low) Winter –1% (low) Transitional – 7% (low) *Lacepede Islands* Shoreline: Summer – 17 days (low), 19 days (moderate), 50 days (high) Winter – N/A Transitional – 73 days (low) Entrained: Summer – 1% (low) Winter –N/A Transitional – 2% (low)

Note: Native Title determination areas that are situated in coastal regions will be primarily exposed to shoreline levels of exposure.

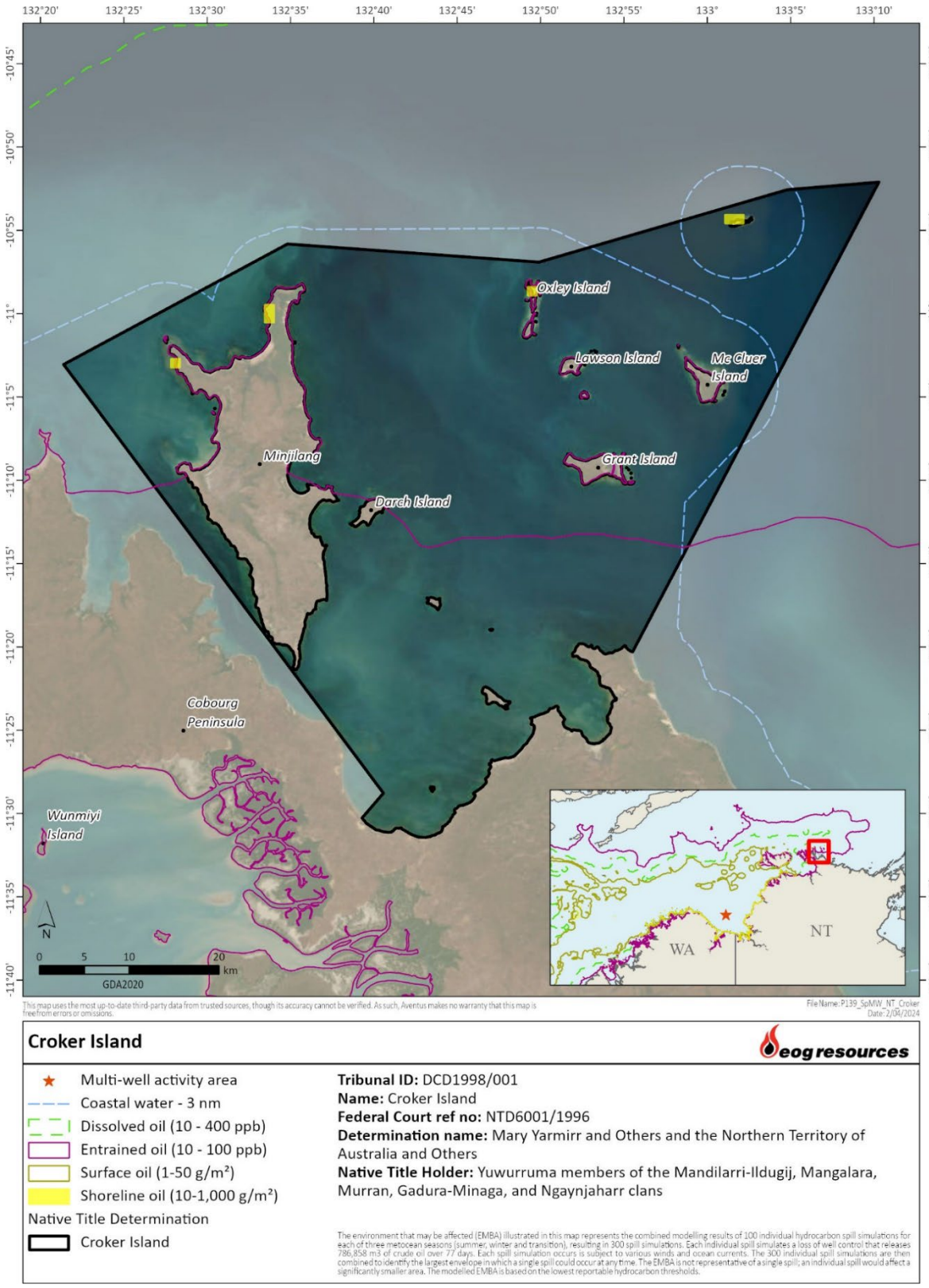


Figure 11.61 Croker Island Native Title determination exposure to the spill EMBA

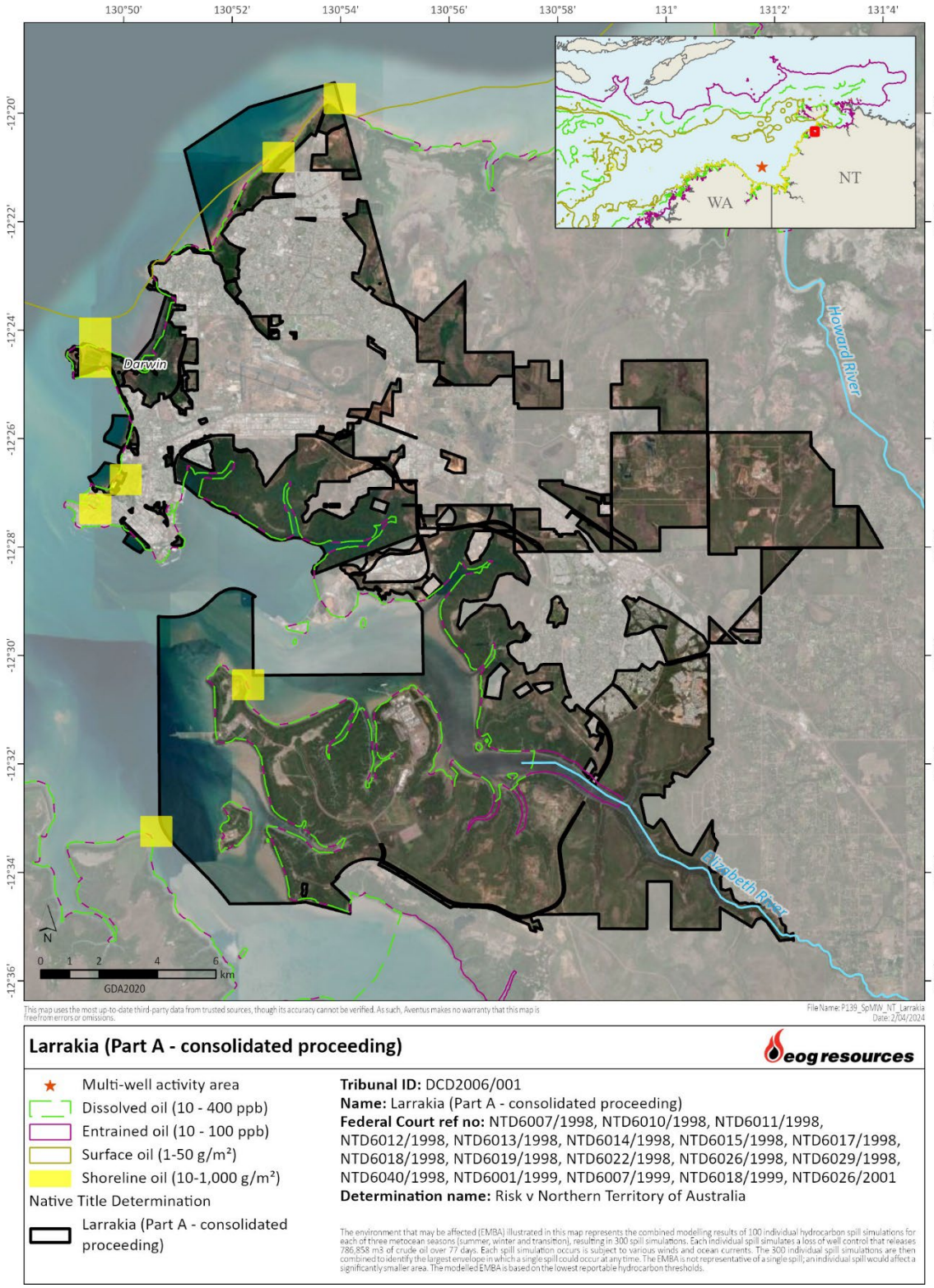


Figure 11.62 Larrakia (Part A - consolidated proceeding) Native Title determination exposure to the spill EMBA

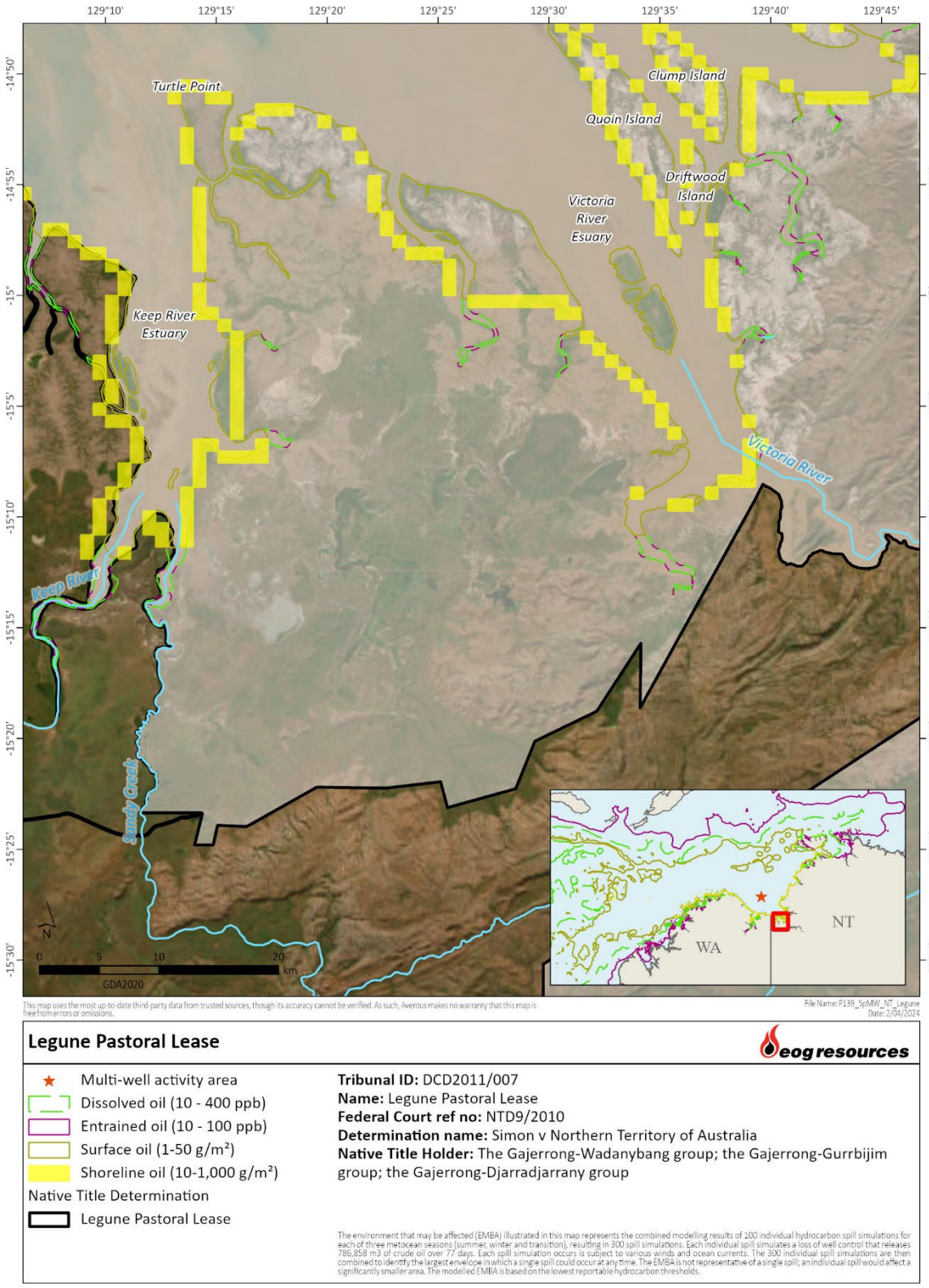


Figure 11.63 Legune Pastoral Lease Native Title determination exposure to the spill EMBA

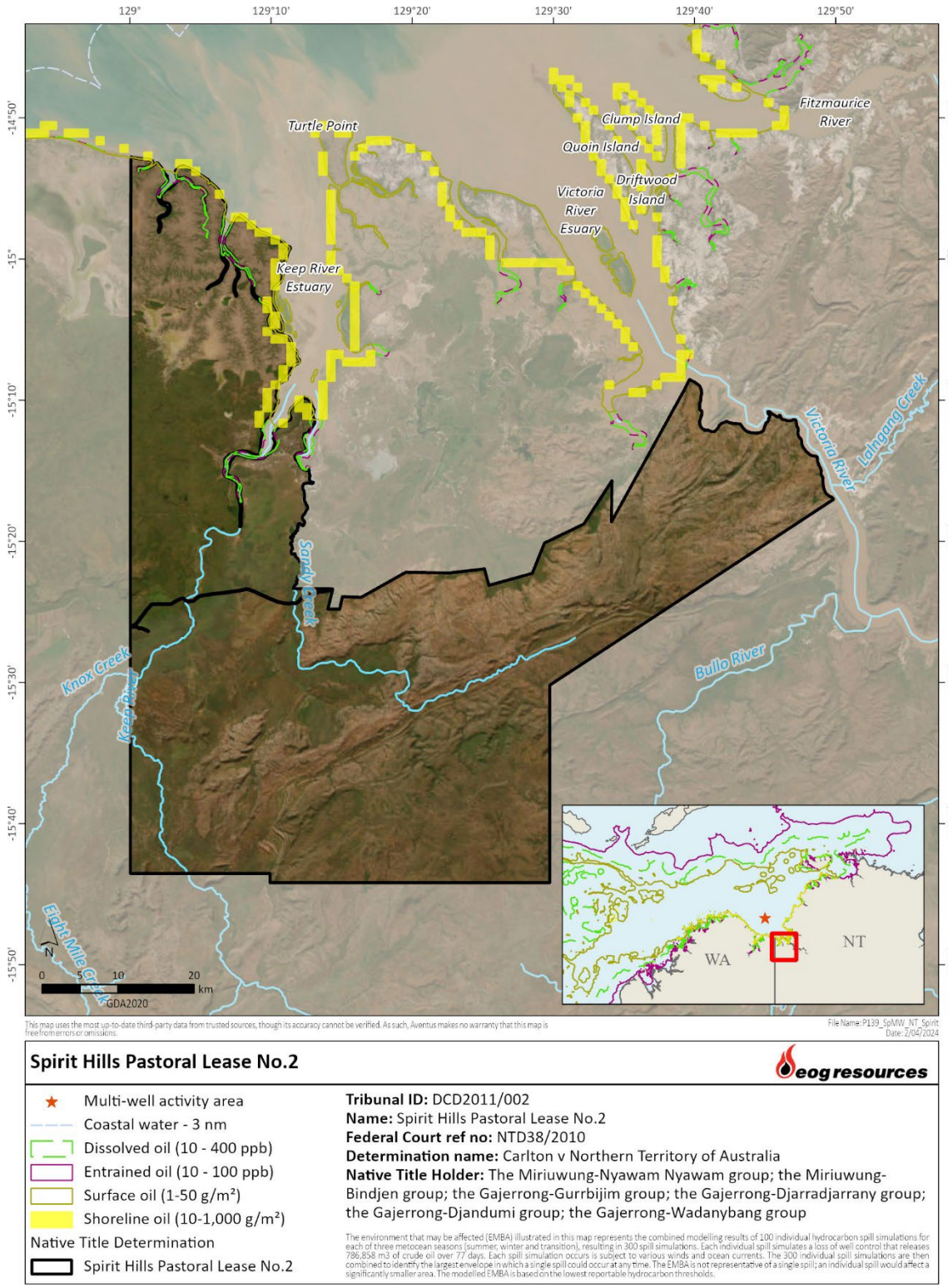


Figure 11.64 Spirit Hills Native Title determination exposure to the spill EMBA

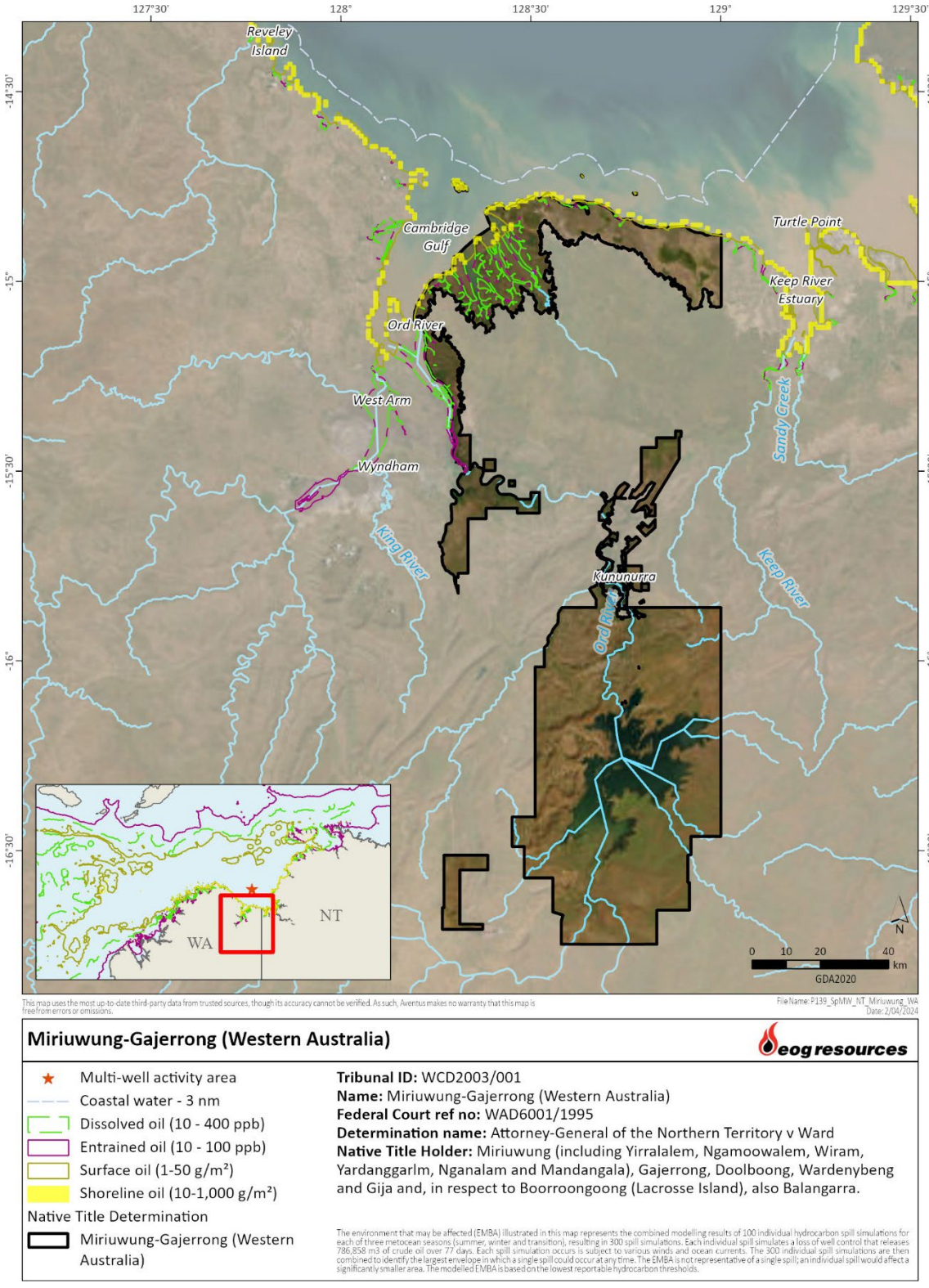


Figure 11.65 Miriuwung Gajerrong (Western Australia) Native Title determination exposure to the spill EMBA

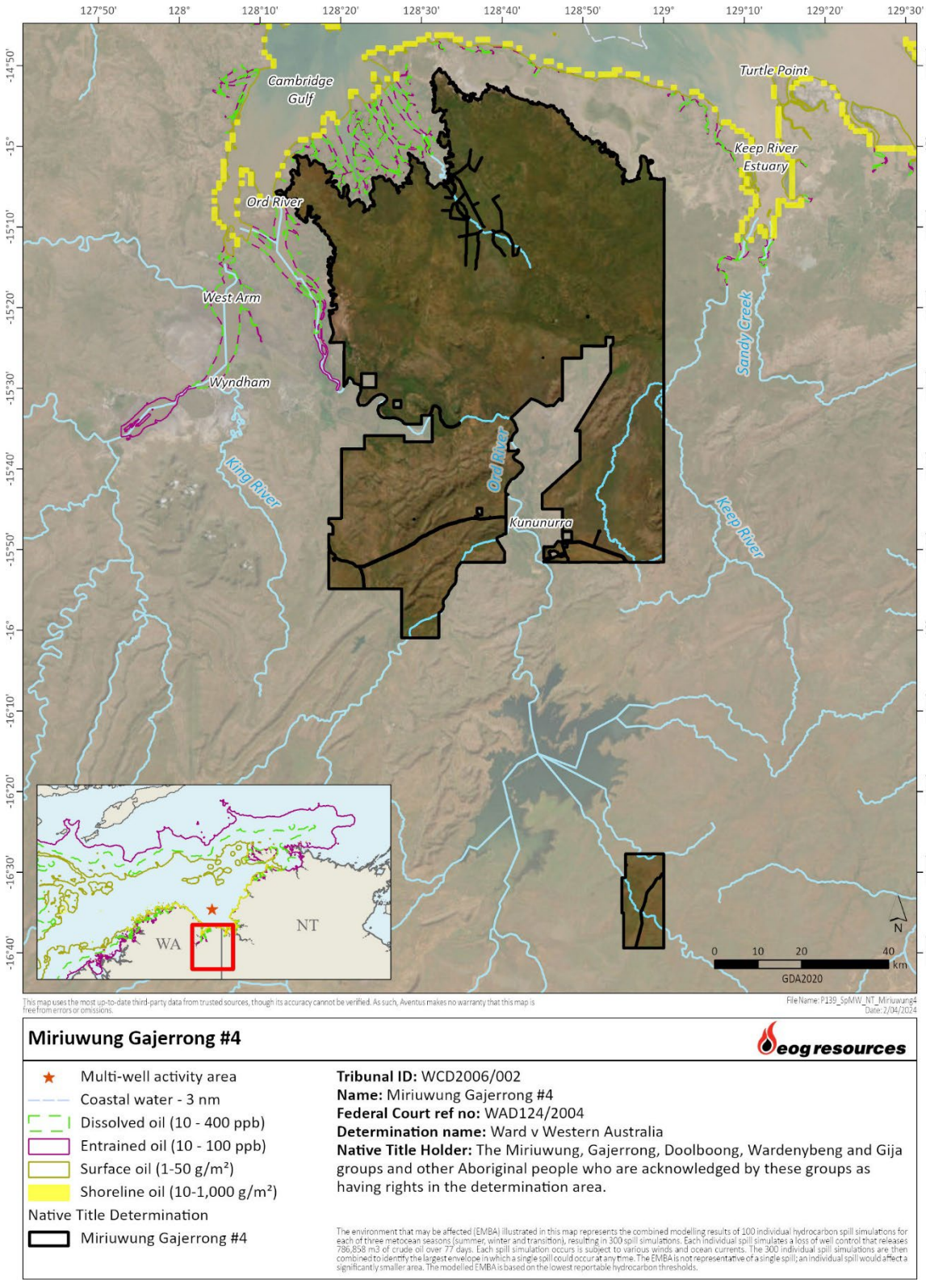


Figure 11.66 Miriuwung Gajerrong (#4) Native Title determination exposure to the spill EMBA

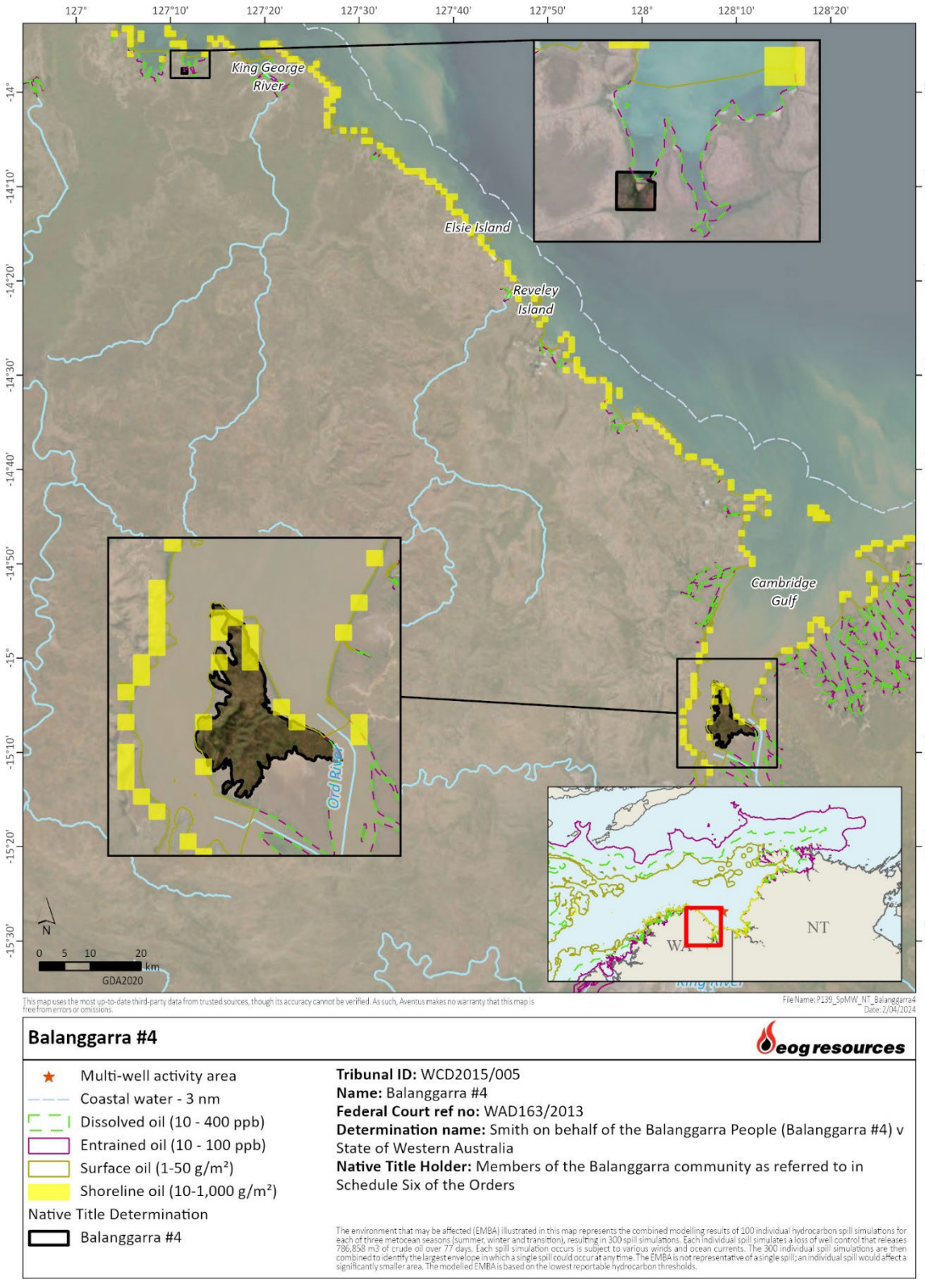


Figure 11.67 Balanggarra (#4) Native Title determination exposure to the spill EMBA

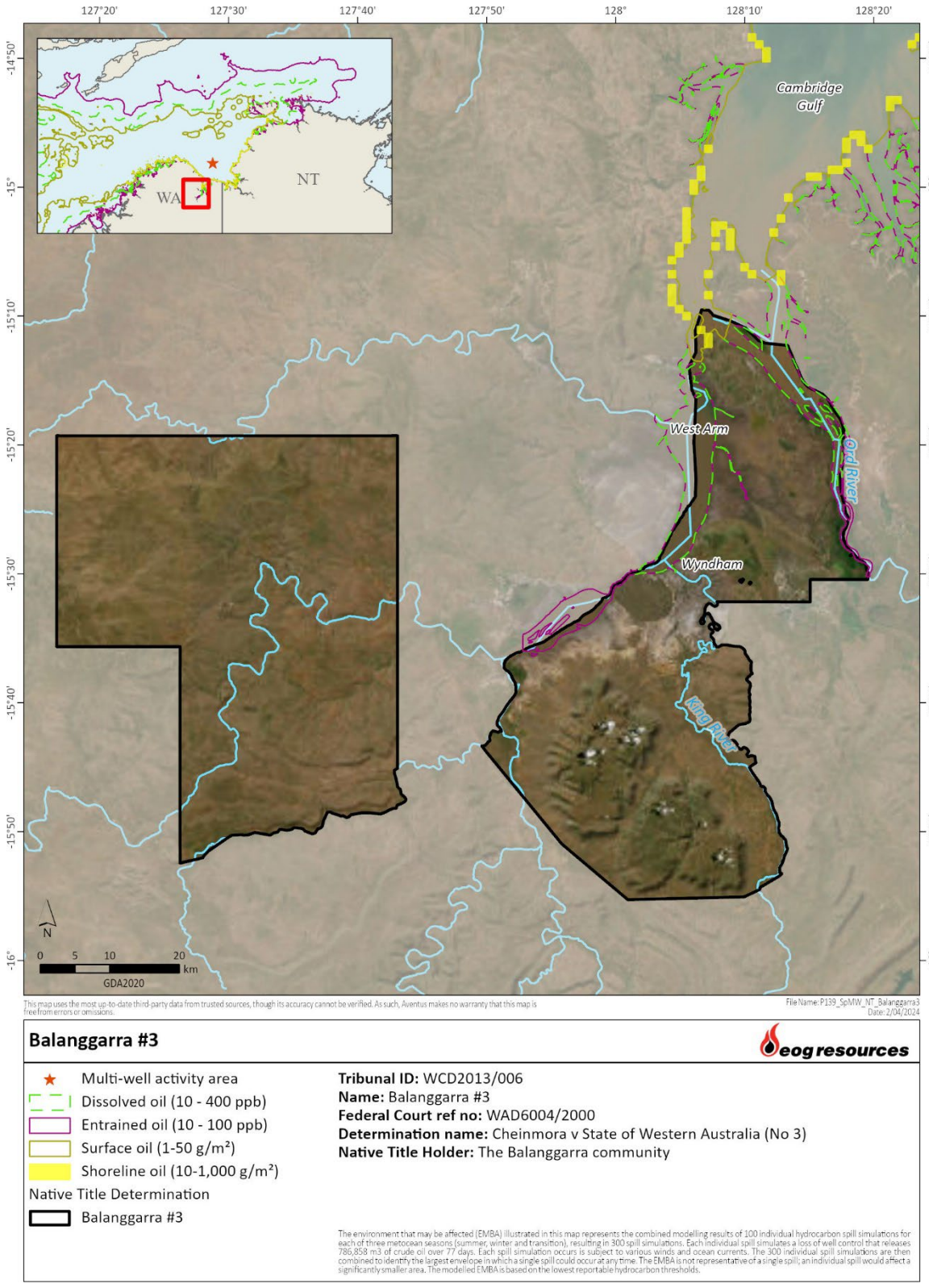


Figure 11.68 Balanggarra (#3) Native Title determination exposure to the spill EMBA

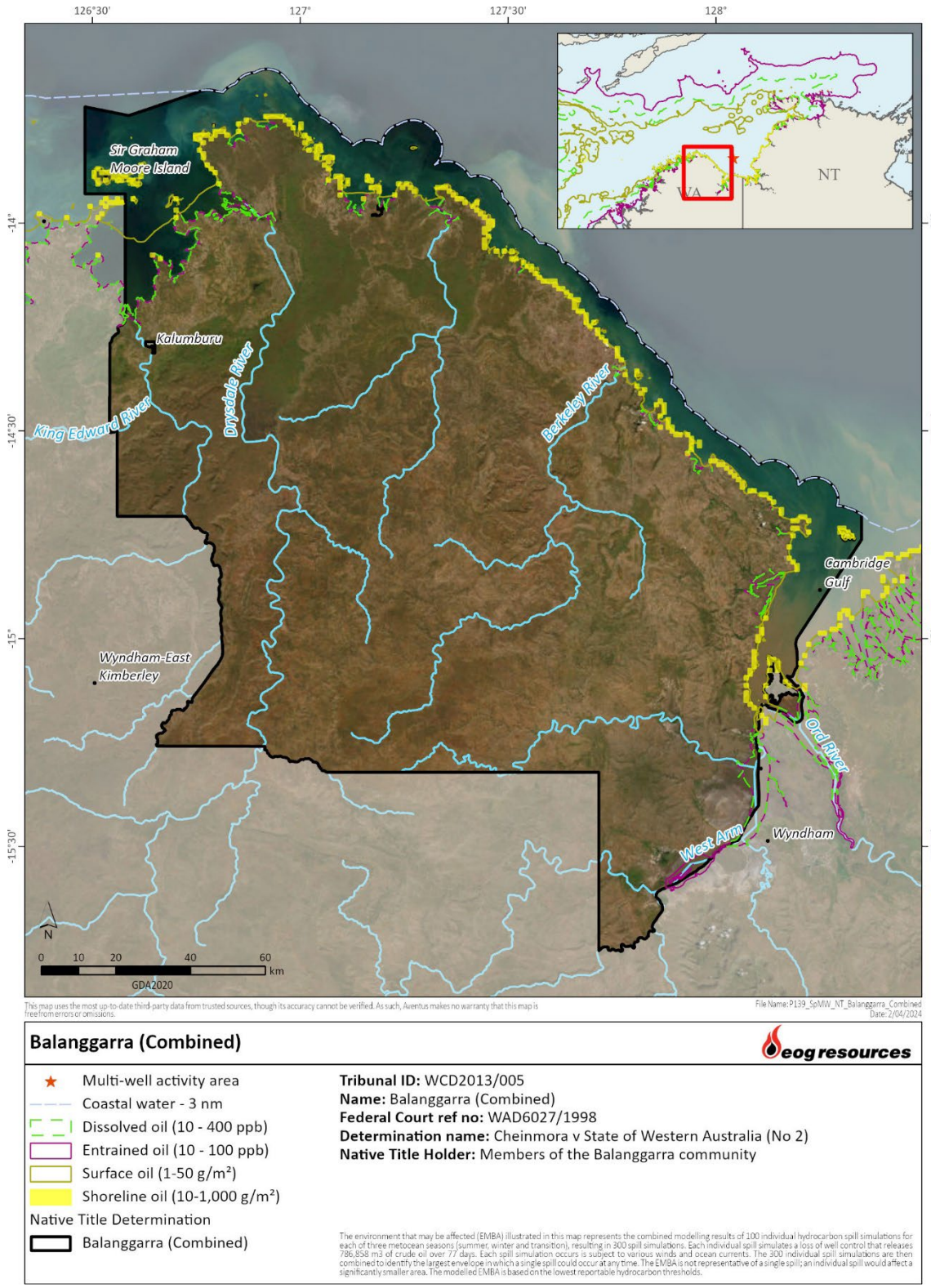


Figure 11.69 Balanggarra (combined) Native Title determination exposure to the spill EMBA

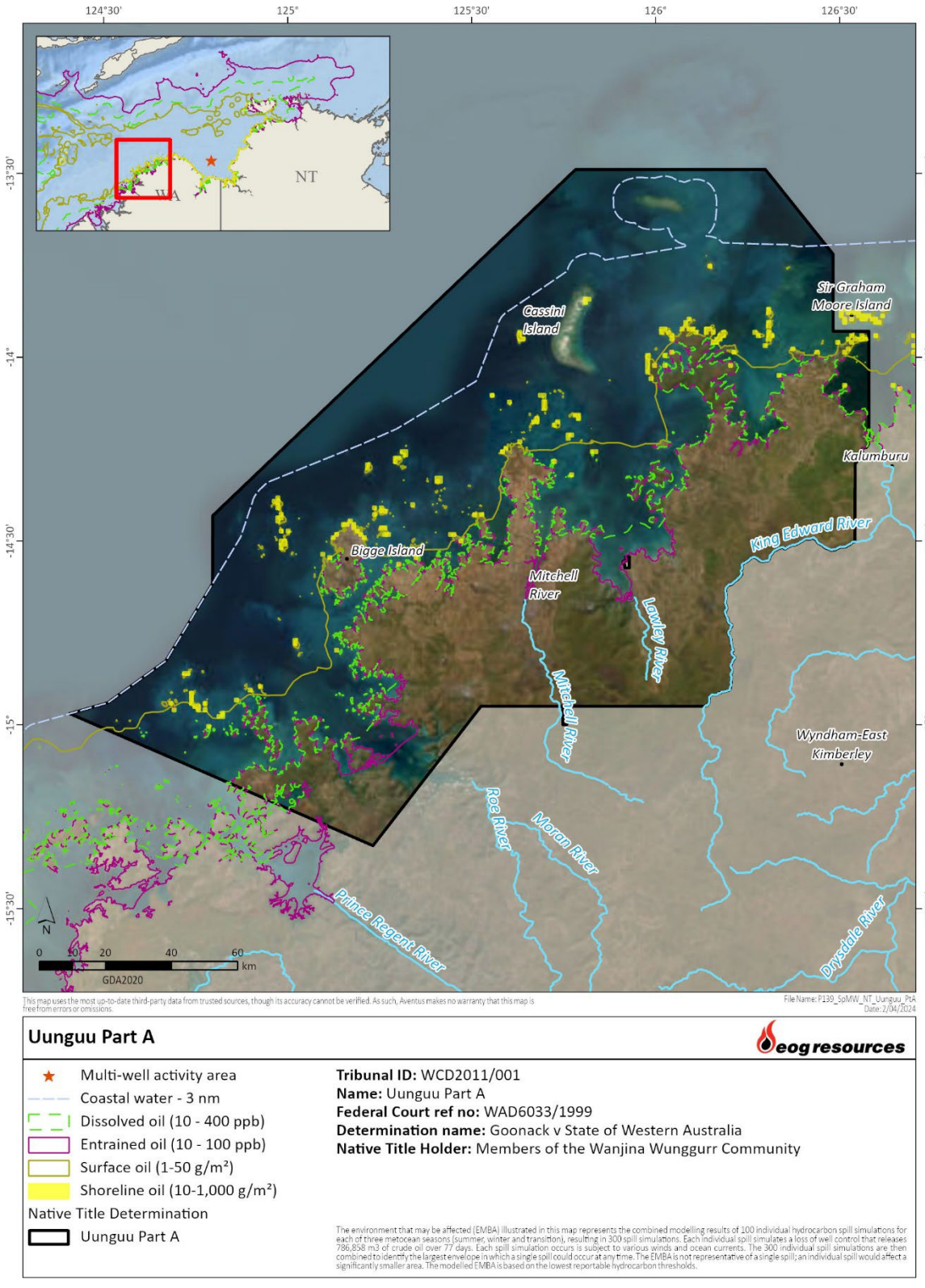


Figure 11.70 Uunguu Part A Native Title determination exposure to the spill EMBA

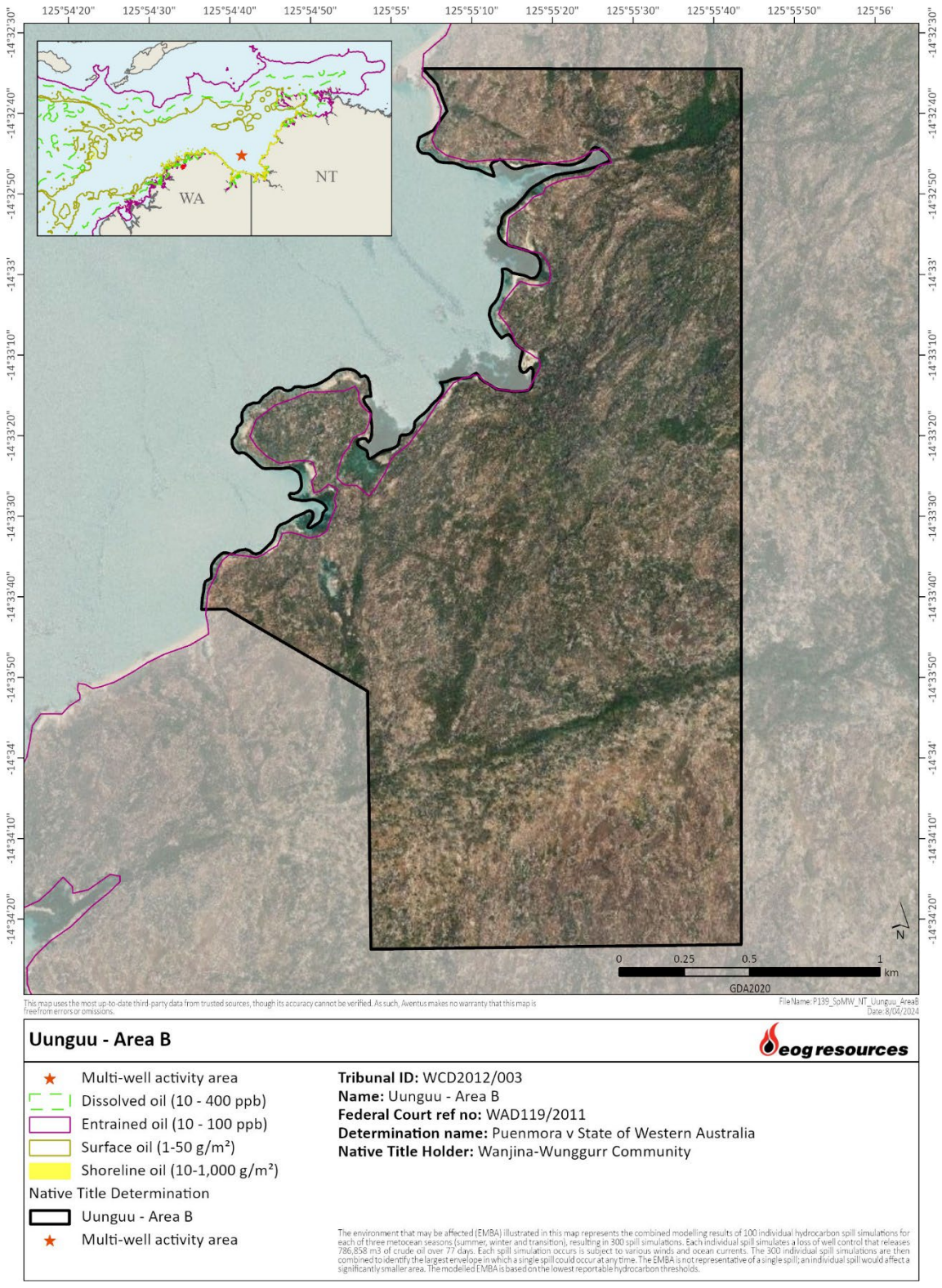


Figure 11.71 Uunguu Part B Native Title determination exposure to the spill EMBA

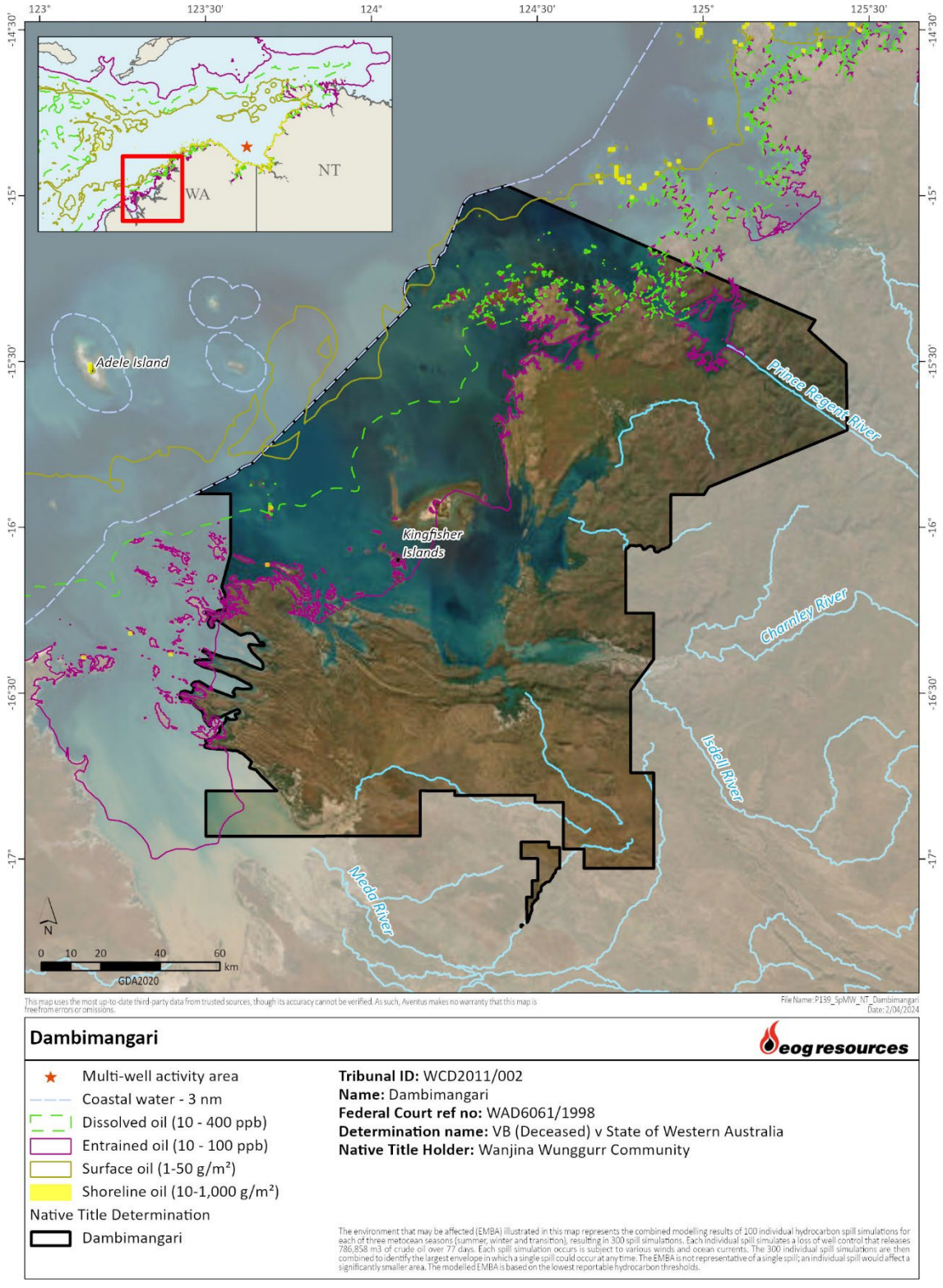


Figure 11.72 Dambimangari Native Title determination exposure to the spill EMBA

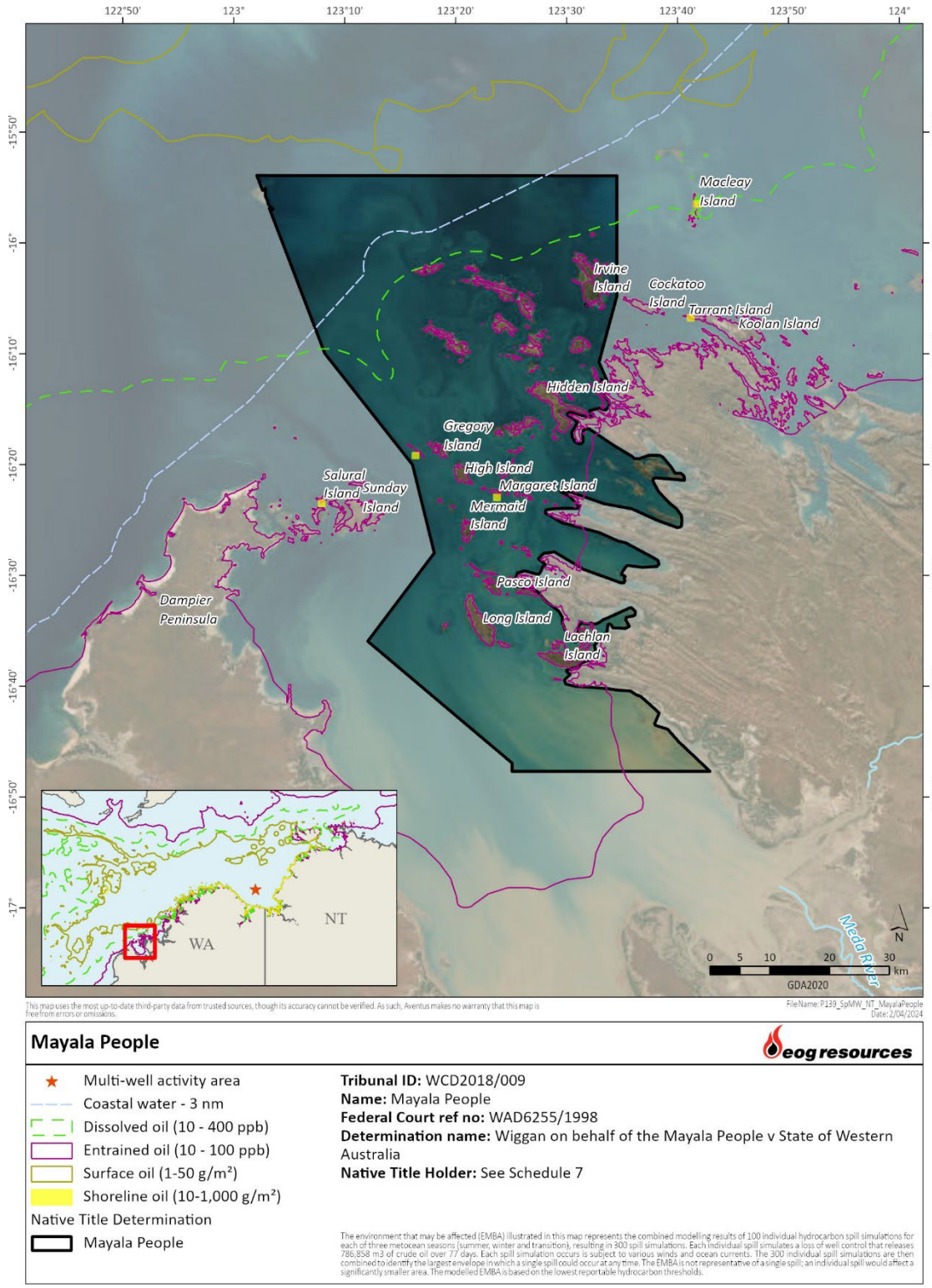


Figure 11.73 Mayala People Native Title determination exposure to the spill EMBA

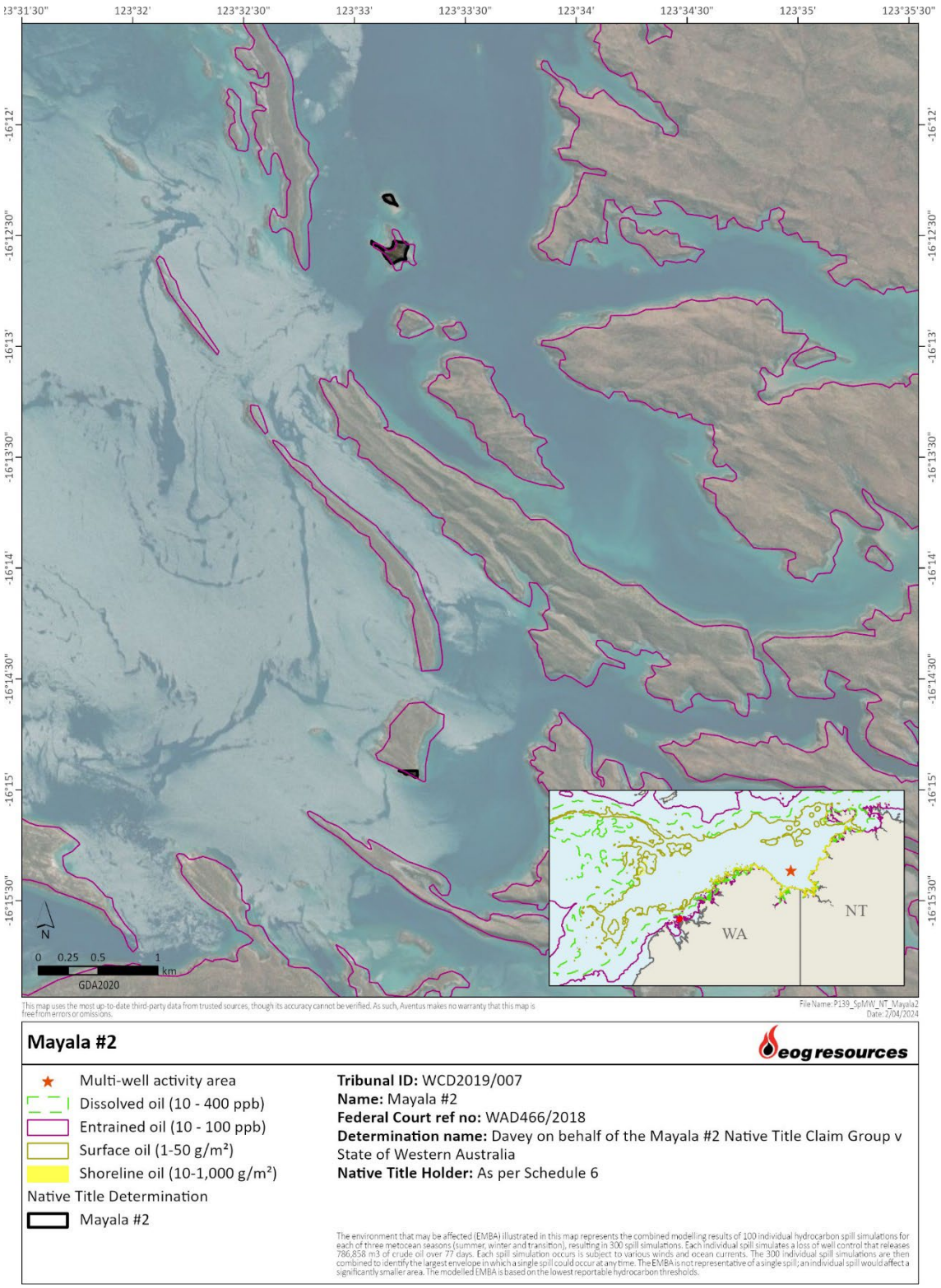


Figure 11.74 Mayala #2 Native Title determination exposure to the spill EMBA

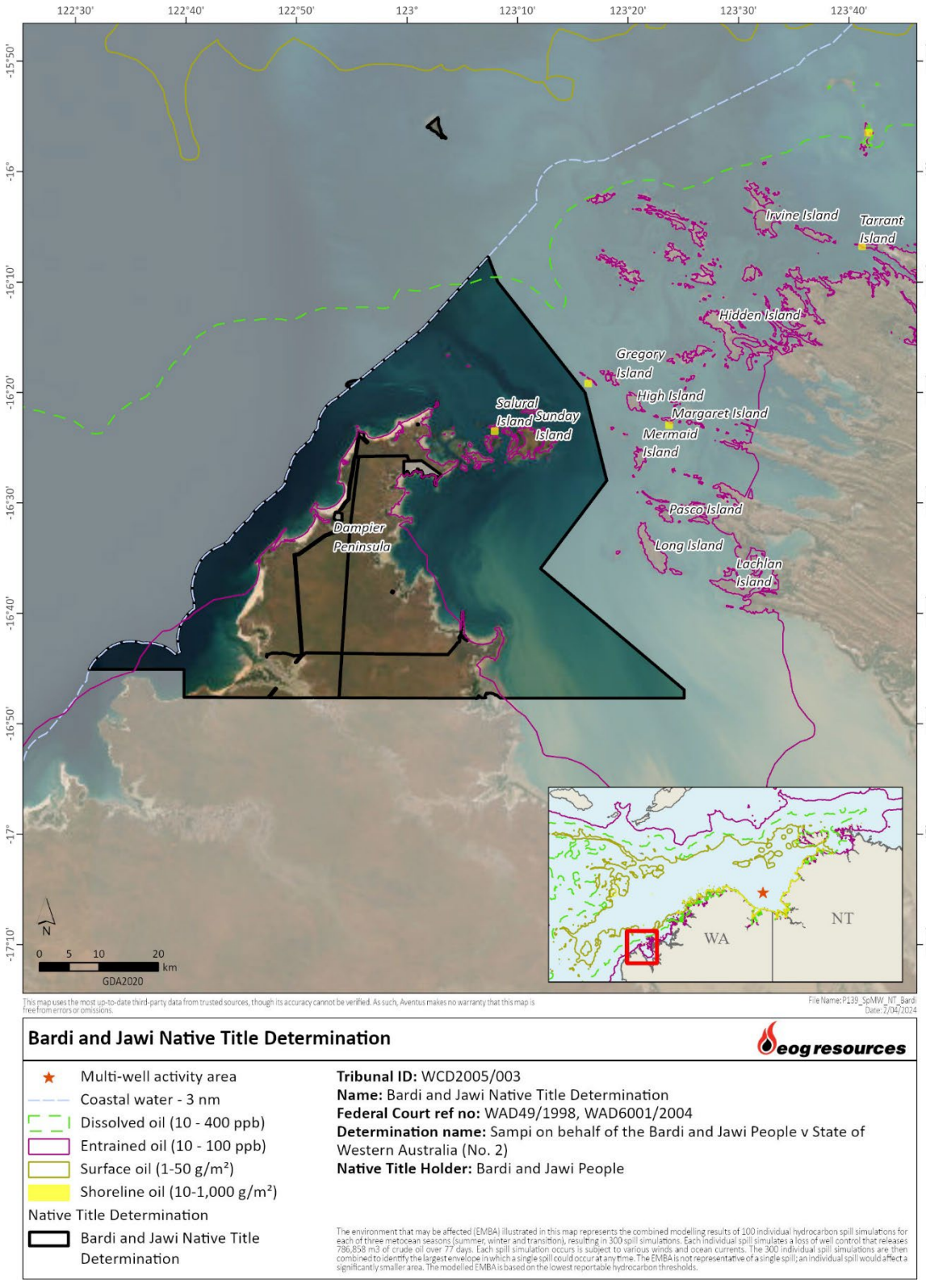


Figure 11.75 Bardi and Jawi Native Title determination exposure to the spill EMBA

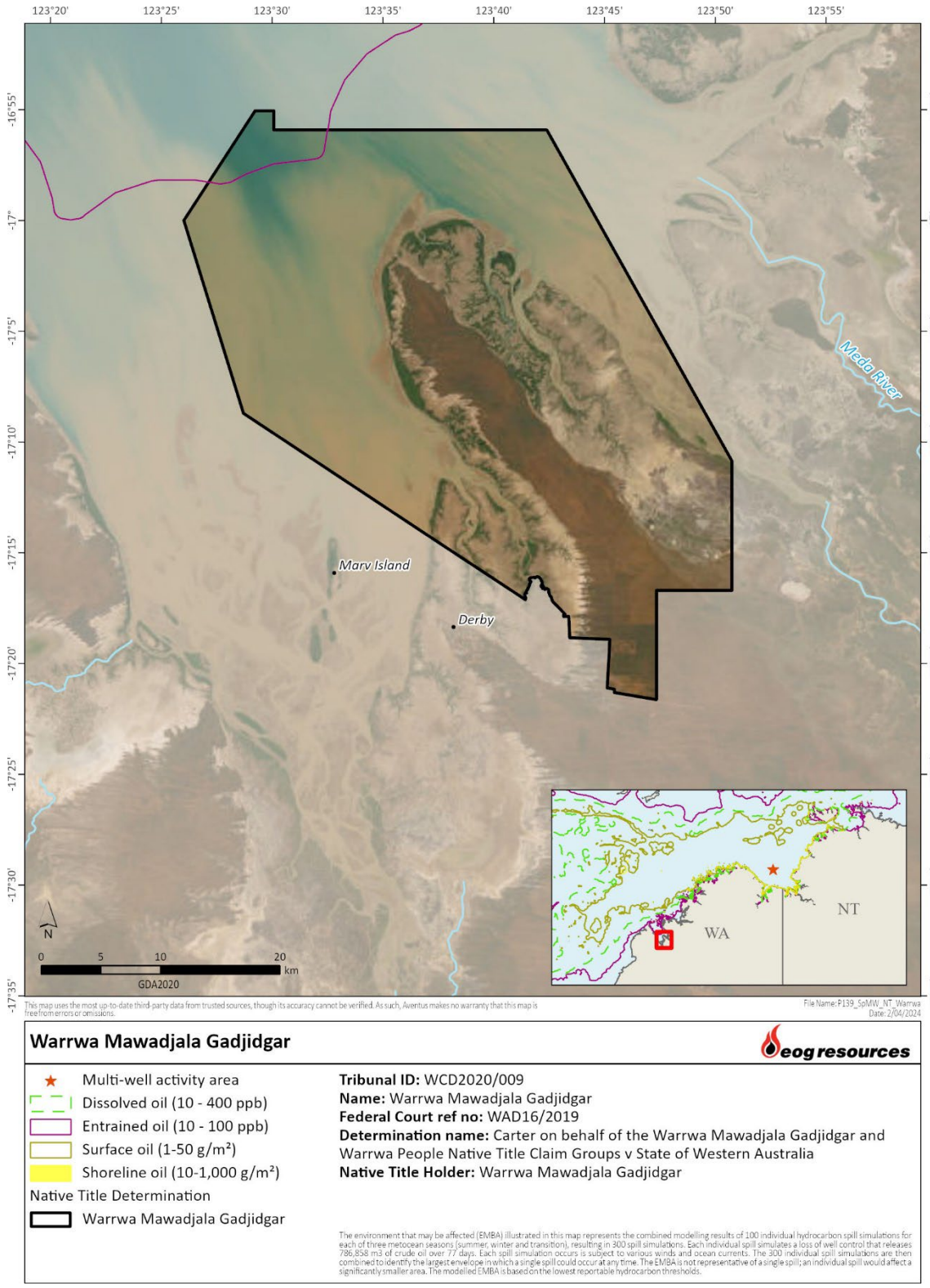


Figure 11.76 Warrwa Mawadjala Gadjidgar Native Title determination exposure to the spill EMBA

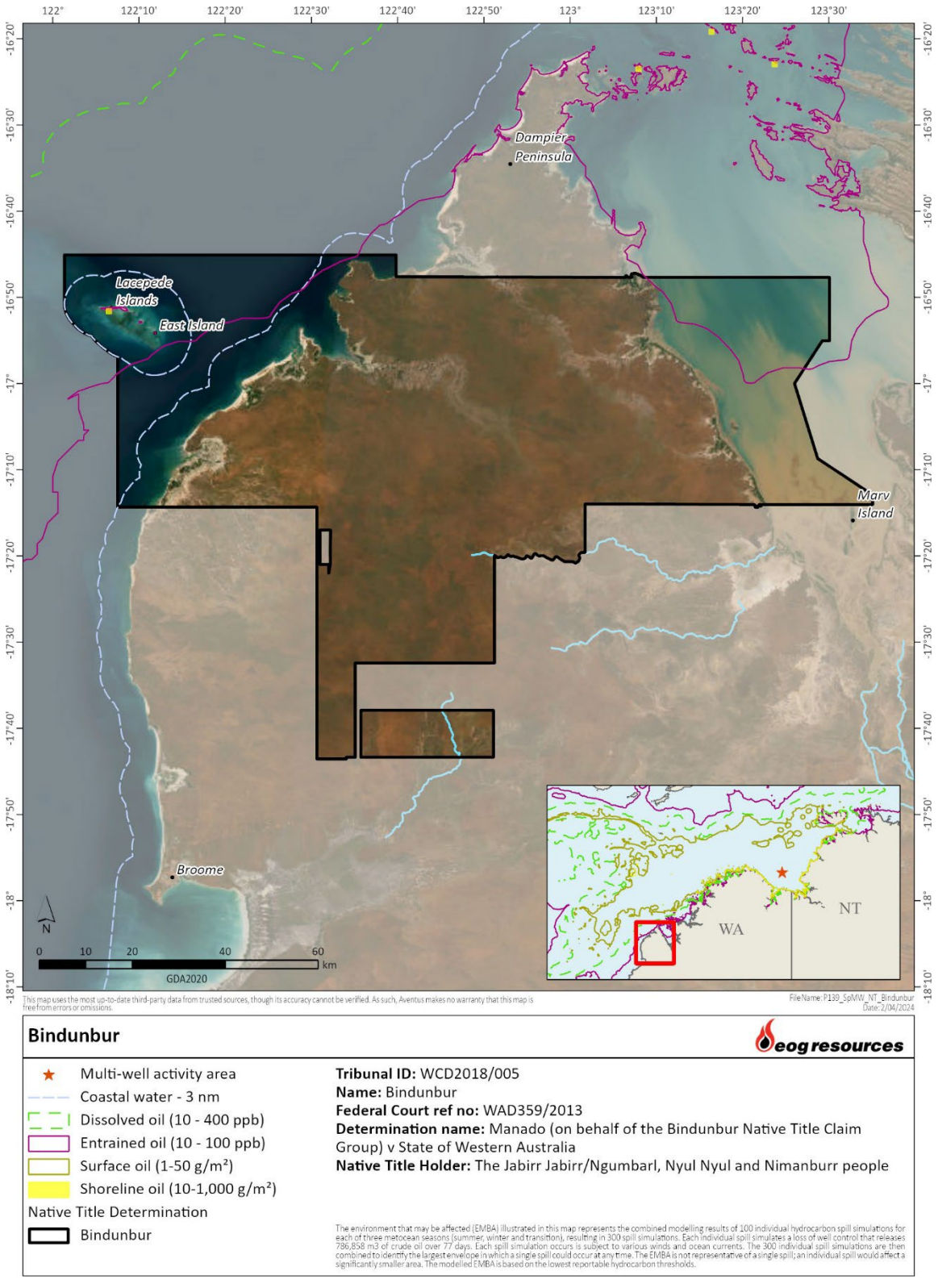


Figure 11.77 Bindunbur Native Title determination exposure to the spill EMBA

11.5.5 Sea Country

Sea Country refers to the areas of the sea that First Nations groups are particularly affiliated with through their traditional lore and customs (DNP, 2018a). Traditional owners have managed and used sea country within the region for tens of thousands of years, in some cases since before rising sea levels created these marine environments. They use and actively manage the coastal and marine environments of the region as a resource and to maintain cultural identity, health, and wellbeing. Fishing, hunting and the maintenance of culture and heritage through ritual, stories and traditional knowledge continue as important uses of nearshore and adjacent areas. Smyth and Isherwood (2016) describe Sea Country as all estuaries, beaches, bays, and marine areas collectively, within a traditional estate. Sea country contains evidence of the ancient mystical events by which all geographic features, animals, plants, and people were created. Sea Country contains sacred sites and contains tracks (or song lines) along which mythological beings travelled during the creation period (Smyth and Isherwood, 2016).

The sea, like the land, is integral to the identity of First Nation groups. Connection to sea country is accompanied by a complexity of cultural rights and responsibilities. Formal recognition of Sea Country rights lags considerably compared to land rights; this could be for a range of reasons including conflicting perspectives and opinions on traditional custodianship of land and how far it extends (Smyth and Isherwood, 2016). First Nations people continue to assert inherited rights and responsibilities over sea country within the region. It is recognised that spiritual corridors extend from terrestrial areas into nearshore and offshore waters, a number of marine animals are totems for Indigenous people, and that song lines pass through marine parks (DNP, 2018b).

The spill EMBA has the potential to encounter areas of Sea Country. EOG has sent project information to relevant persons and invited comments, including Native Title determination group representatives, Aboriginal land councils and other Aboriginal relevant persons intersected by the spill EMBA. The BAC expressed concerns to EOG regarding their Sea Country being within the spill EMBA, noting that important cultural sites exist within the spill EMBA (although did not specify where) and a number of tourism activities are present. The BAC also expressed interest in co-managing risks to the Kimberley coast.

11.5.6 Traditional Aboriginal Fishing

Traditional Aboriginal fishing in NT waters predominately occurs within inshore tidal waters. Approximately 85% of the NT's intertidal zone is recognised as Aboriginal land under the *Aboriginal Land Rights (Northern Territory) Act 1976*.

From a cultural perspective, fishing for food and traditional purpose is central to the health and wellbeing of Aboriginal communities across the NT (NT Government, 2019).

Nearly all of the effort of Indigenous sectors is concentrated in coastal waters (DPIR, 2019). Hand lines are the most common traditional fishing method used by Indigenous fishers, with most of this effort (93%) concentrated onshore (i.e., from beaches rivers, or lakes) (NT Government, 2019). Less than 2% of the fish caught by Indigenous fishers are released, as fishing is undertaken as a subsistence activity (DPIR, 2019).

Around 10% of all fishing by Indigenous fishers in the NT involve the use of some form of net (DPIR, 2019). Sharks are taken in significant quantities by Indigenous fishers, with the vast majority from shore (DPIR, 2019). Most (85%) of the mud crabs harvested by Indigenous fishers are taken by hand or with spears. These two collection methods account for around 50% of all fishing events by Indigenous fishers in the NT (DPIR, 2019).

Hunting, subsistence fishing and shell collecting are recognised as occurring in the Kimberley region (DNP 2018a; DPaW 2016b, Smyth 2007). The land and sea country of the Balanggarra people extends from Napier-Broome Bay to Cambridge Gulf and Wyndham in the JBG, inshore from where the multi-well activity is proposed. In the past, the Balanggarra people speared fish along the rocky shoreline and in shallow waters. Saltwater fish, turtles, dugong, mud crabs and cockles continue to be important food sources for the Balanggarra people today (DPaW, 2016b). The Miriuwung Gajerrong land and sea country extends from the Cambridge Gulf to the NT. In the past, the Miriuwung Gajerrong people would hunt, fish and gather bush tucker in tidal areas such as mangroves, with fishing and hunting still practiced today (DPaW, 2016b).

11.5.7 Aboriginal Rock Art

The National Museum of Australia (2022) defines Aboriginal rock art as the oldest surviving human art form and is an integral part of First Nations life and customs, dating back to the earliest times of human settlement on the continent. Research indicates that there are more than 100,000 significant rock sites within Australia, over 5,000 of which are found in Kakadu National Park (The National Museum of Australia, 2022). The coastline of this park is located in the western portion of the spill EMBA.

EOG's consultation with the BAC for the Beehive-1 EP, indicates that rock art may be present within coastal areas of the spill EMBA within the Balangarra Native Title determination area(s). Rock art was also mentioned during the relevant persons consultation process at a community meeting in June 2023 in Kalumburu (for the Beehive-1 EP). The exact locations of the rock art have not been made available to EOG, however, Figure 11.60 does contain spatially defined areas labelled 'painting' that intersect with the spill EMBA. Given the multi-well location encompasses the Beehive-1 location and the spill EMBA is exactly the same, this comment remains applicable.

11.5.8 Maritime Archaeological Heritage

Historic shipwrecks are recognised and protected under the *Underwater Cultural Heritage Act* 2018, which aims to protect historic wrecks and associated relics. Under the Act, all wrecks more than 75 years old are protected, together with their associated relics regardless of whether their actual locations are known.

There are 178 shipwrecks identified within the spill EMBA; 106 located off the WA coast and 72 located off the NT coast. The locations of these shipwrecks are illustrated in Figure 11.78.

The spill EMBA intersects with the following shipwreck protection zones:

- *SS Florence D* (1942) located Northwest of Bathurst Island; and
- *I-124* (Japanese Submarine) (1942) located south of Yinanapi Point, Bathurst Island.

Shipwreck protection zones can be in place for conservation, management, or public safety reasons.

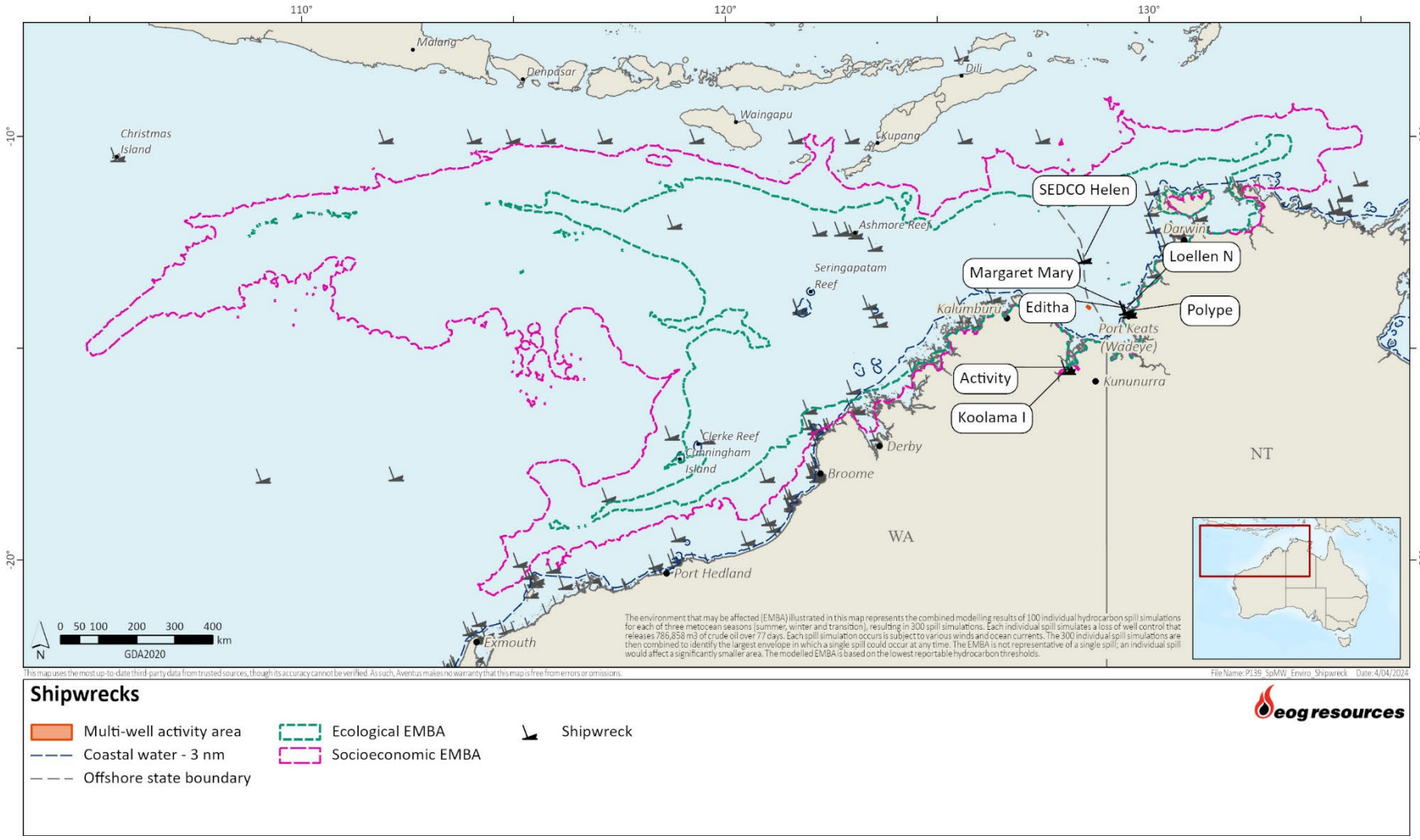


Figure 11.78 Shipwrecks in the spill EMBA

11.6 Socio-economic environment

This section describes the social and economic environment of the EMBA.

11.6.1 Commercial Fishing

Several Commonwealth, WA and NT commercial fisheries are licensed to operate in the EMBA. These are described in the following sections.

Commonwealth-managed Fisheries

Commonwealth fisheries are managed by AFMA under the *Fisheries Management Act 1991* (Cth). Their jurisdiction covers the area of ocean from 3 nm from the coast out to the 200 nm limit (the extent of the Australian Fishing Zone [AFZ]). Commonwealth commercial fisheries with jurisdictions to fish the spill EMBA are the:

- Northern Prawn Fishery (NPF).
- North West Slope Trawl Fishery;
- Southern Bluefin Tuna (SBT) Fishery;
- Western Tuna and Billfish Fishery;
- Western Deepwater Trawl Fishery; and
- Western Skipjack Fishery.

Of these fisheries, only the NPF and the North West Slope Trawl Fishery have evidence of recent (within the last three years) fishing activity in the EMBA. The NPF is discussed in detail in Section 5.71 of Chapter 5 of the EP.

Although there is no current fishing effort nor previous active fishing for the Southern Bluefin Tuna Fishery off WA, the EMBA does overlap a known spawning ground for this species (see Figure 11.81). Table 11.25 summarises the key facts and figures of the relevant fisheries.

Table 11.25 Commonwealth-managed commercial fisheries with jurisdictions to fish in the EMBA

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
NPF (Figure 11.79)	Redleg banana prawn (*Fenneropenaeus indicus),* white banana prawn (*F. merguiensis*), brown tiger prawn (*Penaeus esculentus*), grooved tiger prawn (*P. semisulcatus*), blue endeavour prawn (*Metapenaeus endeavouri*) and red endeavour prawn (*M. ensis*)	Yes – Areas include JBG (low-medium fishing intensity), south-west of Darwin (low to medium intensity), north of Melville Island (low to high intensity) extending to Cobourg Peninsula (low to medium intensity). The EMBA overlaps 17.53% of the total fishery.	The NPF operates in two seasons; • First – beginning in April for a duration of 6-12 weeks during which time banana prawns are mainly caught. • Second (August – November), when tiger prawns are predominately caught.	Otter trawl is the primary fishing method. In 2021, there were 52 fishing permits and 54 active vessels.	Catch data and economic value available for the last five years: • 2022 – 5,325 tonnes valued at $91.7 million. • 2021 – 5,390 tonnes valued at $76.6 million. • 2020 – 4,767 tonnes valued at 84.9 million. • 2019 – 8,581 tonnes valued at $117.1 million. • 2018 – 6,778 tonnes valued at $98.2 million.
North West Slope Trawl Fishery (Figure 11.80)	Australian scampi (*Metanephrops australiensis*) smaller quantities of velvet scampi (*M. velutinus*) and Boschma's scampi (*M. boschmai*) are also harvested. Mixed deep-water snappers are also a component of the catch.	Yes - Low to high intensity fishing area northeast of Clerke Reef; including a small area southwest of Cunningham Island. The EMBA overlaps 18.02% of the total fishery.	All year round.	Deepwater demersal trawling. Fishing occurs on the continental slope in water depths greater than 200 m. There were six fishing permits and four active vessels in the 2020-21 fishing season, a drop from seven permits and six vessels in the 2019-2020 fishing season.	Catch data available for the following years (economic value confidential): • 2021-22 – 85.8 tonnes. • 2020-21 – 86.9 tonnes. • 2019-20 – 111.5 tonnes. • 2018-19 – 67.4 tonnes. • 2017-18 – 79.8 tonnes.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Southern Bluefin Tuna Fishery (Figure 11.81)	Southern bluefin tuna (*Thunnus maccoyii*).	No - There has been no active fishing in WA in recent years as fishing efforts are concentrated off the south eastern coast of New South Wales, eastern Victoria, Tasmania and SA (Butler *et al.,* 2023). However, the EMBA extends to the potential spawning grounds of the target species in the northwest of WA between September and March, and larvae are seasonally abundant in surface waters during these months.	12-month season begins 1st December.	Purse seine catch in the GAB for transfer to aquaculture farms off Port Lincoln in South Australia (five to eight vessels consistently fish this area). Port Lincoln is the primary landing port. On the east coast, pelagic longline fishing is the key fishing method. 27 active vessels in the last fishing season (2020-2021).	There is no recent fishing effort in the EMBA. Catch data and economic value available for the following years: • 2022 – 5,972 tonnes worth 35.45 million. • 2021 – 5,646 tonnes worth $35.49 million. • 2019-20 – 5,429 tonnes worth $41.27 million. • 2018-19 – 6,074 tonnes worth $43.41 million. • 2017-18 – 6,159 tonnes worth $39.73 million.

Sources: Butler et al (2023) Patterson et al (2022, 2021; 2020; 2019; 2018).

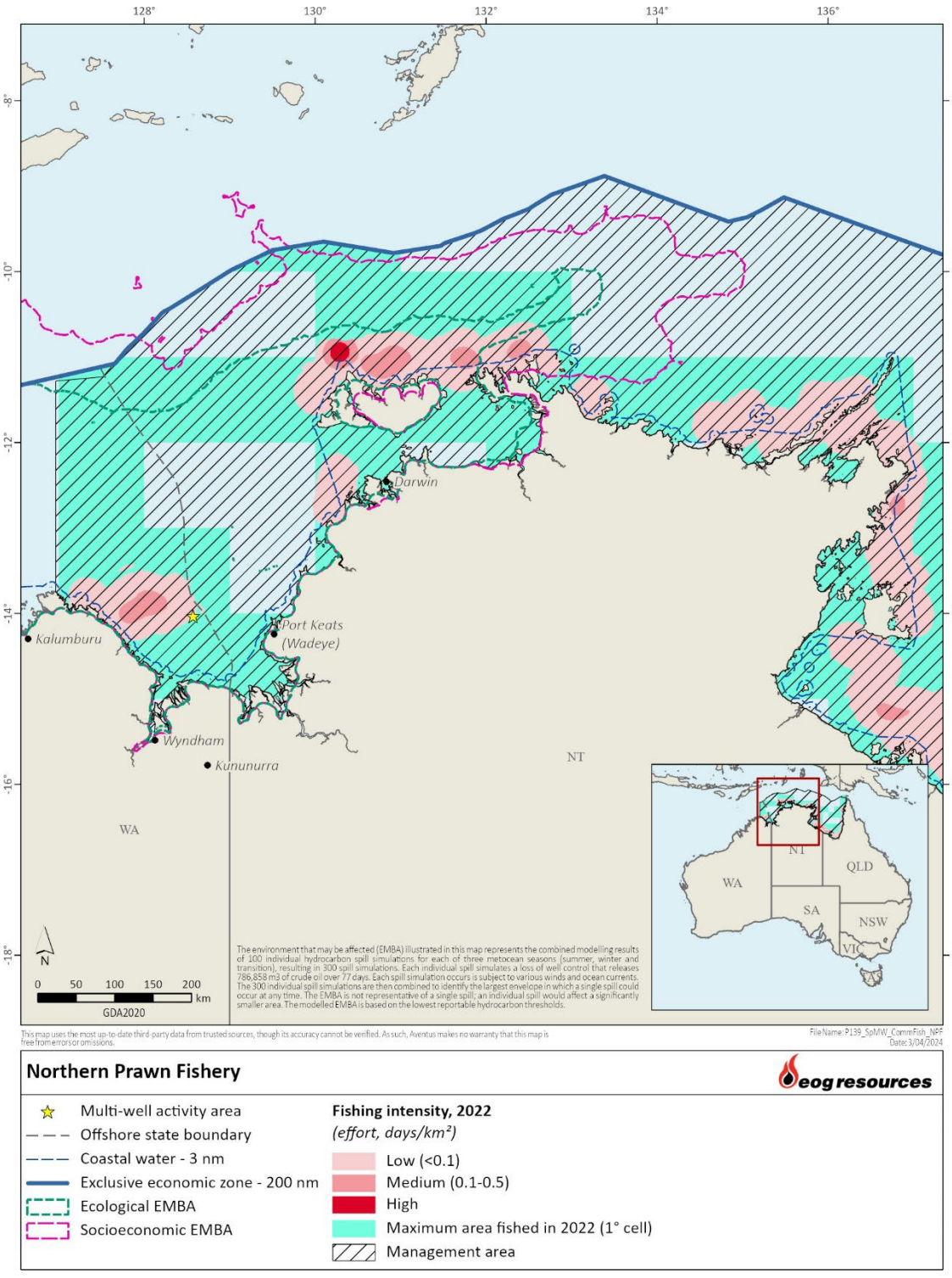


Figure 11.79 Northern Prawn Fishery overlapped by the spill EMBA (2022 intensity)

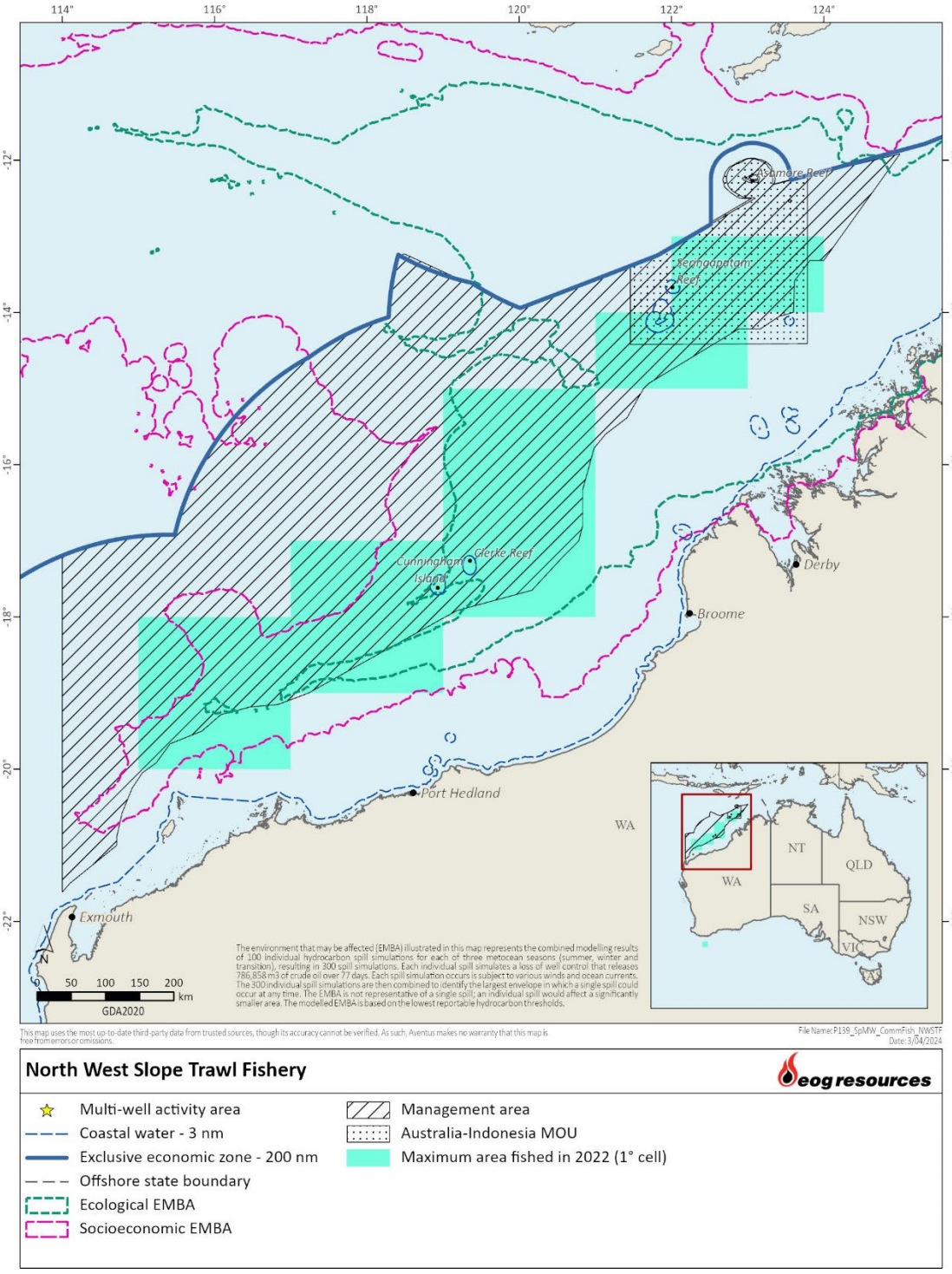


Figure 11.80 North West Slope Trawl Fishery overlapped by the spill EMBA (2022)

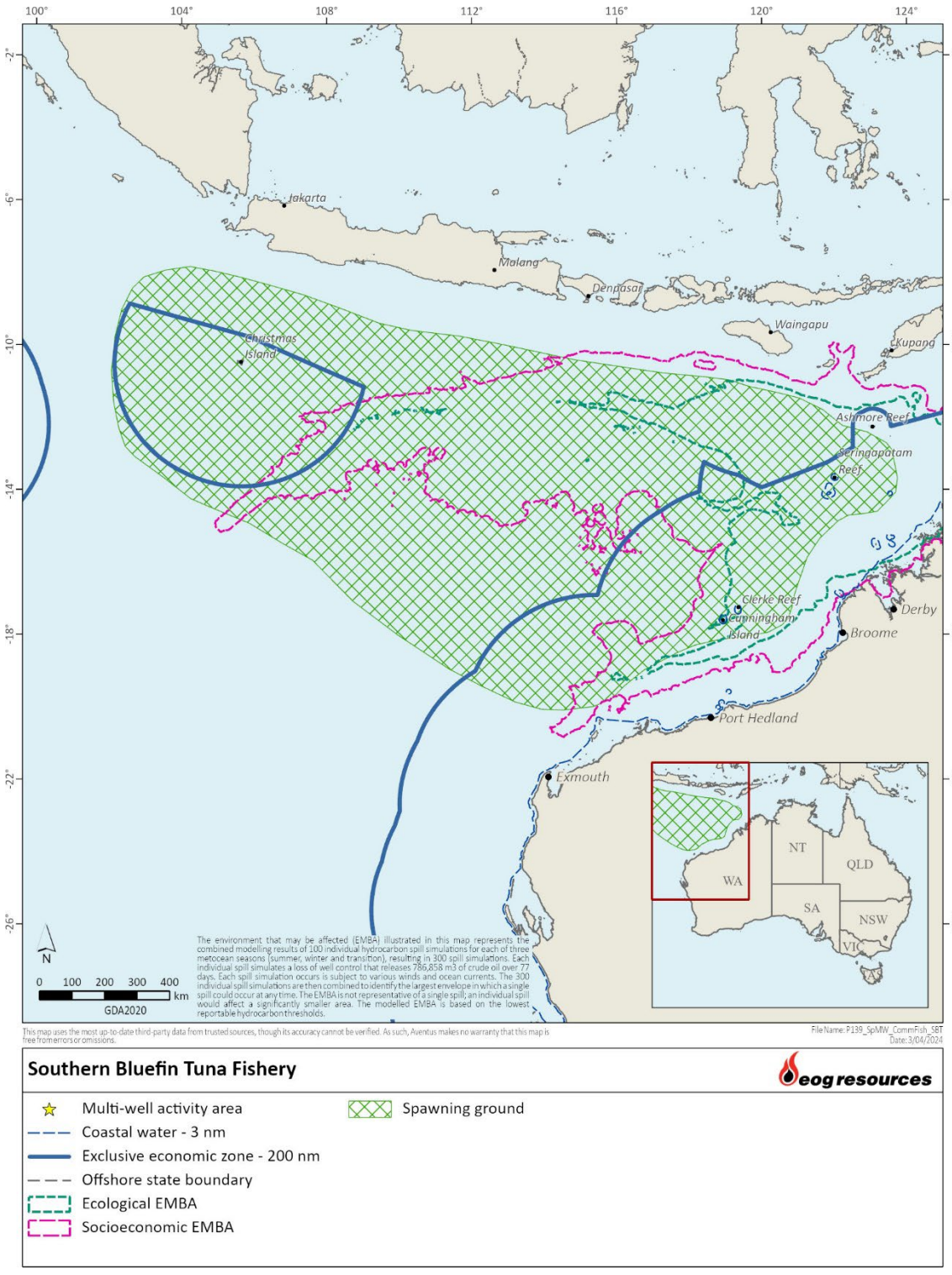


Figure 11.81 Southern Bluefin Tuna spawning grounds overlapped by the spill EMBA

Western Australian-managed Fisheries

Western Australian-managed commercial fisheries that are authorised to harvest in the waters of the spill EMBA include the following (noting that not all actively fish):

- Mackerel Managed Fisheries (MMF);
- Northern Demersal Scalefish Managed Fishery;
- Pearl Oyster Managed Fishery;
- Abalone Managed Fishery;
- Kimberley Crab Managed Fishery (North Coast Crab Fishery);
- Kimberly Prawn Managed Fishery;
- Kimberley Gillnet and Barramundi Managed Fishery;
- Broome Prawn Managed Fishery;
- Nickol Bay Prawn Managed Fishery;
- Onslow Prawn Managed Fishery;
- Specimen Shell Fishery;
- Marine Aquarium Fish Managed Fishery (MAFMF);
- Pilbara Demersal Scalefish Fishery;
- Pilbara Crab Managed Fishery (PCMF); and
- West Coast Deep Sea Crustacean Managed Fishery.

Through the consultation process for the Beehive-1 EP with the WA DPIRD, EOG identified the MMF, the Northern Demersal Scalefish Managed Fishery, Kimberley Crab Managed Fishery, Kimberley Prawn Managed Fishery and the Kimberley Gillnet and Barramundi Fishery as the key fisheries that actively fish in the EMBA. Given the spill EMBA is exactly the same for this EP, the comments relating to active fisheries within the EMBA remains applicable.

Table 11.26 presents information for these fisheries (noting that catch data for 2023 is not yet publicly available).

Table 11.26 WA-managed commercial fisheries with jurisdictions to fish within the spill EMBA

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Northern Demersal Scalefish Managed Fishery (Figure 11.82)	Targets predominately goldband snapper (*Pristipomoides multidens*), crimson snapper, red emperor (*Lutjanus sebae*) bluespotted emperor (*Lethrinus punctulatus*), saddletail snapper (*L. malabaricus*), rankin cod (*Epinephelus multinotatus*), brownstripe snapper (*L. vitta*), rosy threadfin bream (*Nemipterus furcosus*) and spangled emperor (*Lethrinus nebulosus*).	The EMBA intersects both the Pilbara zone (30.50% overlap, Figure 11.94) and Kimberely zone (2.72% overlap, Figure 11.82) of this fishery.	Assumed to be year-round.	Although permitted to use handlines, droplines and traplines, since 2002 the fishery has been essentially trap based. Eight vessels actively fished in 2022, employing at least 27 people.	Catch data available for the last five years: • 2022 – 1,458 t. • 2021 – 1,544 t. • 2020 – 1,419 t. • 2019 – 1,507 t. • 2018 – 1,297 t. Majority of catch (1,235 t) was landed in Zone B in the 2022 season.
Mackerel Managed Fishery (Area 1 and 2) (Figure 11.83)	Spanish mackerel (*Scomberomorus commerson*) and grey mackerel (*Scomberomorus semifasciatus*).	The EMBA intersects 44.48% of this fishery, particularly, fishing Area 1 (Kimberley) and Area 2 (Pilbara) (Figure 11.83)	Fishing is primarily from May – November in 2019. In the Pilbara sector, approximately 65% of effort has historically occurred from July to August.	A total of 13 vessels operated during 2022 across the fishery, employing 30-40 people. In 2014, only three vessels operated in the Kimberley region. Trolling and handline are the only allowable fishing methods.	Catch data available for the last five years: • 2022 – 212 t. • 2021 – 248 t. • 2020 – 299 t. • 2019 – 291 t. • 2018 – 213 t.
Kimberley Crab Managed Fishery (KCMF) (Figure 11.84)	Green mud crabs (*Scylla serrata*) and brown mud crabs (*Scylla olivacea*).	The EMBA intersects 2.17% of this fishery, particularly, fishing Area 1 (permitted areas of fishing) (Figure 11.84)	Generally, March to November with June to September being the most productive months.	Crab traps are the primary fishing method. In 2022, two people were employed as skippers and crew on vessels fishing for mud crab in the KCMF.	Catch data available for the last five years: • 2022 – 2.4 t. • 2021 – 0.8 t. • 2020 – 1.5 t. • 2019 – 7.4 t. • 2018 – 3.2 t.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Kimberley Prawn Managed Fishery (Figure 11.85)	Banana prawns (*Fenneropenaeus indicus* and *F. merguiensis*) are the primary target species though brown tiger prawns (*Penaeus esculentus*) and blue endeavour prawns (*Metapenaeus endeavouri*) are taken as bycatch.	The EMBA intersects the trawled areas and trawl closure areas nearshore and inshore as shown in Figure 11.85. The EMBA intersects 8.82% of the fishery.	There are two fishing periods for the season (April to mid-June, then from August to the end of November) with around 81% of the total landings taken in the first fishing period.	Otter board trawl system is the primary fishing method.	Catch data available for the last five years: • 2022 – 238.5 t. • 2021 - 203.9 t. • 2020 – 253.4 t. • 2019 – 100 t. • 2018 – 333 t.
Kimberley Gillnet and Barramundi Fishery (Figure 11.86)	Barramundi (*Lates calcarifer*), king threadfin (*Polydactylus macrochir*) and blue threadfin (*Eleutheronema tetradactylum*) are the primary target species.	The EMBA primarily intersects the fishery in areas where the fishery is closed from 1st November to 31st January and 1st December to 31st January inclusive (Figure 11.86). The EMBA intersects 0.85% of the fishery.	Year round, though predominantly occurs from April to September.	Fishing is restricted to state waters. Three vessels were active during the 2022 season, employing approximately six people.	Catch data available for the last five years: • 2022 – 64.5 t. • 2021 – 100 t. • 2020 – 44.6 t. • 2019 – 73.4 t. • 2018 – 91.8 t.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Pearl Oyster Managed Fishery (Figure 11.87)	Silver lipped pearl oyster (*Pinctada maxima*).	The EMBA intersects Zone 1, Zone 2 and Zone 3 including the Kimberley development zone of the fishery (Figure 11.87Figure 11.87).	Most vessels operate between March and June each year.	Quota-based diver fishery operating in shallow coastal waters. The number of active vessels in 2022 was six. Most vessels operate with 10 – 14 crew. Personnel employed in the pearling industry and current full-time is estimated to be around 300.	Catch data available for the last five years: • 2022 - 756,531 shells. • 2021 – 590,064 shells. • 2020 – 455,980 shells. • 2019 – 611,816 shells. • 2018 – 614,002 shells.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Abalone Managed Fishery (Figure 11.88)	Roe's abalone (*Haliotis roei*).	Yes	Between 1 October to 15 May the following year.	Abalone diving generally occurs close to the shoreline (generally no greater than 30 m depth) using hookah gear (breathing air supplied via hose connected to an air compressor on the vessel). Commercial divers do not use SCUBA gear.	Catch data available for the last five years: • 2022 – 28.9 t. • 2021 – 39 t. • 2020 – 18.2 t. • 2019 – 47 t. • 2018 – 48 t. Area 8 of this fishery (where the spill EMBA intersects) has been closed since the 2011/12 season due to catastrophic mortality following the 2011 marine heatwave. With no evidence of natural recovery, a restocking project has been successful on a trial-scale, but it has yet to be implemented on a commercial scale.
Marine Aquarium Fish Managed Fishery (Figure 11.89)	Multispecies including Syngnathids, invertebrates, hard coral, soft coral, living rock and sand, sponges and seagrasses.	Likely	Assumed year-round.	13 licences were active during the 2021 season.	Catch data available for the last five years: • 2022 – 19,710 individuals • 2021 – 13,362 individuals • 2020 – 28,165 individuals • 2019 – 11,925 individuals • 2018 – 27,327 individuals

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Broome Prawn Managed Fishery (Figure 11.90)	Western king prawn (*Melicertus latisulcatus*)	The socio-economic EMBA intersects a known fishing area off Broome.	Assumed to follow that of the Kimberley Prawn Managed Fishery	Demersal trawl.	Between 2015-2021, there was trial fishing only with landings <1 tonne each year. No fishing effort occurred in 2022 as no boats undertook trial fishing activities.
Nickol Bay Managed Prawn Fishery (Figure 11.91)	Banana prawns (*Fenneropenaeus indicus* and *F. merguiensis*) are the primary target species though brown tiger prawns (*Penaeus esculentus*) and blue endeavour prawns (*Metapenaeus endeavouri*) are taken as bycatch.	Yes –within the fishery extent, however it does not intersect the fishery trawled area nor the size management fish ground (Figure 11.91).	Assumed to follow that of the Kimberley Prawn Managed Fishery.	Demersal trawl.	Catch data available for the last five years: • 2022 – 51 t • 2021 - 123.4 t • 2020 – 202.4 t • 2019 – 254 t. • 2018 – 81 t.
Onslow Managed Prawn Fishery (Figure 11.92)	Banana prawns (*Fenneropenaeus indicus* and *F. merguiensis*) are the primary target species though brown tiger prawns (*Penaeus esculentus*) and blue endeavour prawns (*Metapenaeus endeavouri*) are taken as bycatch.	Yes – within the fishery extent, however it does not intersect the fishery trawled area nor the size management fish ground (Figure 11.92Figure 11.92).	Assumed to follow that of the Kimberley Prawn Managed Fishery.	Demersal trawl. One boat fished during the 2022 season.	Catch data available for the last five years: • 2022 – confidential. • 2021 - Undisclosed (less than the target catch range) • 2020 – Undisclosed (less than the target catch range) • 2019 – 50 t. • 2018 – 60 t.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Specimen Shell Fishery (Figure 11.93)	In the past 5 years, more than 438 separate species of molluscs have been collected, with an average of more than 200 species per year.	Low fishing intensity.	Year-round.	Hand collection.	Catch data available for the last five years: • 2022 - 5,074 shells. • 2021 – 5,443 shells. • 2020 – 6,152 shells. • 2019 – 7,232 shells. • 2018 – 7,628 shells.
Pilbara Demersal Scalefish Managed Fishery (Figure 11.94)	Goldband snapper (*Pristipomoides multidens*), blue spotted emperor (*Lethrinus punctulatus*), red emperor (*Lutjanus sebae*), saddletail snapper (*L. malabaricus*), crimson snapper (*L. erythropterus*) and rosy threadfin bream (*Nemipterus furcosus*).	Yes – the southwestern extent of the EMBA intersects the Pilbara offshore closed waters (trawl) (Zone 1 and Area 6) and Pilbara trawl (Zone 1 and Zone 2) and trap fishing (Figure 11.94).	Year-round.	Hand line, drop line and fish traps are permitted. At least 34 people (e.g., 2-4 crew per vessel) were directly employed in the PDSF in 2022.	Catch data available for the last five years: • 2022 – 2,485 t. • 2021 - 2,714 t. • 2020 – 2,854 t. • 2019 – 2,980 t. • 2018 – 2,651 t.
Pilbara Crab Managed Fishery (PCMF) (Figure 11.95)	Blue swimmer crabs (*Portunus pelagicus*)	Yes - the southwestern extent of the EMBA intersects the permitted area of the fishery (Figure 11.95).	Fishers generally operate from March to November with May to September being the most productive months.	Crab trap and drop nets are used to harvest crabs. During 2022, two people were employed as skippers and crew on vessels fishing for blue swimmer crabs along the Pilbara coast.	Catch data available for the last five years: • 2022 – 11.2 t. • 2021 – 8.9 t. • 2020 – 0.6 t. • 2019 – 19 t. • 2018 – 35 t.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
West Coast Deep Sea Crustacean Managed Fishery (Figure 11.96)	Crystal crab (*Chaceon albus*), Snow crab (*Chaceon albus*), spiny crab (*Hypothalassia acerba*) and giant crab (*Pseudocarcinus gigas*).	Yes –within the fishery extent and closed waters of the fishery, however fishing effort is concentrated in areas south of Exmouth (outside of EMBA) (Figure 11.96).	Typically, from January to June with greater intensity in January/February.	Baited pots or traps in a long line formation in the shelf edge waters (>150 m).	Catch data available for the last five years: • 2022 – 123.2 t. • 2021 – 154.5 t. • 2020 – 153 t. • 2019 – 153 t. • 2018 – 154 t.

Newman et al. (2023a; 2023b, 2021); Gaughan and Santoro (2021; 2020; 2018); Gaughan et al (2019).

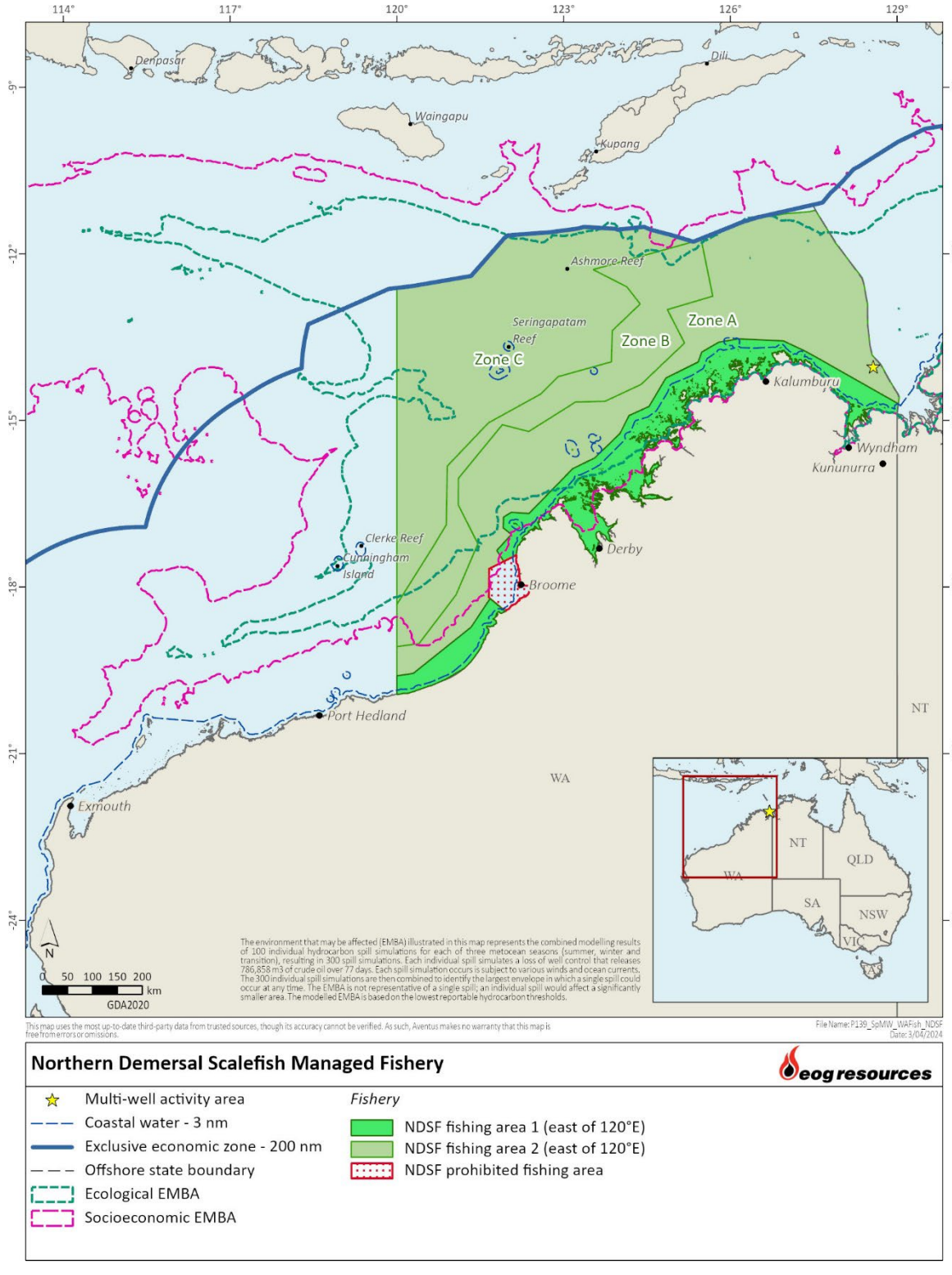


Figure 11.82 WA Northern Demersal Scalefish Fishery overlapped by the spill EMBA

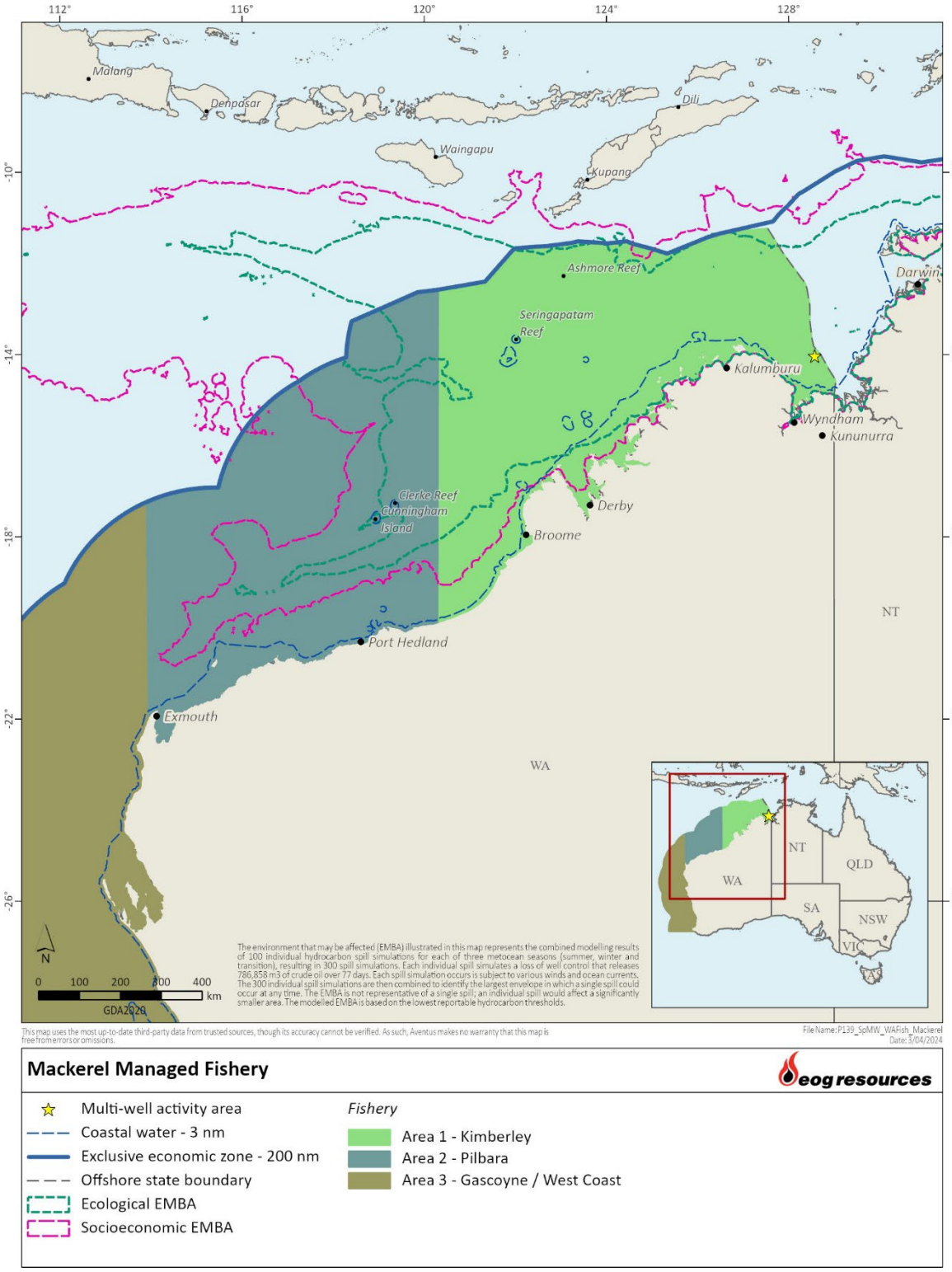


Figure 11.83 WA Mackerel Managed Fishery overlapped by the spill EMBA

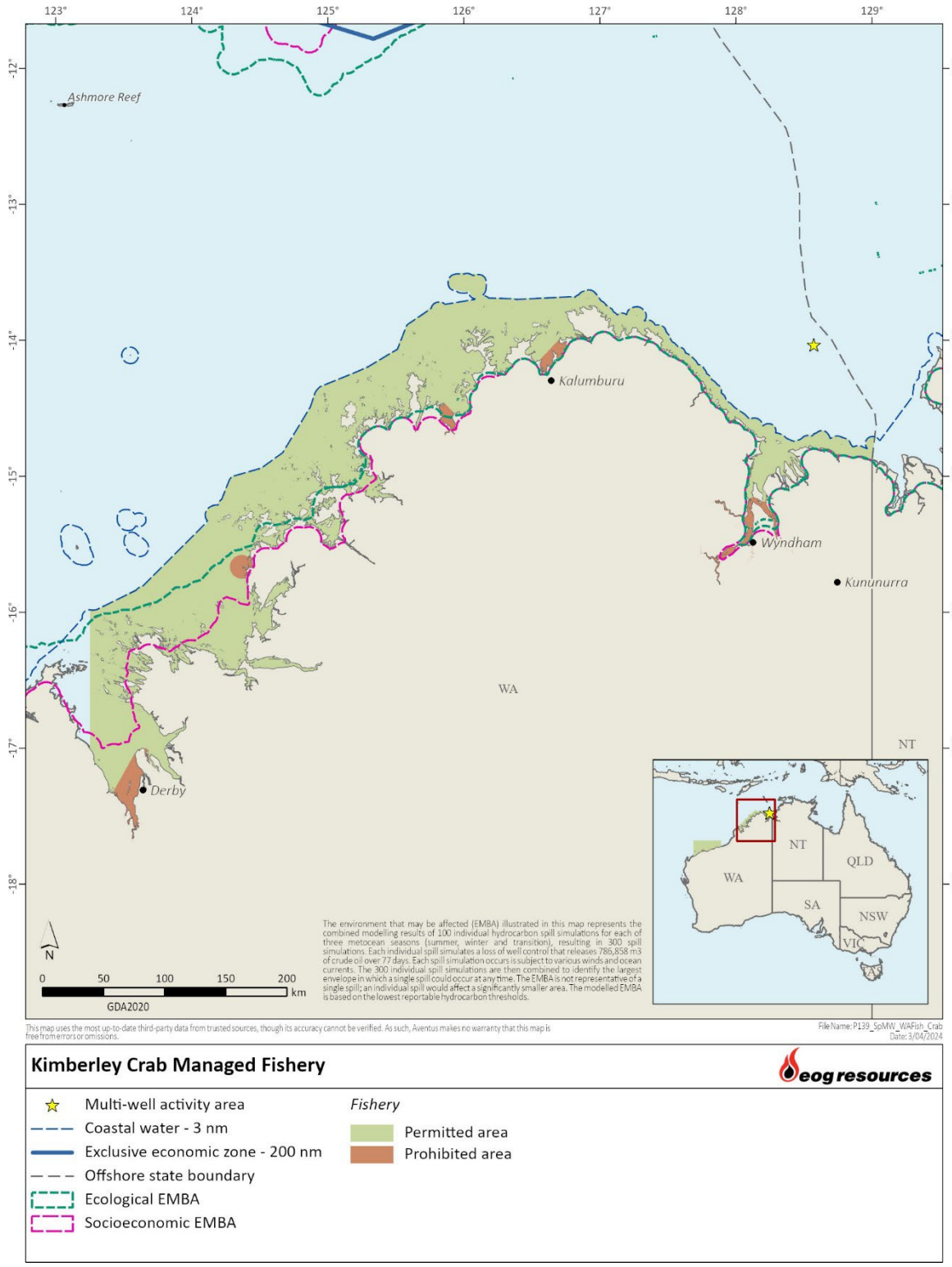


Figure 11.84 WA Kimberley Crab Managed Fishery (North Coast Crab Fishery) overlapped by the spill EMBA

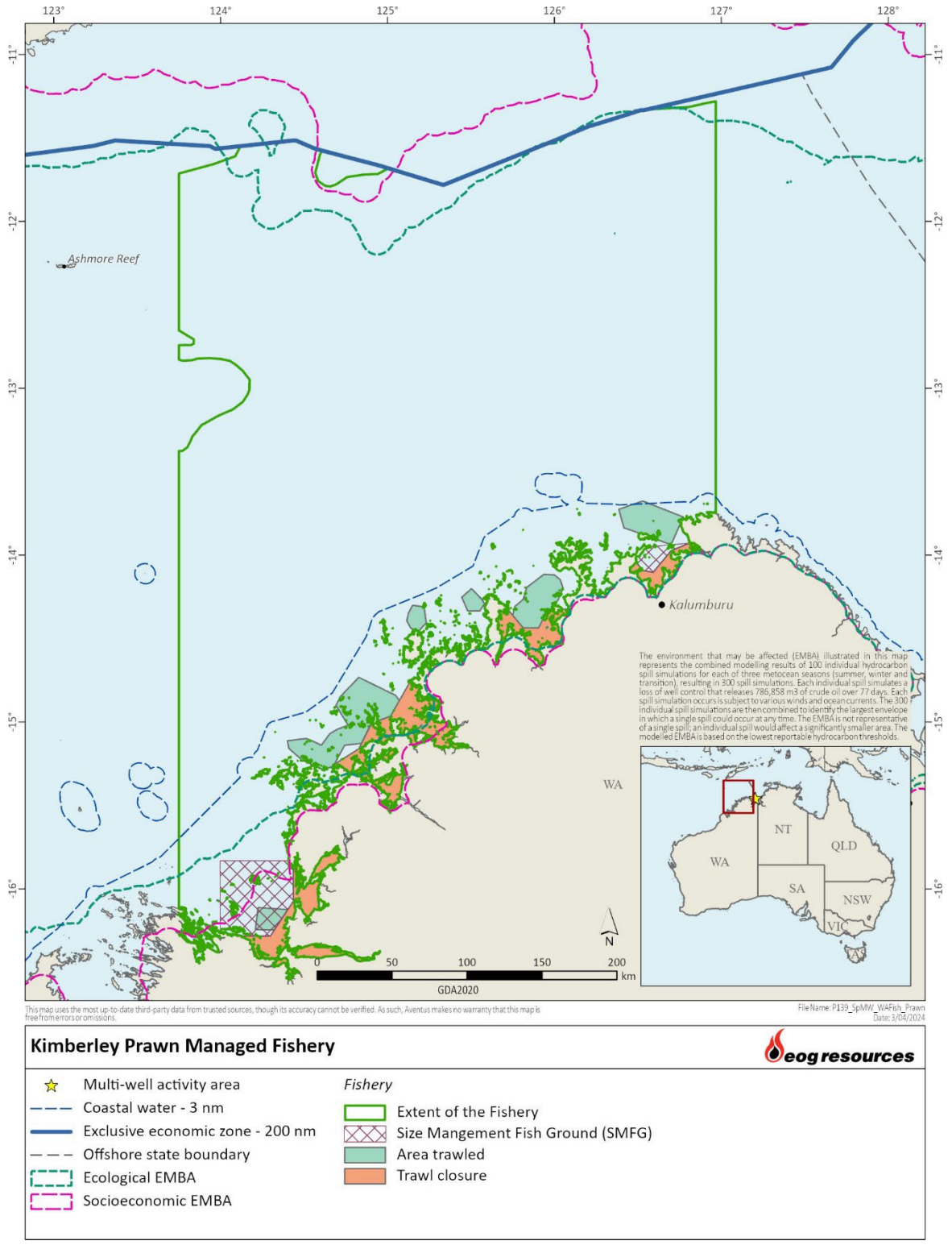


Figure 11.85 WA Kimberley Prawn Managed Fishery overlapped by the spill EMBA

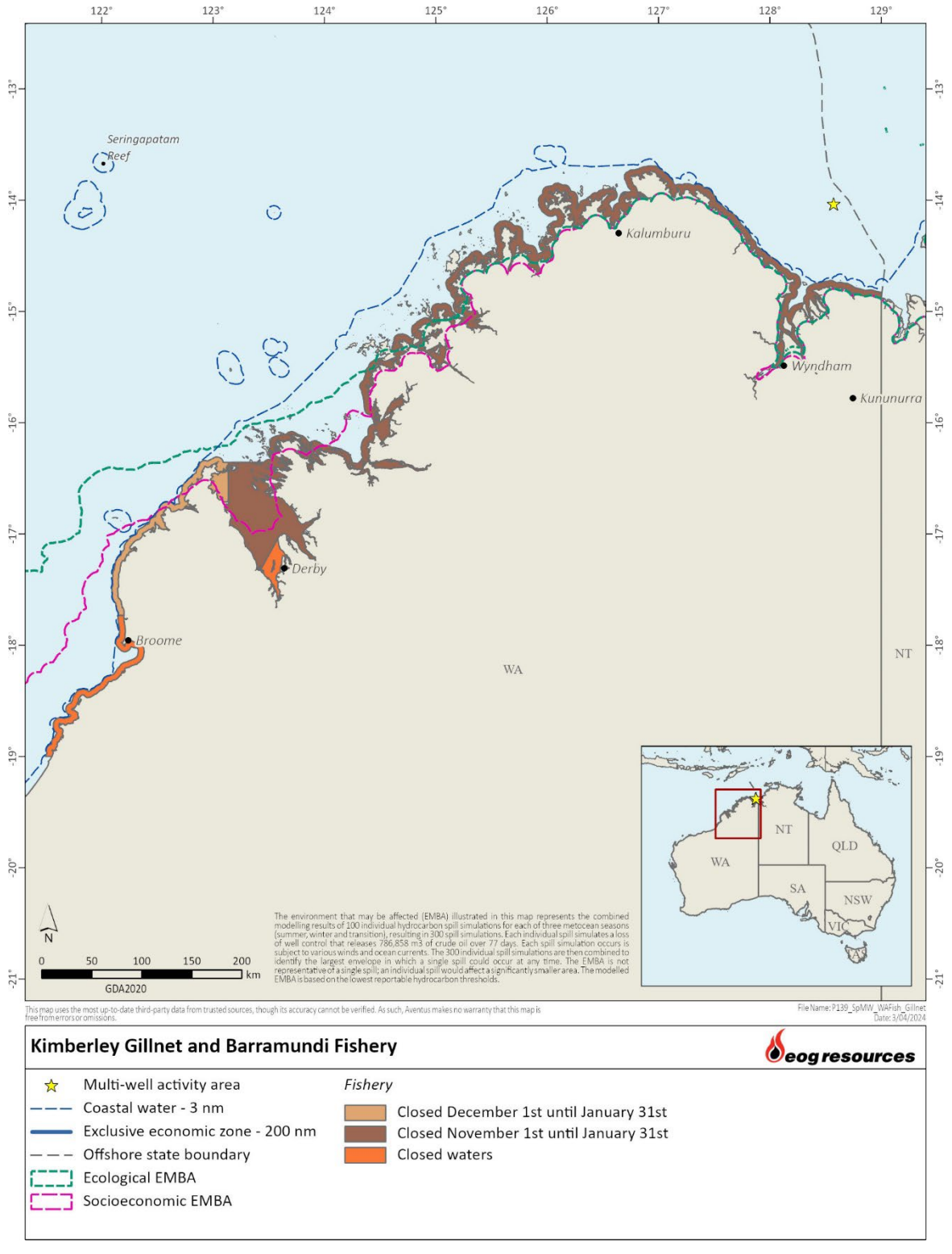


Figure 11.86 WA Kimberley Gillnet and Barramundi Fishery overlapped by the spill EMBA

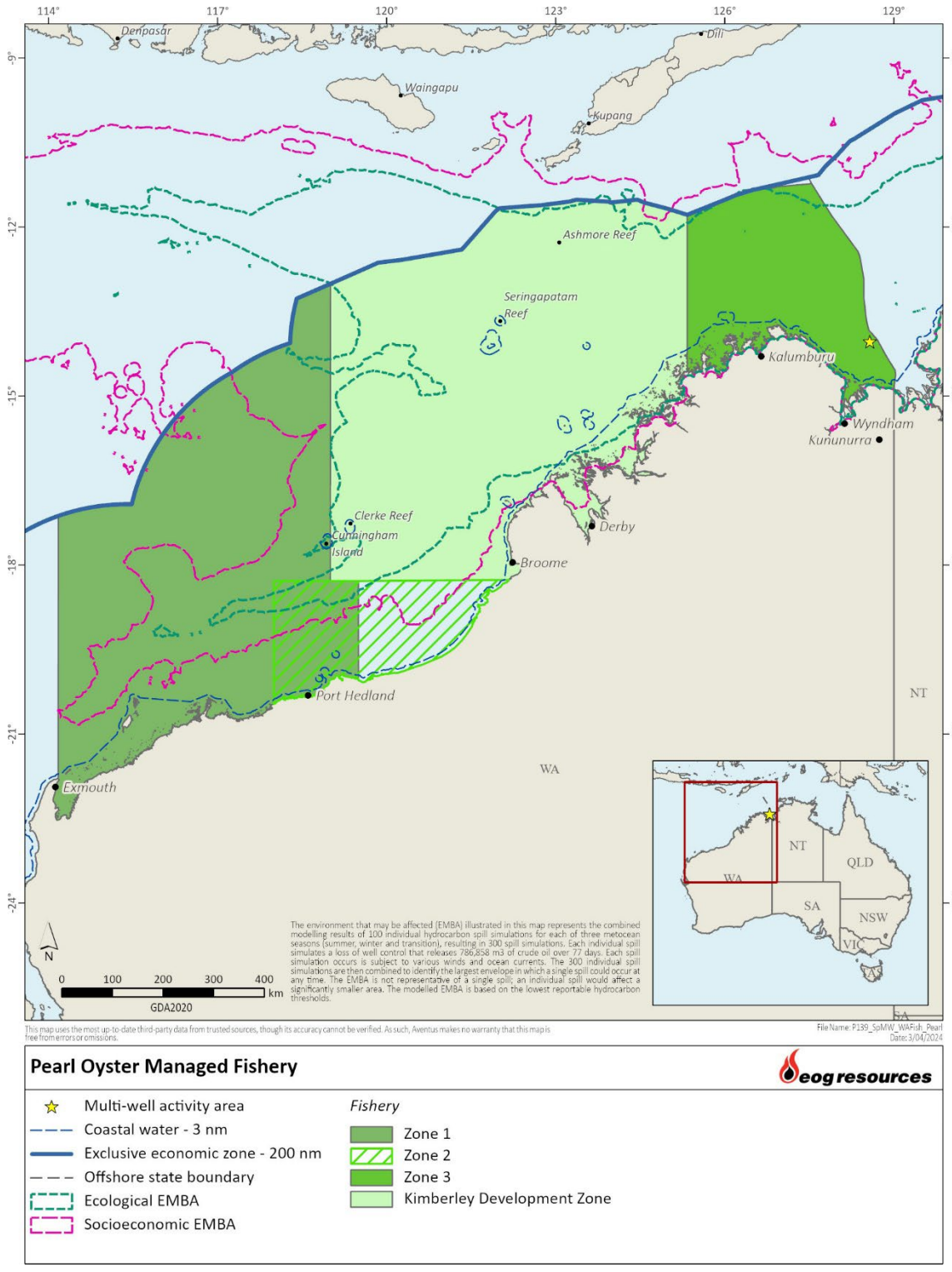


Figure 11.87 WA Pearl Oyster Managed Fishery overlapped by the spill EMBA

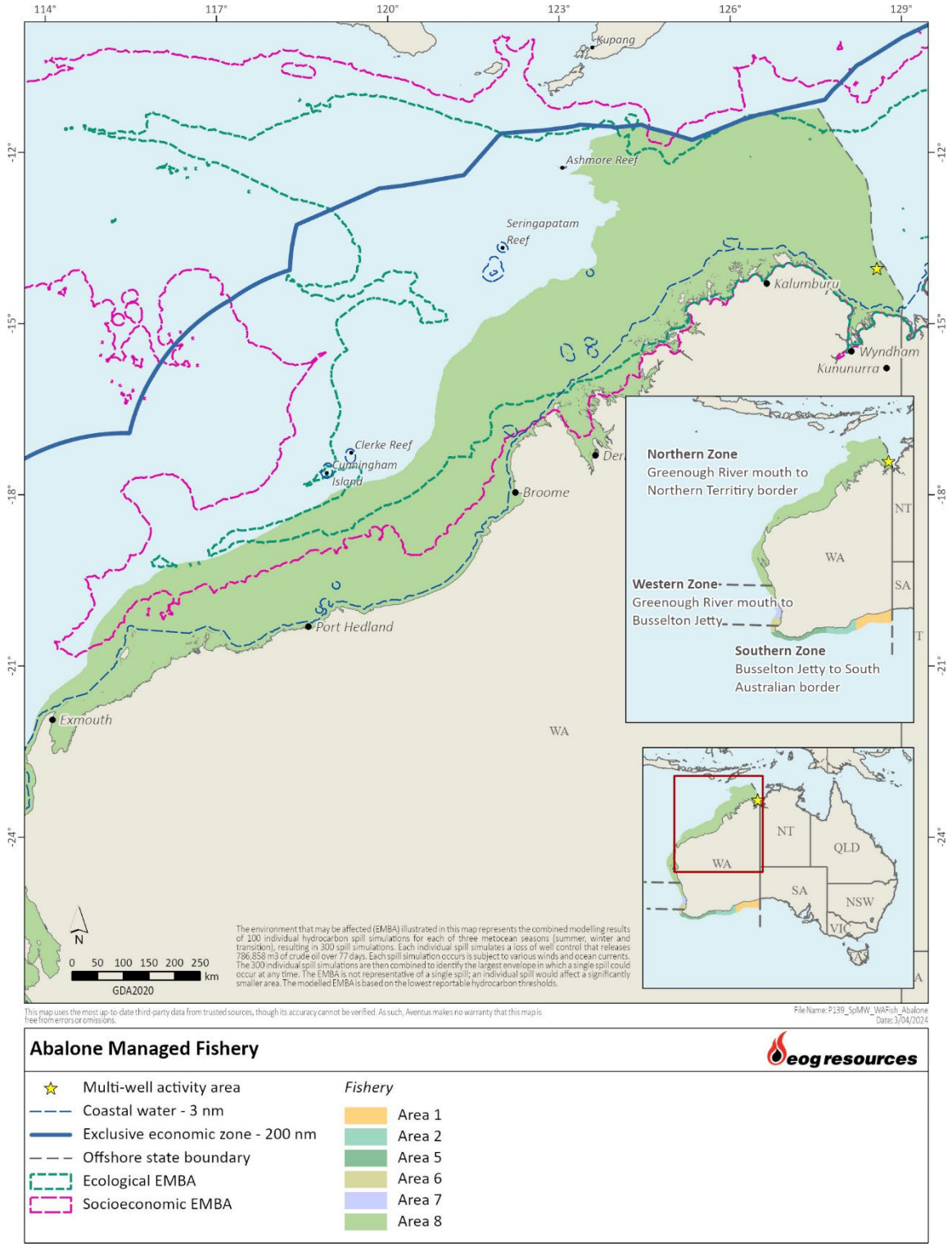


Figure 11.88 WA Abalone Managed Fishery overlapped by the spill EMBA

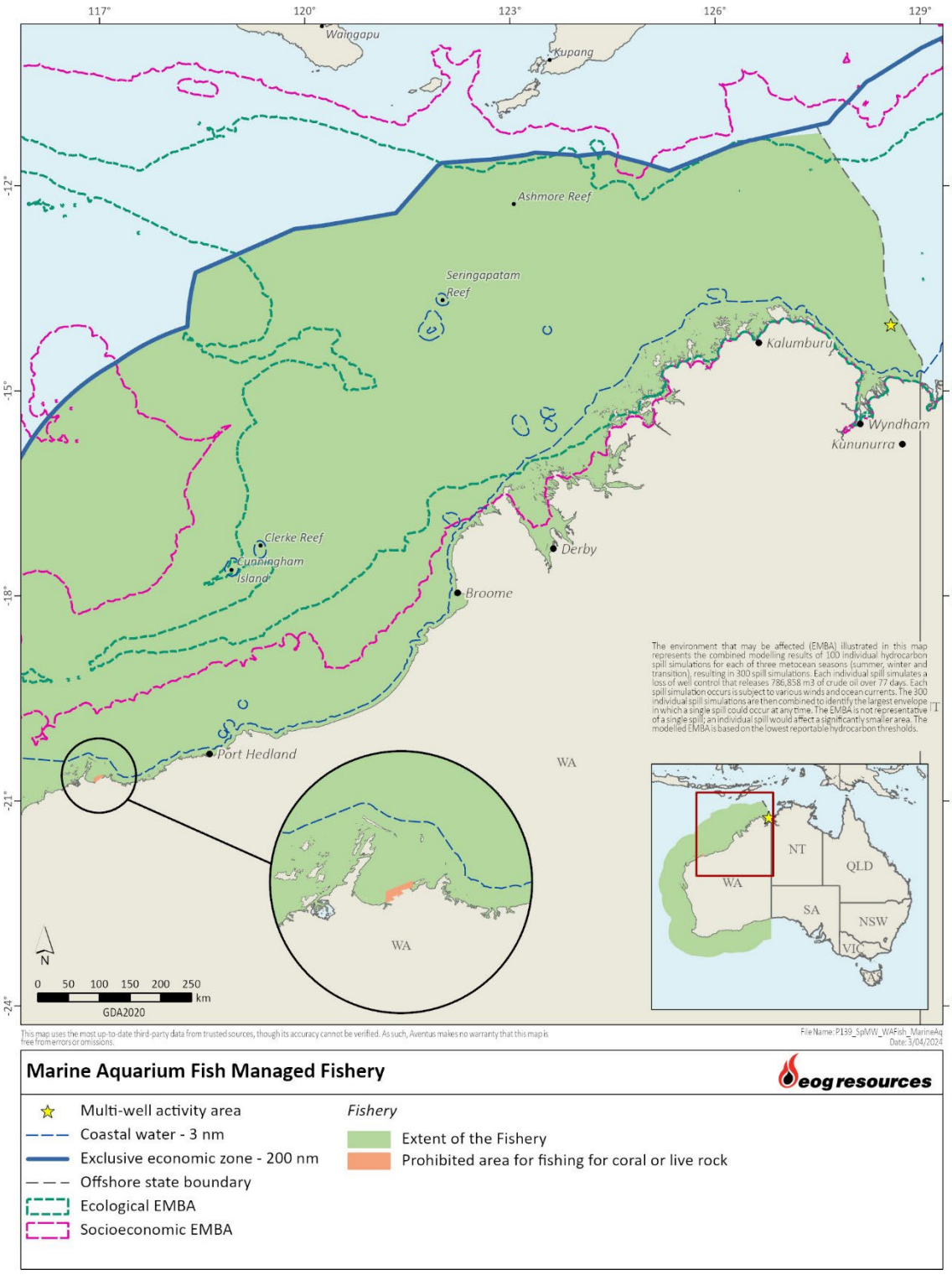


Figure 11.89 WA Marine Aquarium Managed Fishery overlapped by the spill EMBA

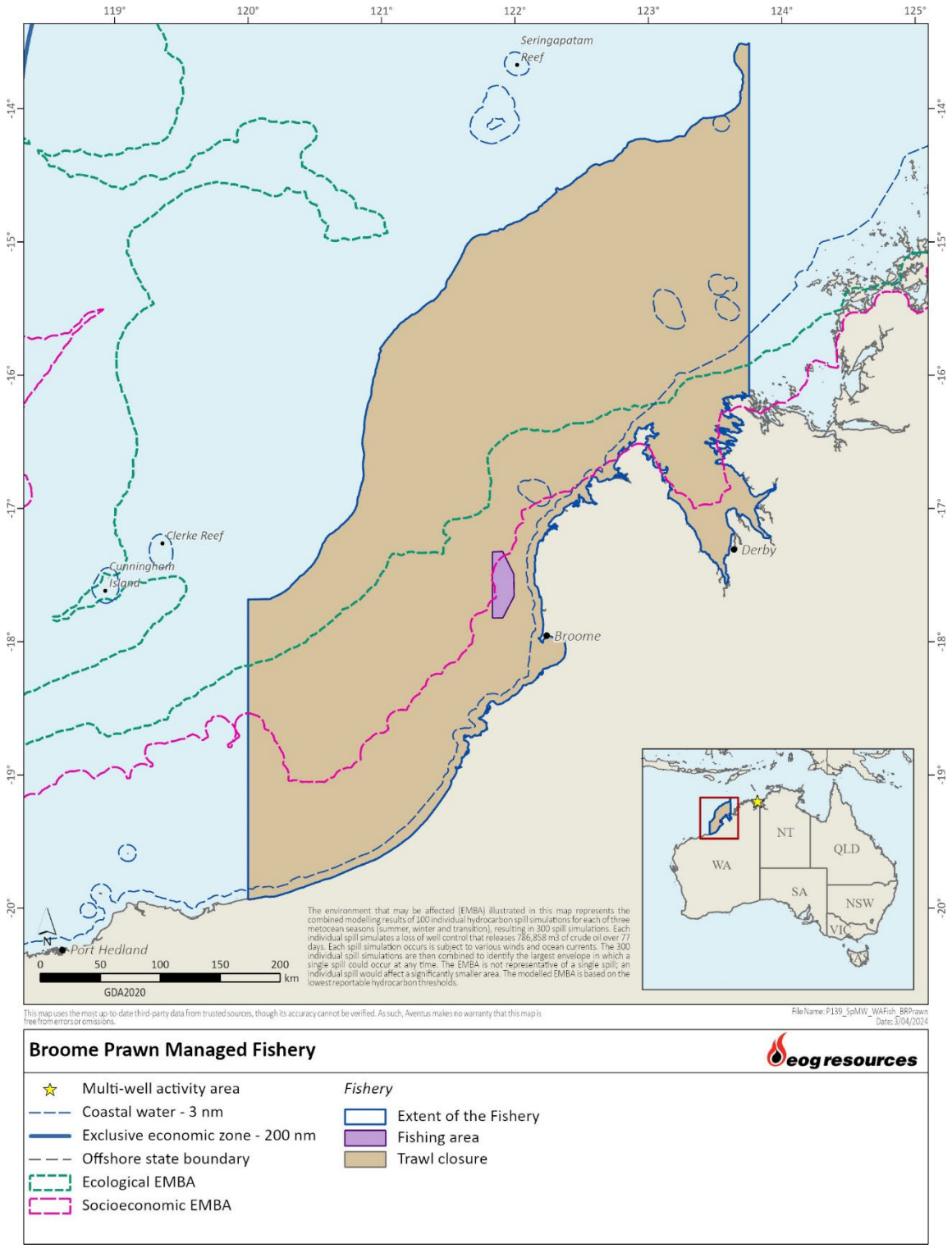


Figure 11.90 WA Broome Prawn Managed Fishery overlapped by the spill EMBA

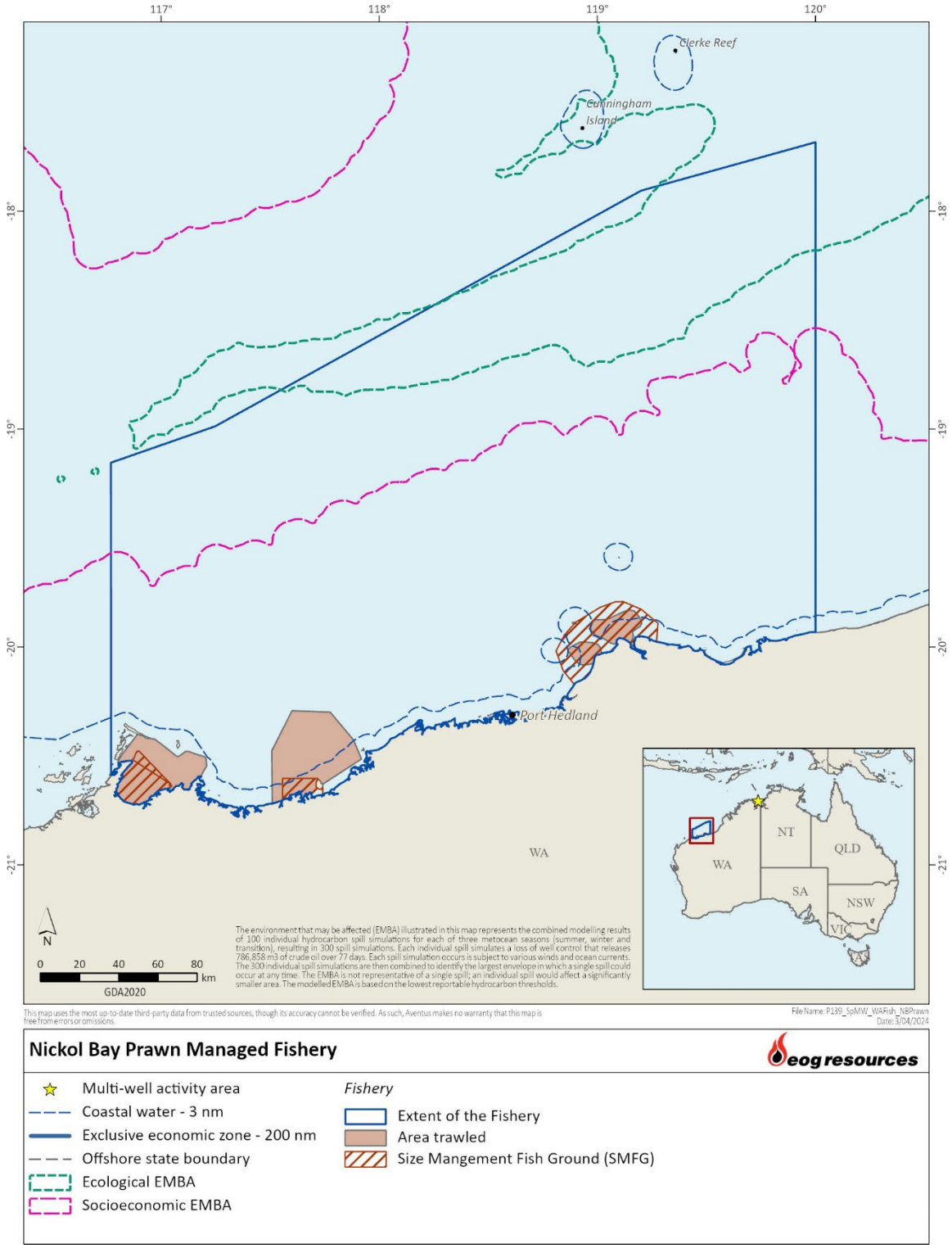


Figure 11.91 WA Nickol Bay Prawn Managed Fishery overlapped by the spill EMBA

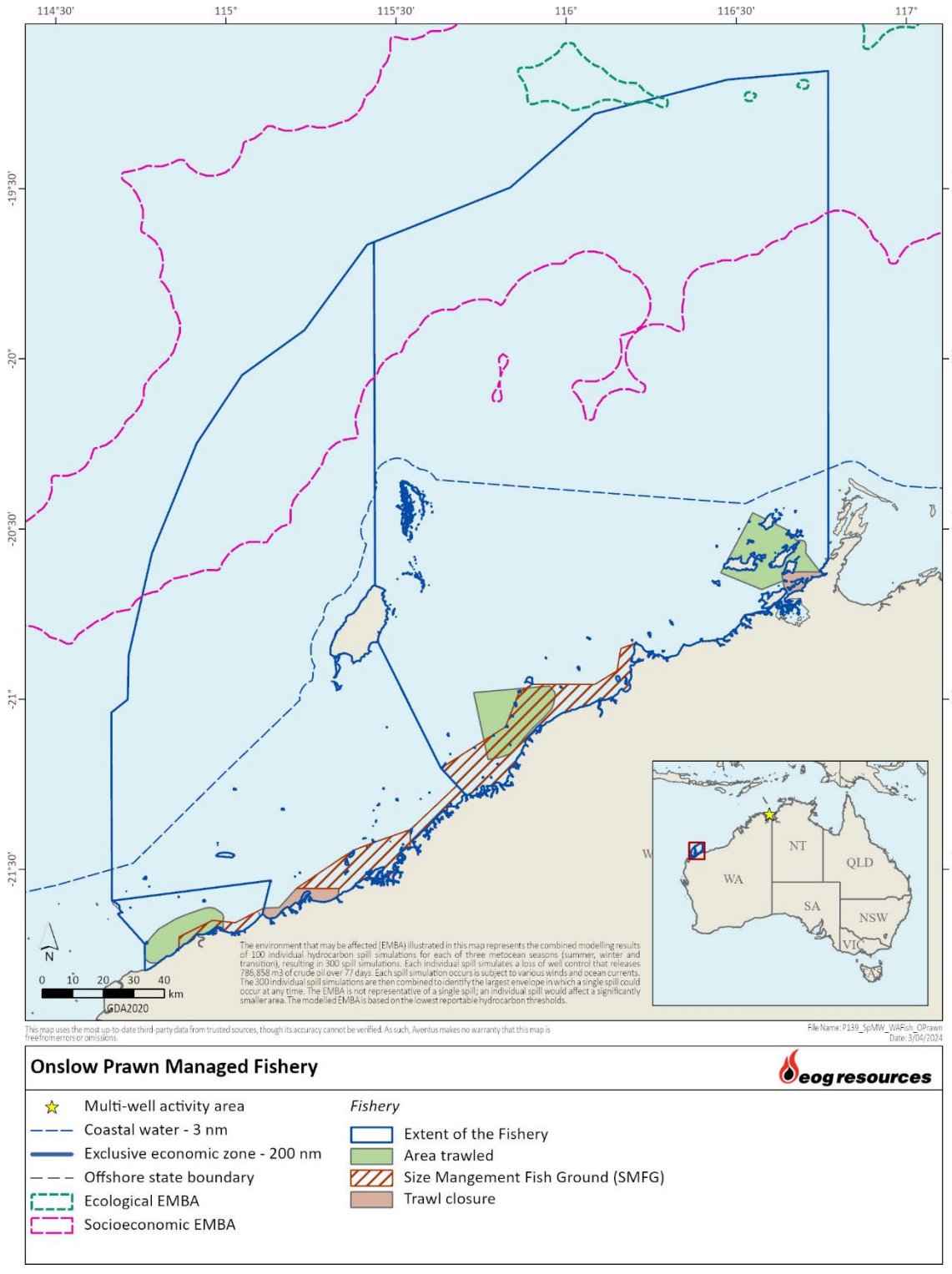


Figure 11.92 WA Onslow Prawn Managed Fishery overlapped by the spill EMBA

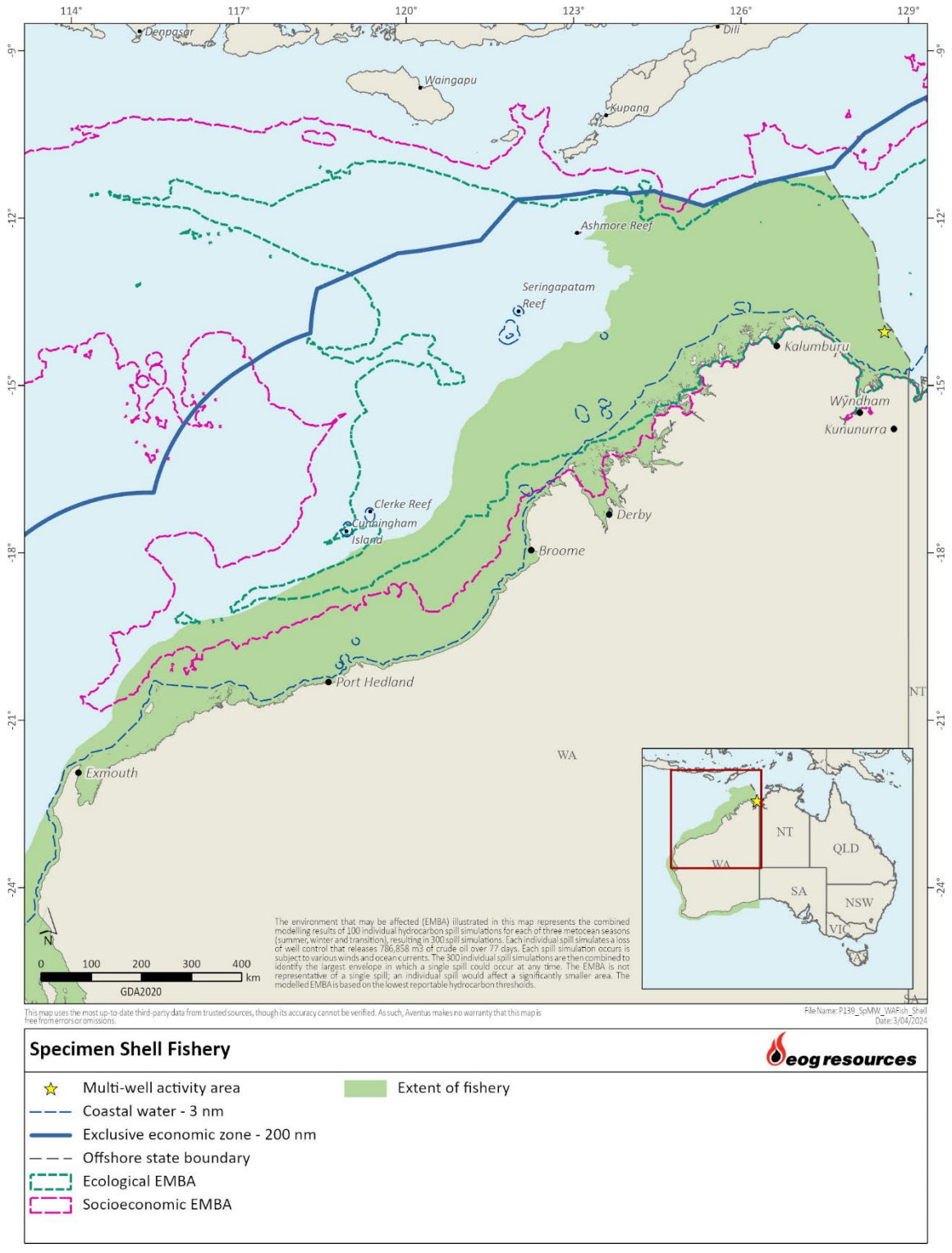


Figure 11.93 WA Specimen Shell Managed Fishery overlapped by the spill EMBA

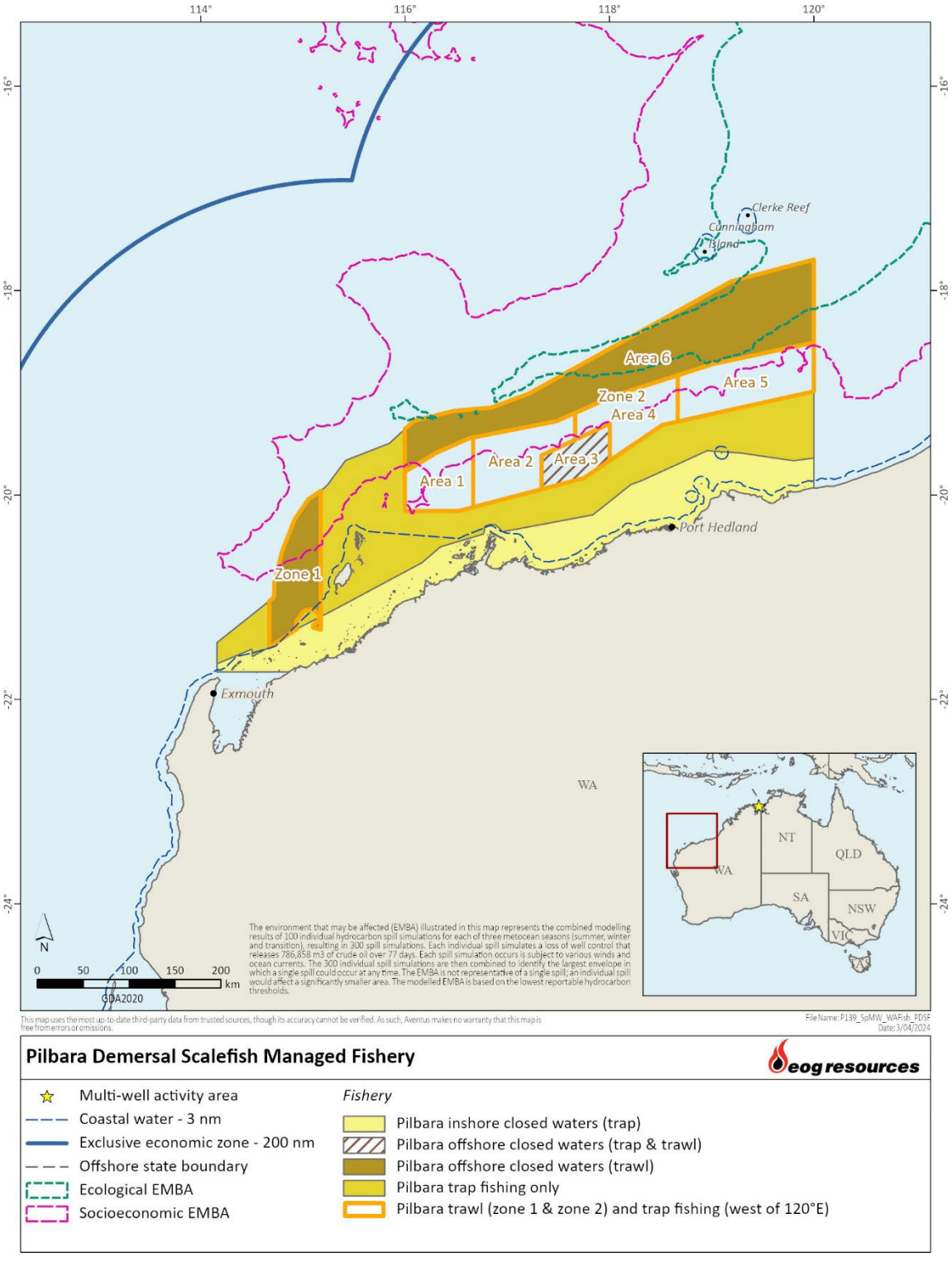


Figure 11.94 Pilbara Demersal Scalefish Fishery overlapped by the spill EMBA

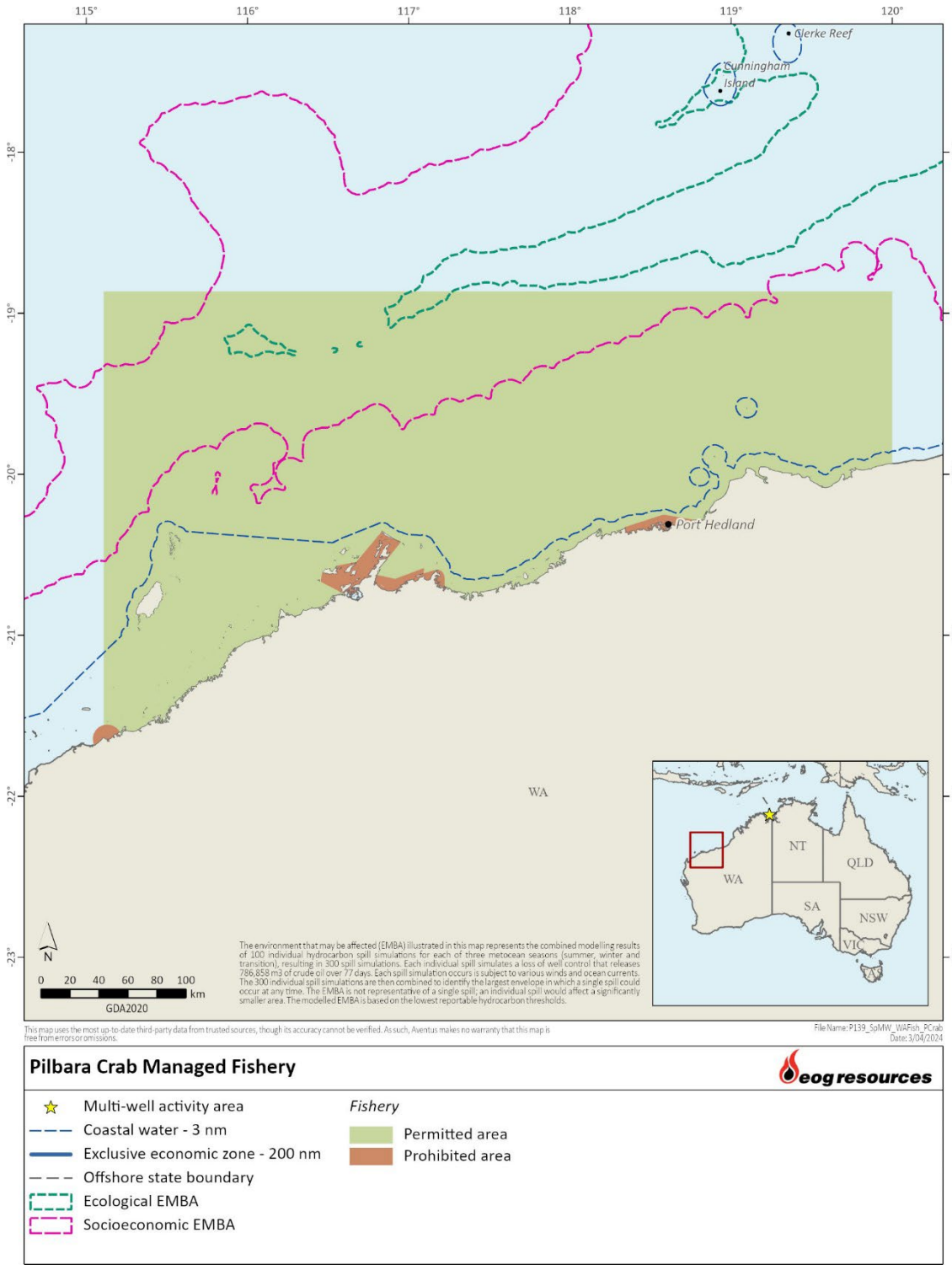


Figure 11.95 Pilbara Crab Managed Fishery overlapped by the spill EMBA

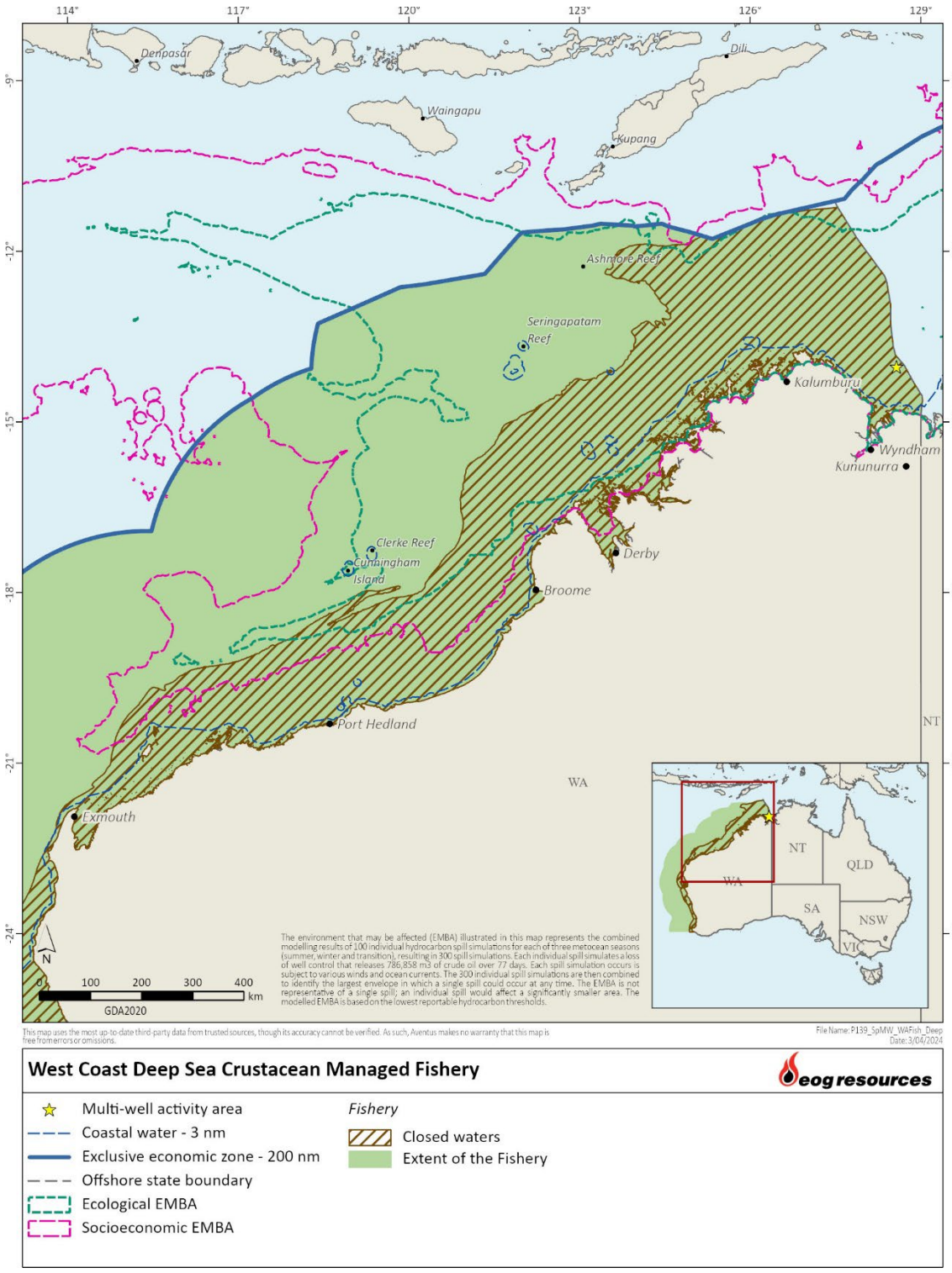


Figure 11.96 West Coast Deep Sea Crustacean Managed Fishery overlapped by the spill EMBA

Northern Territory-managed Fisheries

NT-managed commercial fisheries (under the jurisdiction of the NT DITT) that are authorised to fish the waters of the spill EMBA include the following (noting that not all actively fish in the spill EMBA):

- Spanish Mackerel Fishery;
- Barramundi Fishery;
- Bait Net Fishery;
- Coastal Net Fishery;
- Coastal Line fishery;
- Trepang Fishery;
- Aquaculture (pearl oyster and barramundi farming);
- Aquarium Fishery;
- Mollusc Fishery;
- Mud Crab Fishery;
- Pearl Oyster Fishery;
- Small Pelagic Developmental Fishery;
- Fishing Tour Operator Fishery;
- Timor Reef Fishery;
- Offshore Net and Line Fishery; and
- Demersal Fishery.

A review of data from the NT DITT website and consultation undertaken for the Beehive-1 EP with DITT, identified the Demersal Fishery, Timor Reef Fishery, Spanish Mackerel Fishery and Offshore Net and Line Fishery as have recently fished in the EMBA. Given the spill EMBA is exactly the same for this EP, the comments relating to active fisheries within the EMBA remains applicable.

Table 11.27 presents the available information for these fisheries.

Table 11.27 NT-managed commercial fisheries with jurisdictions to fish within the spill EMBA

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Demersal Fishery (Figure 11.97)	Primarily targets red snapper (*Lutjanus erythropterus*), goldband snapper (*Pristipomoides multidens*) and saddletail snapper (*L. malabaricus*).	Yes – the EMBA intersects the line and fish trap permitted areas and Zone A and Zone B (line and fish trap, finfish trawl gear permitted) (Figure 11.97). The EMBA overlaps with 10.09% of the fishery.	Assumed year-round.	Fishing method is through the use of vertical lines, drop lines, finfish long-lines, baited fish traps and semi-demersal trawl nets in two multi-gear areas. There are 16 licences currently issued in the Demersal Fishery and 7 boats nominated for fishing.	Catch data for the 2022 calendar year revealed a catch of 3,530 t valued at $19.7 million. In 2020, 3,492 t (including 2,522 t of red snapper and 218 t of goldband snapper) was caught. No data found for 2018 and 2019. In 2017, 3,387 t (including 505 t of red snapper and 341 t of goldband snapper) was caught, with an estimated value of $17.9 million. In 2016, 3,463 t (including 2,510 t of red snapper and 318 t of goldband snapper) was caught. In 2015, 3,107 t (including 2,299 t of red snapper and 279 t of goldband snapper) was caught.
Spanish Mackerel Fishery (Figure 11.98)	Primarily targets Spanish mackerel (*Scomberomorus commerson*).	Yes – northeastern extent of EMBA intersects the fishery (Figure 11.98). The EMBA overlaps with 13.76% of the fishery.	Assumed year-round.	The primary fishing method used by all sectors is trolling, where baited hooks or lures are towed behind a boat moving at 3–6 knots near reefs, headlands and shoals. In 2021 there were 15 licences in the fishery, all of which were allocated.	Catch data available: • 2022 – 269.5 t valued at $5.5 million. • 2019/20 – 357 t. • 2018/19 – 408 t. • 2017/18 – 372 t. • 2016/17 – 411 t.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Offshore Net and Line Fishery (Figure 11.99)	Blacktip shark (*Carcharhinus limbatus*), spot tail shark (*Carcharhinus sorrah*) and grey mackerel (*Scomberomorus semifasciatus*).	Yes – northeastern extent of EMBA intersects the fishery (Figure 11.99). The EMBA overlaps with 13.76% of the fishery.	Assumed year-round.	Demersal or pelagic longlines or pelagic net gear is permitted.	Catch data available (for combination of grey mackerel, combined black tip shark, spot tail shark only): • 2022 – 455.1 t valued at $6.2 million • 2018/2019 – 553 t • 2017/2018 – 461 t • 2016/2017 – 486 t • 2015/2016 – 424 t
Timor Reef Fishery (see Figure 11.97 *(as per Demersal Fishery)*	Goldband snapper (*Pristipomoides multidens*).	Yes. The EMBA overlaps with 10.09% of the fishery.	There is no closed season for the Timor Reef Fishery, but normally, it is most productive between October and May.	Operates in remote offshore waters in the Timor Sea in a defined area approximately 370 km northwest of Darwin. Methods include vertical lines, drop line, long lines and fish baited traps	Catch data available: • 2022 – 585.6 t valued at $5.4 million • 2019 – 246 t • 2018 – 349 t • 2017 – 329 t • 2016 – 280 t
Bait Net Fishery	Bait fish.	Possibly.	Assumed year-round	Fishing allowed from the high-water mark to the 3 nm seaward of the low-water mark, excluding Darwin Harbour and Shoal Bay. Methods include bait net, cast net or scoop net. In 2021, the fishery was restricted to two licences, both were allocated.	No data available.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Coastal Net Fishery (Figure 11.100)	Mullet (*Mugil* spp)	Yes – fishery operates inshore, extending from the high-water mark out to 3 nm.	Assumed year-round.	Fishery is divided into 3 regions: Darwin – from Cape Hotham to Native Point and Cape Ford to Cape Dooley, between Cape Arnhem and Cape Wilberforce; and from Bing Bong Creek and Pelican Spit. Only netting is permitted. In 2021, fishery was restricted to five licences, all of which were allocated.	Catch data for the 2022 calendar year revealed a catch of 2.65 t valued at $13,411.
Coastal Line Fishery	Black jewfish (*Protonibea diacanthus*).	Possibly.	Possibly all year-round.	Extends 15 nm from the low water mark and covers the entire NT coastline. The majority of fishing effort is focused around rocky reefs within 150 km of Darwin. Mainly hook and line gear is used.	Catch data available: • 2022 - 132.7 t valued at $2.3 million • 2019 – 141 t • 2018 – 120 t • 2017 – 173 t • 2016 – 155 t
Barramundi Fishery	Primarily barramundi (*Lates calcarifer*) and king threadfin (*Polydactylus macrochir*).	Possibly.	Annual commercial fishing runs from 1st February to 30 September.	Operate in tidal mud flats and inside a restricted number of rivers using gillnets. As of 2016, there were 14 licences and approximately 10 boats.	Catch data available: • 2022 – 312.1 t valued at $5.7 million • 2019 – 276 t • 2018 – 277 t • 2017 – 392 t • 2016 – 305 t

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Trepang Fishery (Figure 11.101)	Sandfish (*Holothuria scabra*)	Yes - fishery area extends from the NT high-water mark out to 3 nm (see Figure 11.101).	All year-round, though harvesting occurs on neap tides during the dry season (May to October).	Method is by hand either on foot or by diving, usually on neap tides during the dry season when the water is clearer. In 2021, there were 6 licences in the fishery, with only one or two boats active over the past few years.	Catch data available: • 2022 – 42.9 t valued at $708, 543 • 2019/2020 – 32 t • 2018/2019 – 48 t • 2017/2018 – 56 t • 2016/2017 – 94 t • 2015/2016 – 36 t

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Aquaculture	Pearl oyster (*Pinctada maxima*) culture and Barramundi farming (*Lates calcarifer*) including sea cucumber (trepang), giant clams and freshwater plants.	Possibly.	Assumed all year-round.	A large number of pearl oysters for seeding is obtained from wild stocks and supplemented by hatchery-produced oysters with major hatcheries operating at Broome and the Dampier Peninsular (Gaughan & Santoro, 2021). Wild shell collection occurs in shallow coastal waters. All the leases are within 35 m diving depth. Pearl farm sites are located mainly along the Kimberley coast, particularly in the Buccaneer Archipelago, in Roebuck Bay and at the Montebello Islands. Developing marine aquaculture initiatives in the Kimberley region include farming barramundi in the Kimberley Aquaculture Development Zone located in Cone Bay, situated approximately 200 km north-east of Broome (Gaughan & Santoro, 2021). Another focus is the Broome Tropical Aquaculture Park where a commercial pearl oyster hatchery is located along with the Kimberley Training Institute aquaculture facility (Gaughan & Santoro, 2021).	No data available.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Aquarium Fishery (Figure 11.102).	Freshwater and marine species including fish, plants and invertebrates.	Yes - fishery extends from the NT inland estuarine and marine waters out to the outer boundary of the Australian Fishing Zone (excluding Aboriginal sacred sites and other closed areas) (see Figure 11.102).	All year-round.	Methods of collection are by hand or small scoop nets. In 2016, there were 11 licences with only 3 boats active.	Catch data for the 2022 calendar year revealed a catch of 19.1 t valued at $2.2 million.
Mollusc Fishery	Molluscs and shellfish (excluding pearl oysters or cephalopods such as squid, octopus, cuttlefish and nautilus).	Possibly.	Assumed all year-round.	Operates in intertidal waters from the high-water mark out to the low water mark. Molluscs are collected by hand. There is only one commercial licence allocated.	No data available.
Mud Crab Fishery (Figure 11.103)	Giant mud crab (*Scylla serrata*).	Yes – fishery extends mainly around coastal areas and tidal waters (excluding Aboriginal sacred sites and other closed areas or closed waters) (see Figure 11.103).	All year-round, except during the wet season (November to April).	Crab fishing is generally confined to coastal mudflats and estuaries. commercial crabbing is banned from Darwin, most creeks adjoining Shoal Bay and waterways of Kakadu National Park. Method of catch via dinghies using rigid metal crab pots. Crabs are transported live to Darwin. In 2021, there were 49 licences for crab fishing, each licence is allowed 60 pots.	Catch data for the 2022 calendar year revealed a catch of 342.5 t valued at $8.1 million.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Pearl Oyster Fishery (Figure 11.104)	Pearl Oyster (*Pinctada maxima*).	Most likely – fishing operates from the high-water mark to the outer boundary of the Australian fishing zone, 200 nautical miles offshore. (Figure 11.104)	All year-round.	Pearl oysters are collected by hand. There are currently 5 licences in the fishery.	A total of 138,000 oysters can be collected by hand only each year.
Small Pelagic Developmental Fishery	Blacktip sharks (*Carcharhinus tilstoni*, *C. limbatus* and *C. sorrah*).	Possibly.	Assumed all year-round	Method is pelagic long lines or pelagic nets. There are currently three active licences.	In 2017, a commercial catch of 0.1 tonnes was reported.
Aboriginal Coastal Licence	Does not specify.	Possibly.	Assumed all year-round	If you're an Aboriginal person living full time in an Aboriginal community and have the agreement and support of your community, you can apply for this licence. With this licence you can catch and sell fish to people such as community members, visitors, community shops or fish wholesalers using the following methods: • Vertical line. • Troll line. • Cast net. • Scoop net. • 100m net with mesh size of 65mm or less. • Hand spear.	Catch data for the 2022 calendar year revealed a catch of 3,328 kg valued at $20,080.

Fishery	Target species	Fishing activity in the EMBA?	Fishing season	Fishing methods, vessels and licences	Catch data and other information
Fishing Tour Operator Fishery	Target fish include barramundi, golden snapper, stripey snapper, saddletail snapper and grass emperor.	Possibly - fishery operates in non-tidal and tidal waters from the NT boundary to the outer limit of the Australian Fishing Zone generally in areas that are accessible to the general public.	Assumed all year-round	Primary method is hook and line. Commercial fishing tour operators (FTOs) are managed by the NT Government and operate under specific licence conditions including reporting of catch and effort statistics.	No data available.

Sources: NT Government (pers. com., February 2024), NT Government (2022a, 2022b, 2022c, 2022d, 2022e, 2022f, 2022g, 2022h, 2021a, 2020, 2019), NTSC (2022a, 2022b, 2022c, 2022d, 2022e, 2022f, 2022g), DPIR (2021, 2019, 2018). FRDC (2022).

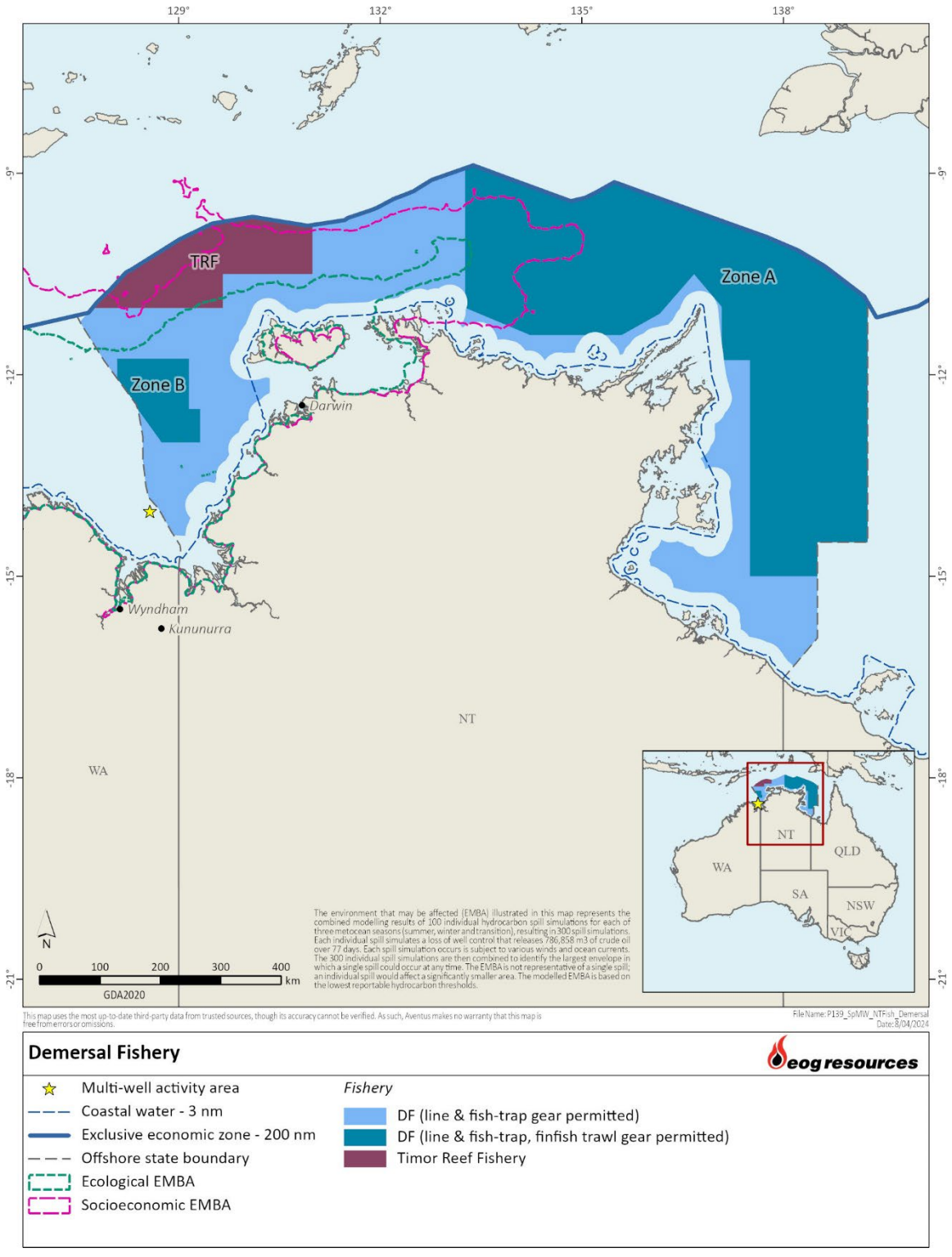


Figure 11.97 NT Demersal Fishery overlapped by the spill EMBA

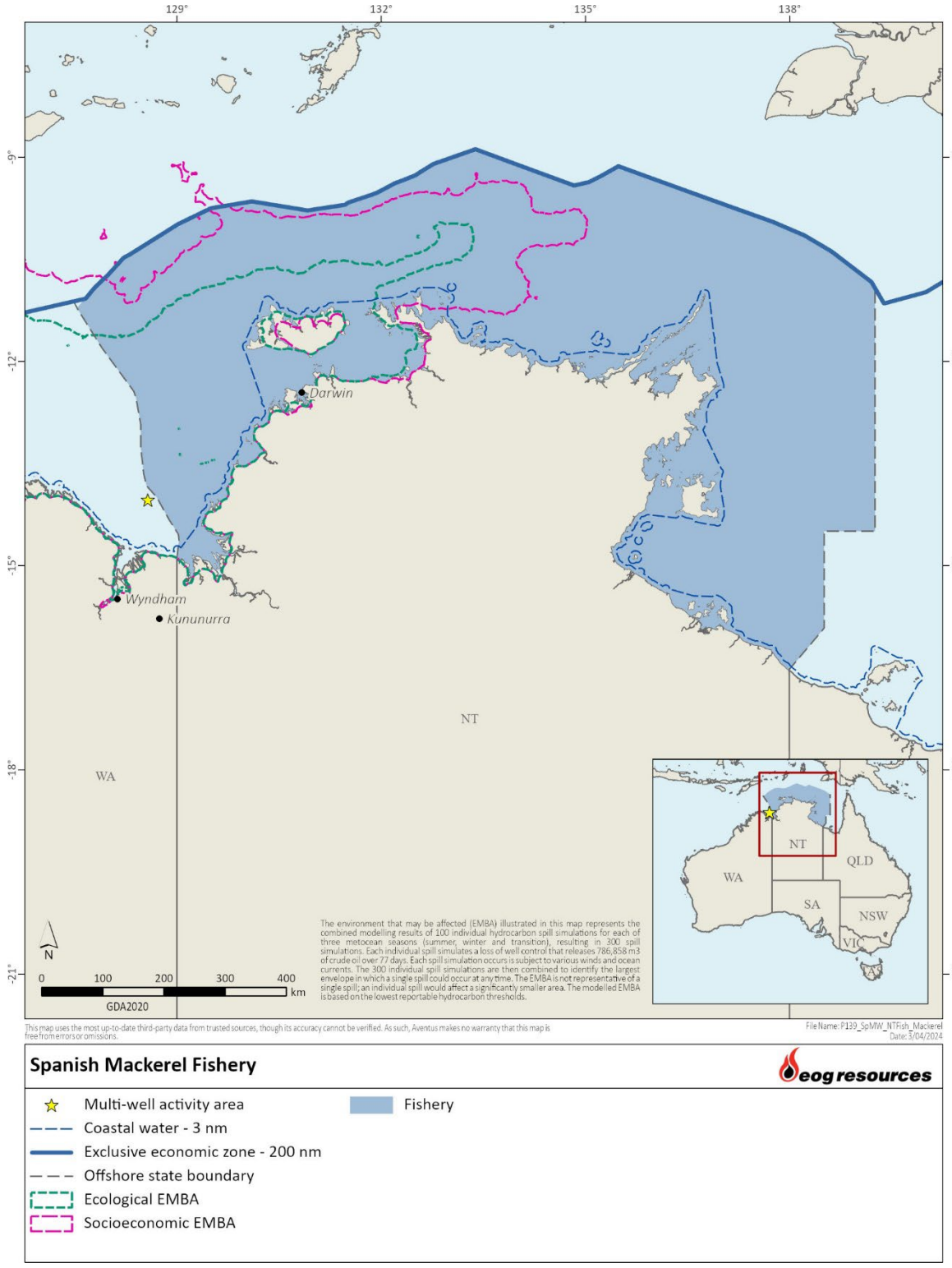


Figure 11.98 NT Spanish Mackerel Fishery overlapped by the spill EMBA

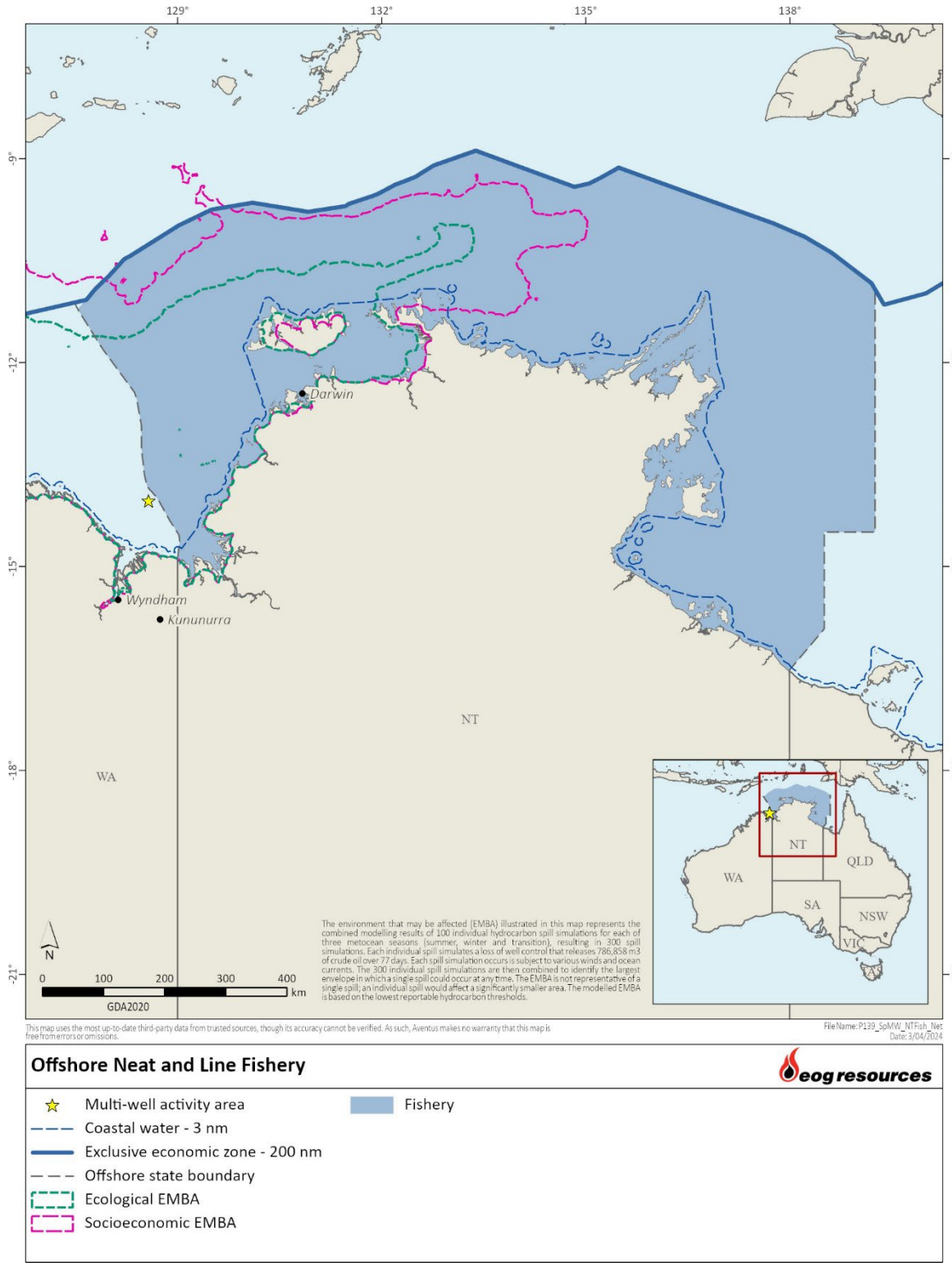


Figure 11.99 NT Offshore Net and Line Fishery overlapped by the spill EMBA

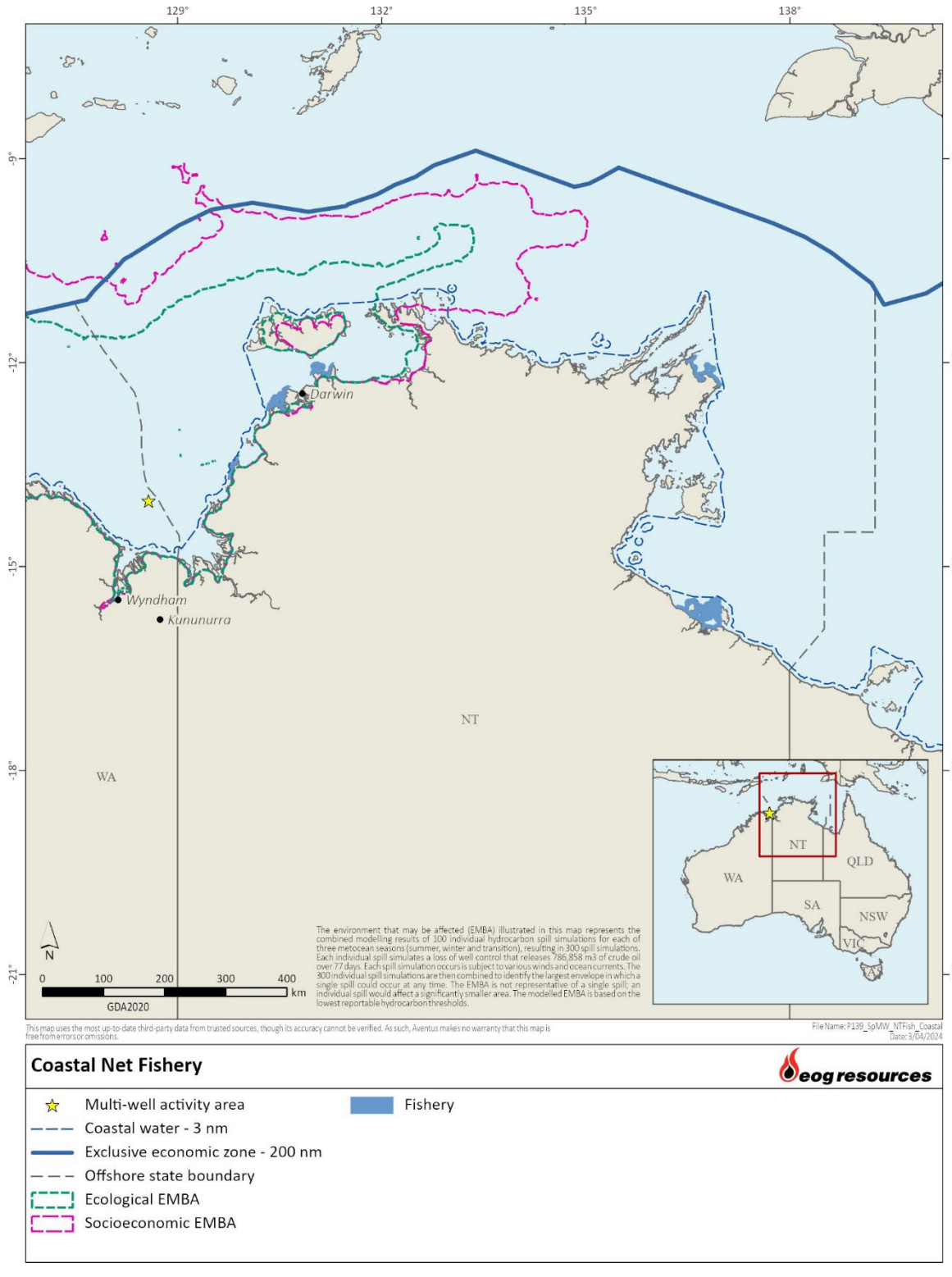


Figure 11.100 Coastal Net Fishery overlapped by the spill EMBA

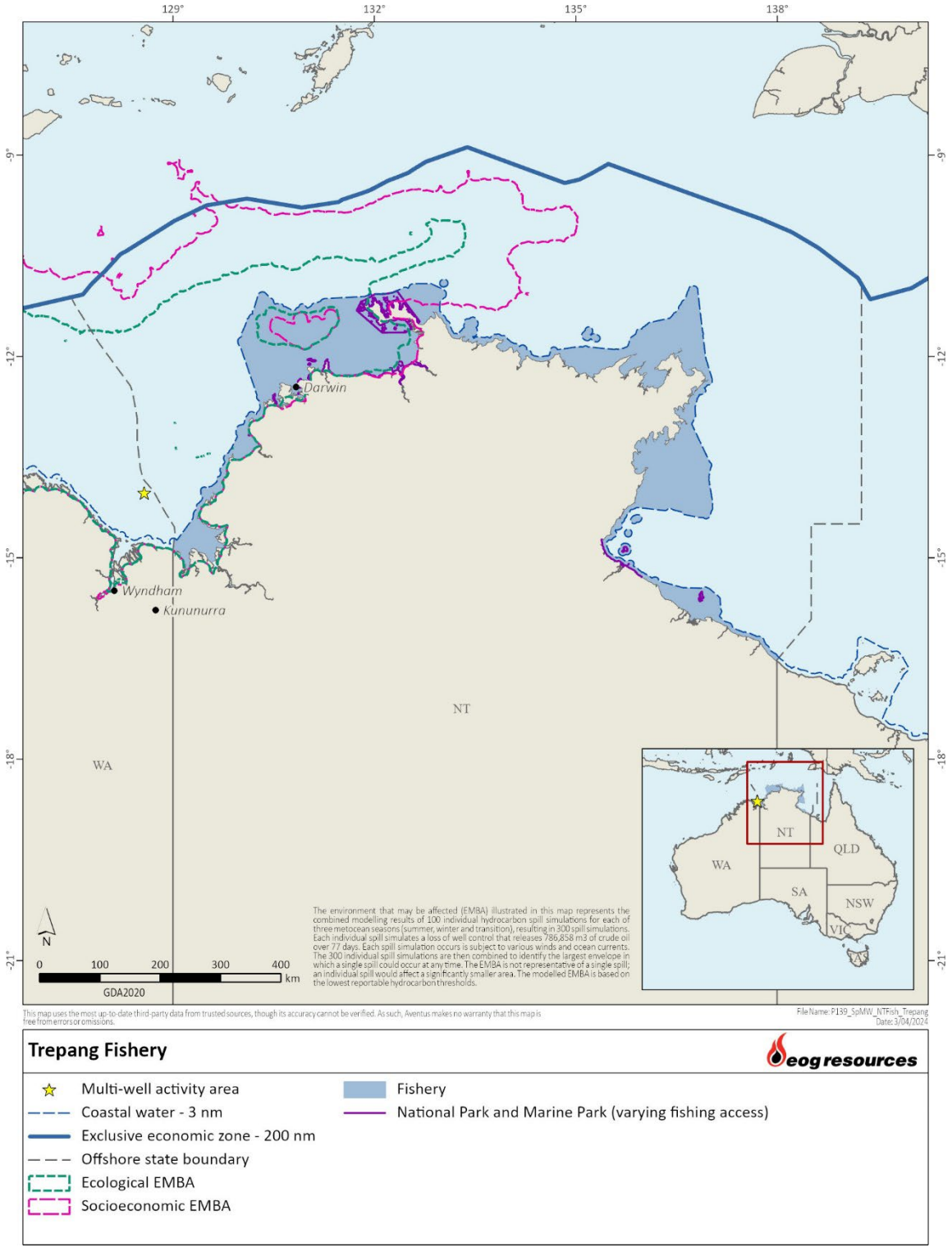


Figure 11.101 Trepang Fishery overlapped by the spill EMBA

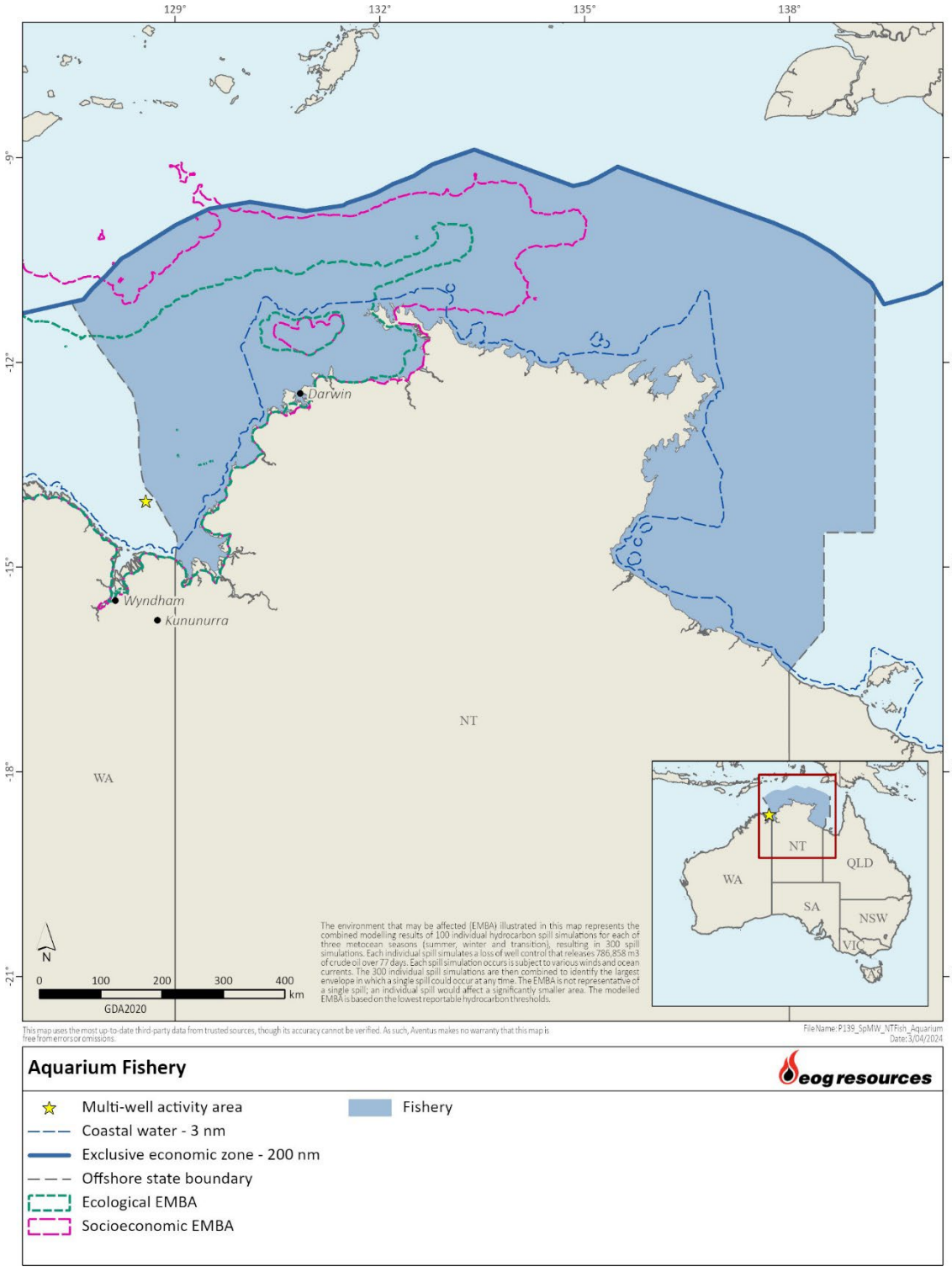


Figure 11.102 Aquarium Fishery overlapped by the spill EMBA

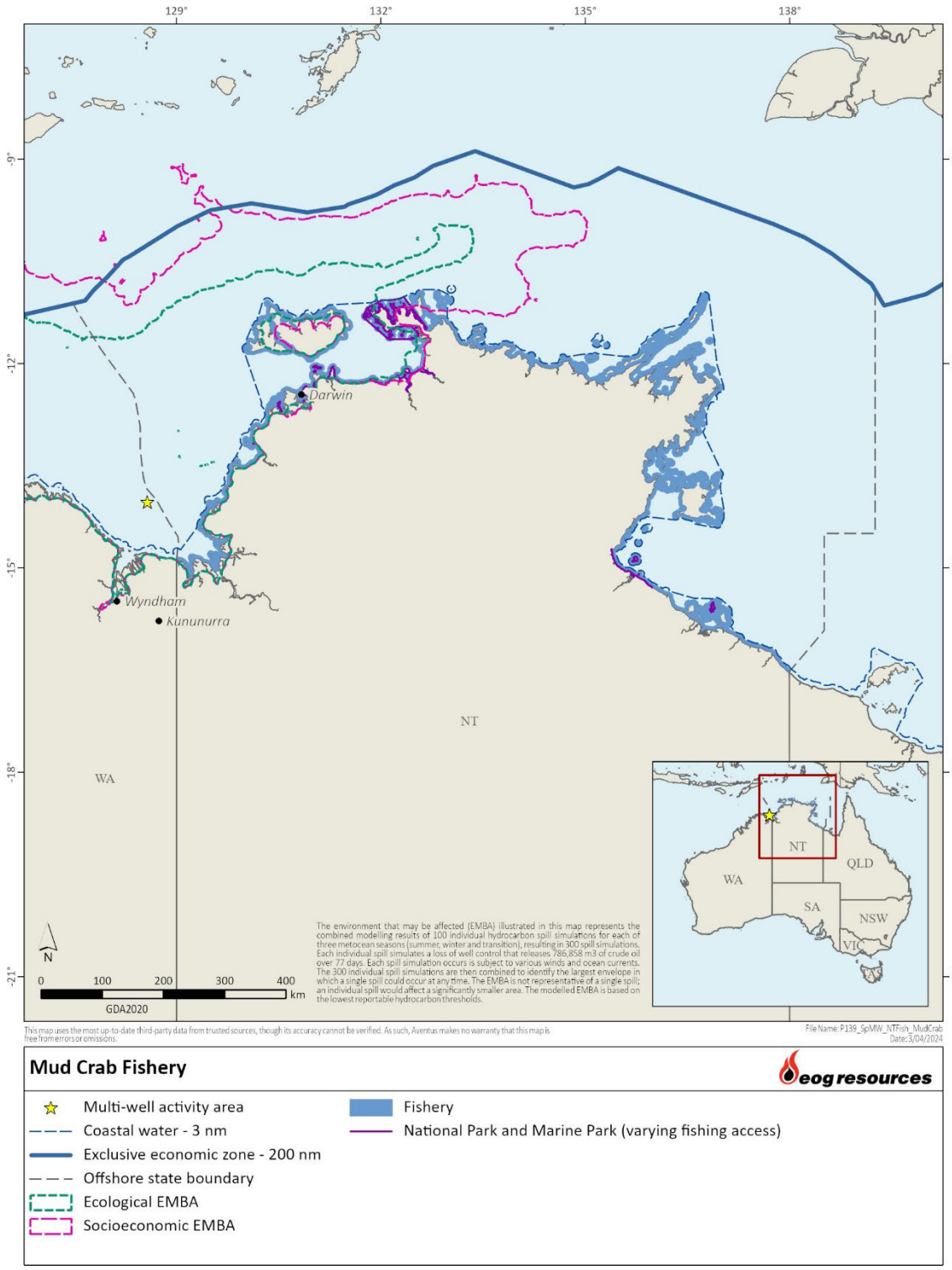


Figure 11.103 Mud Crab Fishery overlapped by the spill EMBA

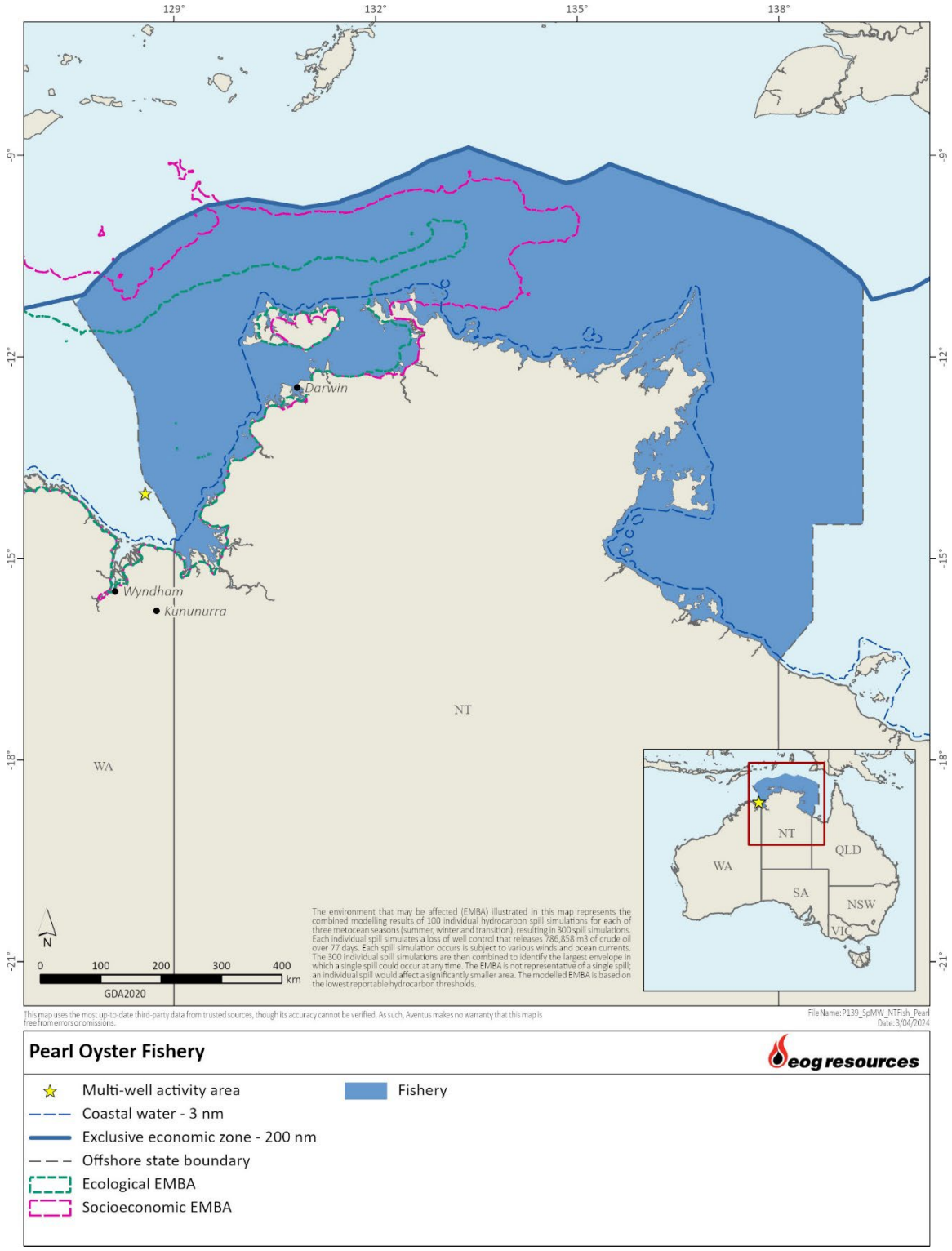


Figure 11.104 Pearl Oyster Fishery overlapped by the spill EMBA

Indonesian Commercial and Subsistence Fishing

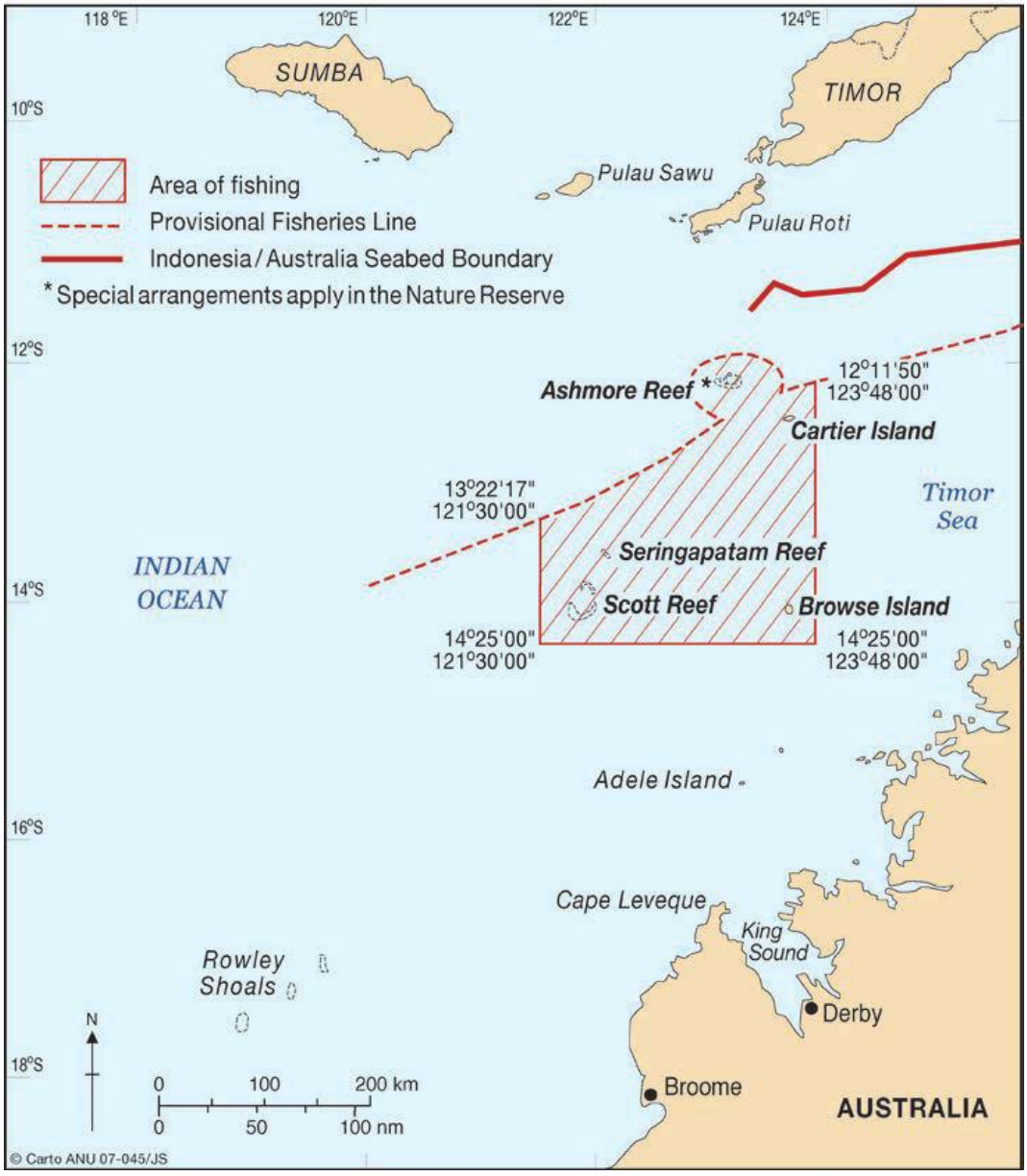
Indonesian fishers have sailed to and actively fished Australia's northern waters, particularly in and around the shallow lagoons of Scott Reef, primarily targeting trepang (sea cucumber), shark fin and other marine resources such as trochus shells. They also catch fish largely for subsistence purposes although the average fish catch per lete-lete (traditional Indonesian fishing vessel) in 2008 increased to commercial volumes. Although deeper waters are more plentiful in trepang, deep diving is generally not undertaken by the fishers due to the MoU stipulation on the exclusive use of traditional equipment only (Woodside, 2011).

Within the northwest extent of the spill EMBA, there is a defined area where a Memorandum of Understanding (MoU) between the Government of Australian and the Government of the Republic of Indonesia Relating to Cooperating in Fisheries (1992) exists to allow Indonesian fishers (using traditional fishing methods) to operate in the Australian waters of the Timor Sea (Figure 11.105). The MoU is officially known as the Australia-Indonesia Memorandum of Understanding regarding the Operations of Indonesian Traditional Fishermen in Areas of the Australian Fishing Zone and Continental Shelf – 1974 (DCCEEW, 2024a).

The MoU agreement provides the framework for fisheries and marine cooperation between Australia and Indonesia, and facilitates information exchange on research, management and technological developments, complementary management of shared stocks, training and technical exchanges, aquaculture development, trade promotion and cooperation to deter illegal fishing (DCCEEW, 2024a).

Cooperation under the MoU takes place under the auspices of the Working Group on Marine Affairs and Fisheries. Established in 2001, the Working Group on Marine Affairs and Fisheries is the primary bilateral forum to enhance collaboration across the spectrum of marine and fisheries issues relevant to the areas of the Arafura and Timor seas. The Working Group brings together the fisheries, environment and scientific research portfolios and agencies from both countries (DCCEEW, 2024a).

As part of negotiations to delineate seabed boundaries, Australia and Indonesia entered into the MoU which recognises the rights of access for traditional Indonesian fishers in shared waters to the north of Australia. This access was granted in recognition of the long history of traditional Indonesian fishing in the area. The MoU provides Australia with a tool to manage access to its waters while for Indonesia, it enables Indonesian traditional fishers to continue their customary practices and target species such as trepang, trochus, abalone and sponges. Guidelines under the MoU were agreed in 1989 in order to clarify access boundaries for traditional fishers and take into account the declaration of the 200 nm fishing zones (DCCEEW, 2024a).



Source: ResearchGate

Figure 11.105 Australia-Indonesia MoU Box

11.6.2 Recreational Fishing

Within the North Coast Bioregion, there is a distinct seasonal peak of recreational fishing during winter (Gaughan and Santoro, 2018). Offshore islands, coral reefs and the continental shelf provide species of major recreational interest, including tropical snapper, cods, coral and coronation trout, sharks, trevally, tuskfish, tunas, mackerels and billfish (Gaughan and Santoro, 2018).

Recreational fishing activities are primarily based out of Darwin. Given the long distance of the activity area from the mainland and key population areas, recreational fishing activities in much of the EMBA are not predicted. However, given the broad extent of the EMBA across northern Australia, it is likely that some recreational fishing does occur.

RecFish West and the AFANT have not raised any issues regarding recreational fishing for this project.

11.6.3 Coastal Settlements

The coastline adjacent to the spill EMBA is sparsely populated, with the townships of Broome (WA) (800 km southwest), Derby (WA) (637 km southwest), Wyndham, WA (162 km south), Wadeye, NT (99 km east) and the city of Darwin (297 km northeast of multi-well location) being the largest city within the EMBA.

Darwin is the capital of the NT and has a population of 139,902 (ABS, 2021). Of the people employed in Darwin, 65.7% work fulltime (ABS, 2021). The state government administration, hospitals and defence are the largest employment sectors, accounting for 17.6% of the workforce (ABS, 2021).

The population of Wadeye is 1,924, with Aboriginal and/or Torres Strait Islander people making up 85.8% of the population (ABS, 2021). Of the employed people in Wadeye, the education and local government administration sectors are the largest employment sectors, accounting for 21.4% of the workforce (ABS, 2021).

The population of Wyndham is 941 with Aboriginal and/or Torres Strait Islander people making up 56.6% of the population (ABS, 2021). Of the employed people in Wyndham, the social services and education are the largest employment sectors, accounting for 20.9% of the workforce (ABS, 2021).

The population of Broome is 16,959, with Aboriginal and/or Torres Strait Islander people making up 28.6% of the population (ABS, 2021). Of the employed people in Broome, hospitals, accommodation, and primary education, are the largest employment sectors, accounting for 14.8% of the workforce (ABS, 2021).

The population of Derby is 3,222 people, with Aboriginal and/or Torres Strait Islander people making up 41.5% of the population (ABS, 2021). Of the employed people in Derby, hospitals, correctional and detention and secondary education sectors are the largest employment sectors, which account for 24.4% of the workforce (ABS,2021).

Apart from Kalumbaru (205 km east of the multi-well location , inland of the coast) is located on the western side of Cape Londonberry (179 km northwest of the multi-well location) there are no coastal settlements on the western coast of the JBG until Cambridge Gulf where the Oombulgurri community is located, approximately 138 km south of the multi-well location . The towns of Wyndham (as described above) and Kununurra (190 km south from multi-well location) are also located in the Cambridge Gulf.

The population of Kununurra is 5,494 people, with Aboriginal and/or Torres Strait Islander people making up 24.9% of the population (ABS, 2021). Of the employed people in Kununurra, hospitals, secondary education and other social assistance services are the largest employment sectors, which account for 14.2% of the workforce (ABS, 2021).

The population of the Tiwi Islands is 2,348 people, with Aboriginal and/or Torres Strait Islander people making up 86.5% of the population (ABS, 2021). Of the employed people in the Tiwi Islands, local government, primary and secondary education are the largest employment sectors, accounting for 34.6% of the workforce (ABS, 2021).

11.6.4 Tourism

The JBG and adjacent lands are remote with very little infrastructure (such as roads, airports, accommodation) and therefore has not been developed for tourism. For up to five months of the year, access to the JBG region is restricted to boat or helicopter due to wet season rains, and road access to areas of Aboriginal freehold land requires prior permission from the Northern Land Council (NLC) (Woodside, 2004).

Expedition cruise boats operate in the North Kimberley Marine Park in the dry season (April to October), between Broome and Wyndham or Darwin, and offer multi-day tours (DPW, 2016b). Vessels range from small fishing and sightseeing tour boats to large luxury cruise ships carrying up to 100 passengers (DPW, 2016b). Access to the coast is possible although only by using a four-wheel drive. Scenic flights and fishing expeditions operate in connection with coastal accommodation or cruise boats as well as from Broome, Derby and Kununurra (DPW, 2016b).

Charter fishing and tourism activities operate from Darwin and the Kimberley and target areas of high scenic value and/or offshore coral reef areas (Woodside, 2004). These attributes are sparse in the JBG, and therefore, given the isolated nature of the area, the likelihood of charter fishing and tourism is also anticipated to be low (Woodside, 2004) though restricted to are located within a few kilometres from the coast, and mainly in estuarine waters. Charter boats operating out of Darwin and Broome/Derby may occasionally visit or pass through the JBG.

Tourism accommodation and operations in the Kimberley include Berkeley River Lodge, Faraway Bay Lodge, Honeymoon Bay and Kimberley Coastal Camp. All camps close during October and reopen during March following the wet season.

Swimming tends to be limited to guided excursions to freshwater pools and waterfalls on land, given the presence of saltwater crocodiles and other dangerous fauna in northern WA and NT. Known dive sites in the wider Kimberley region are near Broome, the Lacepede Islands and the Rowley Shoals.

11.6.5 Offshore Energy Exploration and Production

The Bonaparte Basin is an established hydrocarbon province with a number of commercial operations. The closest operation is the Blacktip Gas Field, located in adjacent permit WA-33-L and operated by ENI Australia (Figure 11.106). The Blacktip Gas Field consists of an unmanned wellhead platform, two producing wells, flowlines and a subsea gas export pipeline (GEP) that runs from the platform to shore near Wadeye, NT. The Blacktip GEP is located 10 km northeast of multi-well location. Vessels servicing the Blacktip platform pass through the EMBA (see Section 5.6.7 of Chapter 5).

The Bonaparte Basin contains several oil and natural gas fields, amounting to 18% of Australia's known reserves of natural gas. The basin had produced 11 GL of oil to end-2000 but only 0.11 BCM of gas. Remaining known reserves are 33.42 GL of oil and 668.55 BCM of gas (Geoscience Australia, 2022).

There are numerous petroleum exploration and production permits located within the spill EMBA, operated by companies including ENI Australia, Woodside Energy Limited, Melbana Energy, Neptune Energy Bonaparte Pty Ltd, Santos Ltd, BP Developments Australia Pty Ltd, Chevron Australia Pty Ltd and Kufpec. Petroleum activities include production from platforms, FPSOs, export pipelines and exploration (seismic surveys and drilling), with most concentrated in the southern-most extent of the spill EMBA, as shown in Figure 11.106.

11.6.6 Commercial Shipping

Commercial shipping in the activity area is outlined in Section 5.7.7 of Chapter 5. Shipping traffic in the spill EMBA is relatively low given the large extent of the EMBA, with major shipping lanes concentrated in and out of Darwin Port and the North West Shelf, as illustrated in Figure 11.107.

11.6.7 Submarine Cables

Submarine telecommunication cables provide telephone and internet connections across the world; they are laid on the ocean floor and are often thousands of kilometers in length.

The western-most extent of the EMBA overlaps the Australia- Singapore cable and the Indigo-West cable (Figure 11.108).

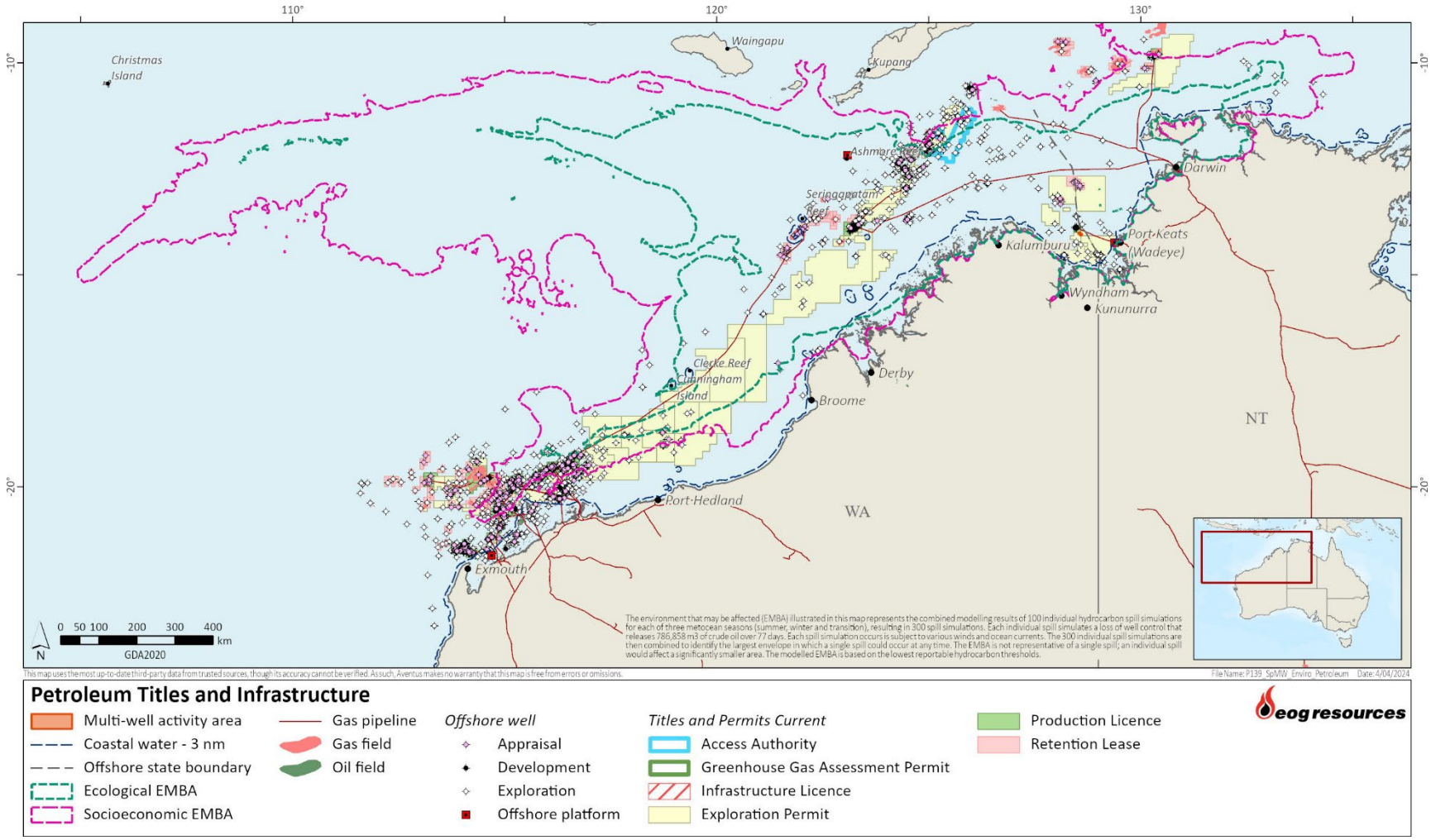


Figure 11.106 Petroleum titles and infrastructure in the spill EMBA

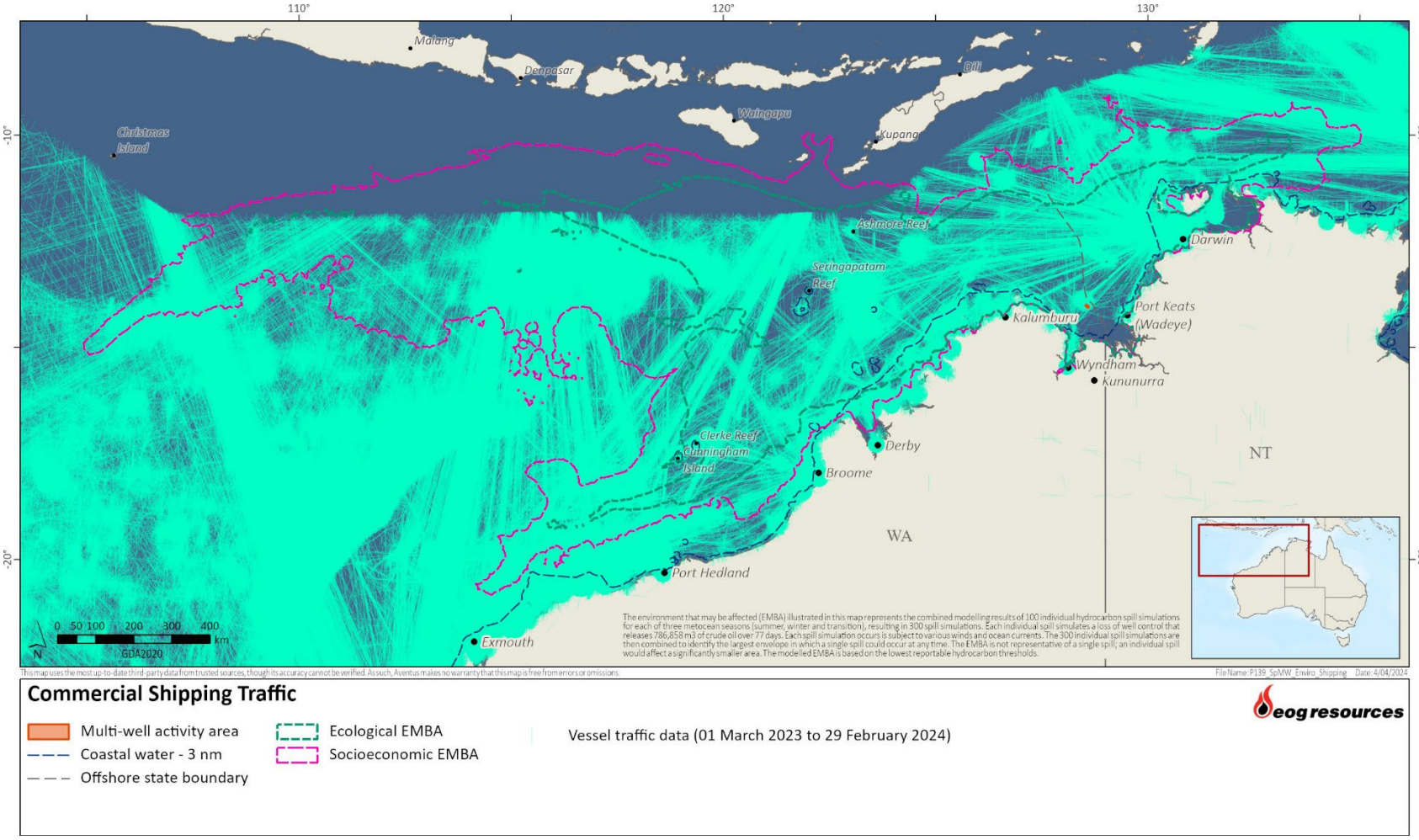


Figure 11.107 Commercial shipping in the spill EMBA

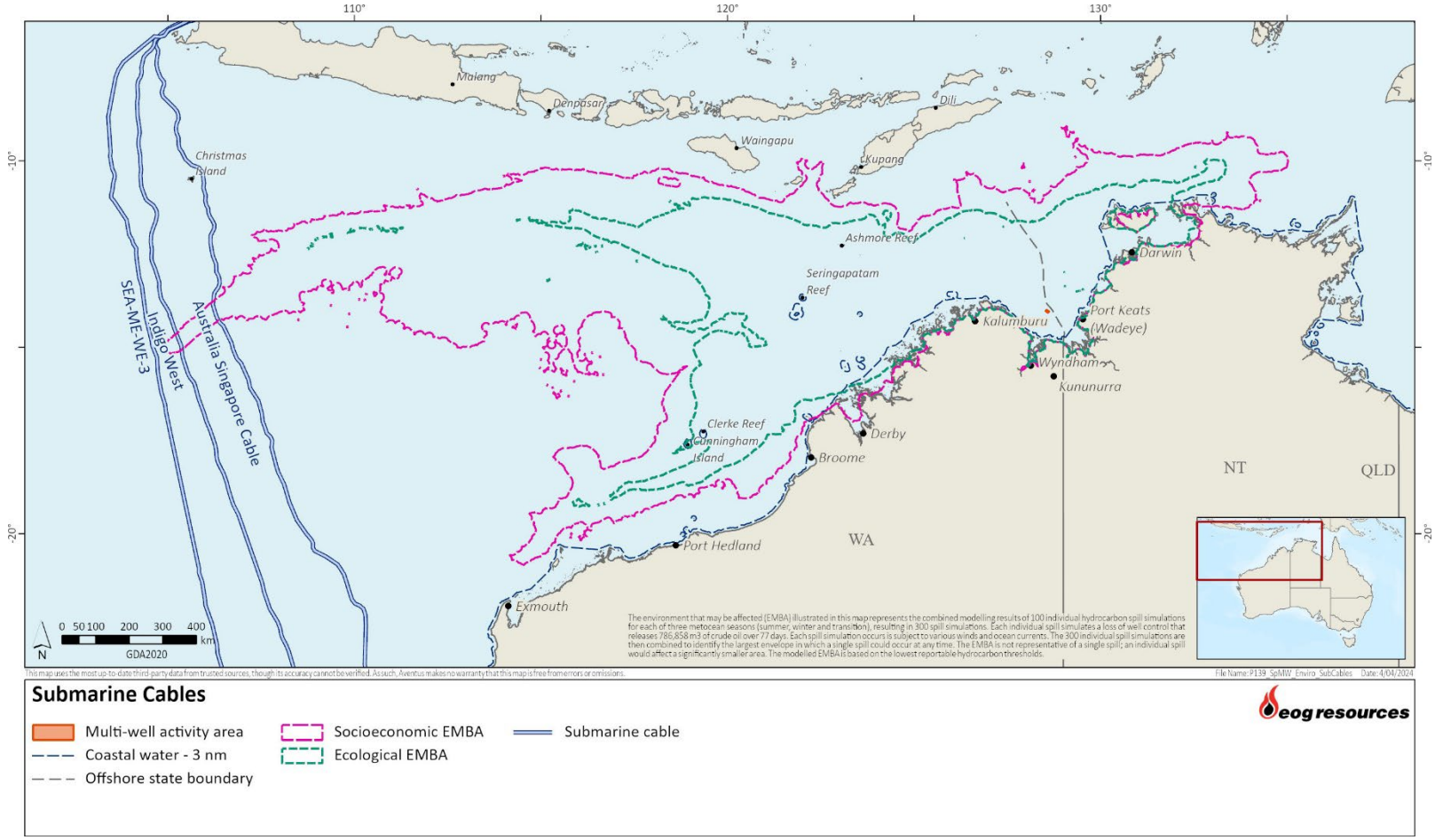


Figure 11.108 Submarine cables in the spill EMBA

11.6.8 Defence Activities

The spill EMBA is overlapped by a defence training area, which is a maritime military zone administered by the Australian Defence Force (Figure 11.109). This is an area where exercises such as operational flying training or live weapon firing may occur. Training areas along the coastline of the spill EMBA include the Yampi Sound Training Area, Bradshaw Field Training Area and Kangaroo Flats Training Area (Figure 11.109).

Australian Border Force and Australian Defence Force vessels undertake civil and maritime surveillance within the region with the primary purpose of monitoring the passage of illegal entry vessels and illegal fishing activity within these areas. The area is a known area for travel between Indonesia and Australia for refugees seeking asylum in Australia.

The spill EMBA overlaps the exercise and training areas that comprise the North Australian Exercise Area (NAXA), a maritime military zone administered by the Australian Defence Force, as well as restricted airspace used for operations including live weapons and missile firings. The NAXA location of the KAKADU training exercise that operates biennially. The exercise involves numerous naval ships from various countries participating in the waters off Darwin and Northern Australia. Exercise KAKADU is Australia's premier international maritime exercise bringing together multiple navy and air forces from the Asian, Pacific and Indian Ocean regions to test integration and war fighting abilities.

During Exercise KAKADU, access may be restricted to all vessels and aircraft. Avoidance of the area during exercises is requested by Defence.

There is also an Air-to-Air Refuelling (AAR) and Airborne Early Warning and Control (AEW&C) airspaces that overlap the activity area and EMBA.

The spill EMBA (but not the activity area) overlaps an area with potential for unexploded ordnance (UXO), illustrated in Figure 11.110.

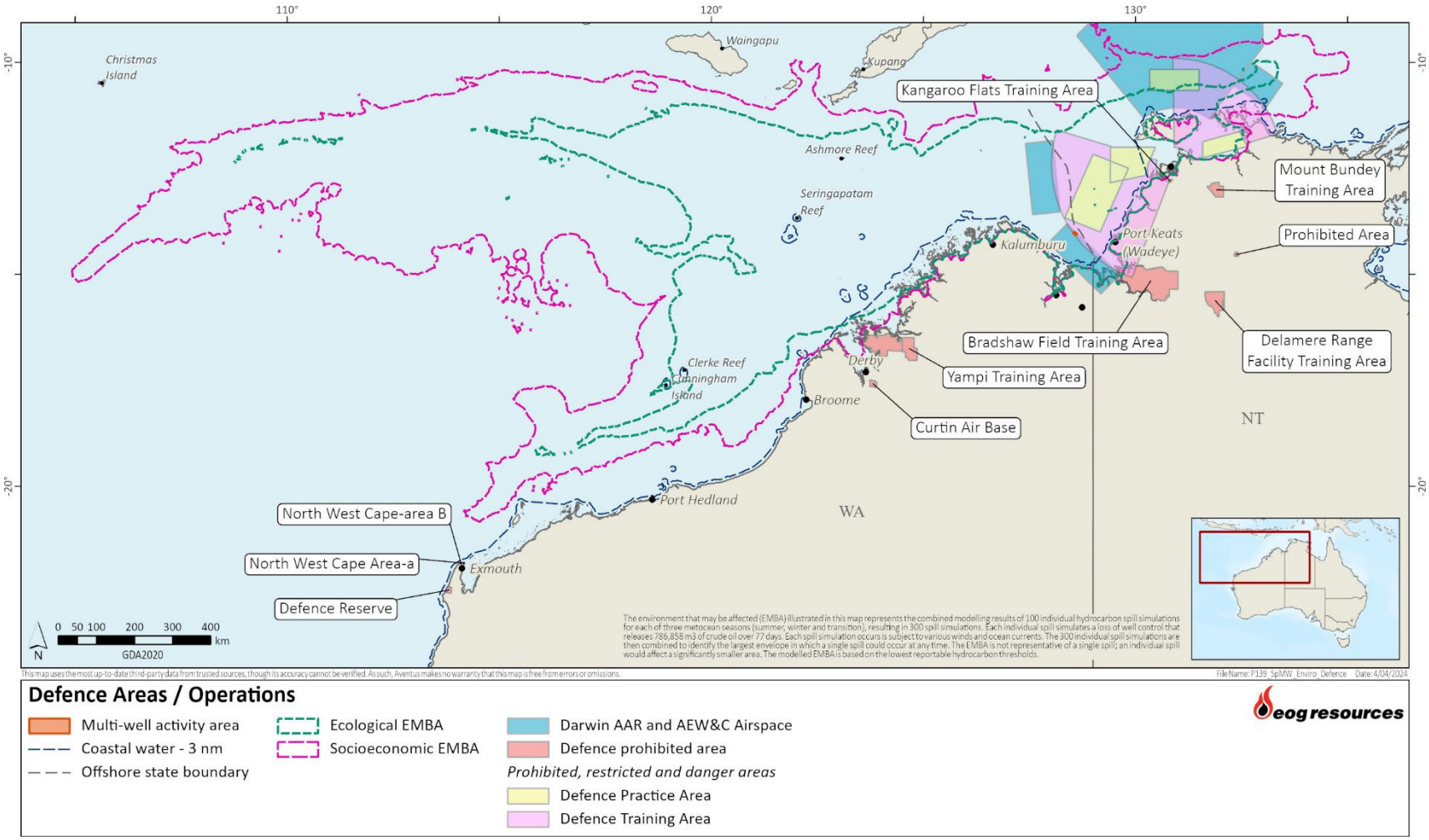


Figure 11.109 Defence exercise and training areas overlapped by the spill EMBA

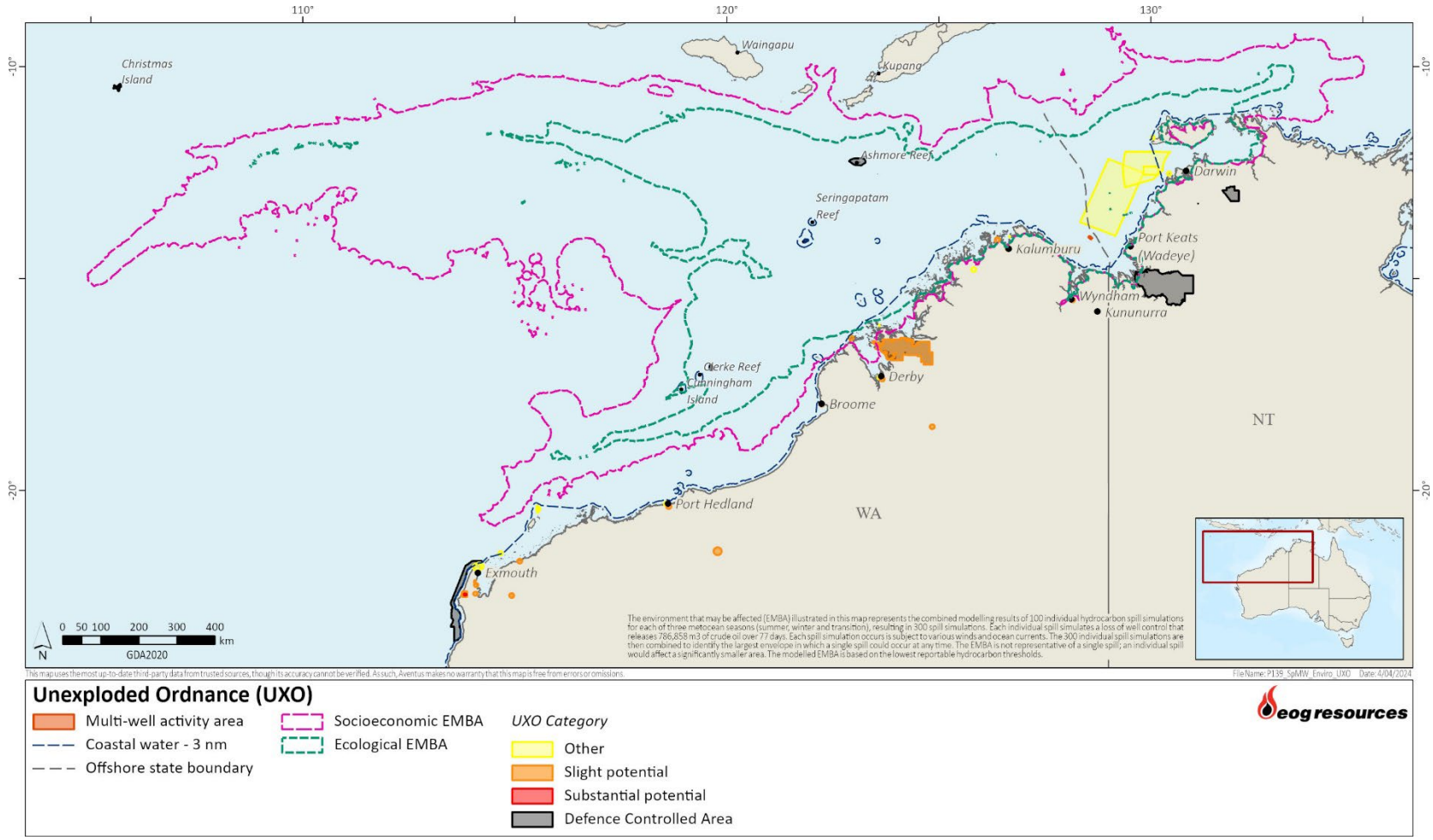


Figure 11.110 Unexploded ordnance risks in the spill EMBA

Appendix 12 First Nations Tangible Underwater Cultural Heritage Due Diligence Assessment

COSMOS ARCHAEOLOGY

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BEEHIVE Project
Western Australia
First Nations Tangible Underwater Cultural Heritage
Due Diligence Assessment

FINAL

This Due Diligence Assessment (DDA) provides advice on the potential impacts to tangible underwater cultural heritage (UCH) arising from the activities related to an exploration well, BEEHIVE-1, in Bonaparte Gulf, Western Australia.

The purpose of this DDA is to assess tangible heritage risk and advise if a full data review and assessment is required.

This DDA only address tangible Aboriginal underwater cultural heritage expressed as …*traces of human existence* … as defined in the Commonwealth *Underwater Cultural Heritage Act 2018*.[1] In the context of this assessment tangible UCH refers to archaeological sites that have become inundated during sea level rise in the late Pleistocene.

Intangible First Nations UCH is not addressed in this due diligence assessment. Intangible refers to oral histories, songlines, dreaming narratives, and other forms of cultural memories associated with landforms that are now submerged.

Maritime Heritage in the form of shipwrecks has also not been assessed in this DDA.

This DDA has been prepared from the following documentation provided by the client:

- EOG Resources and EGS Group, February 2023; *Beehive-1 Wellsite Clearance Letter for Drilling Hazards Assessment*. Report Number: RT-PRO-108-2021035 Revision 2.0
- Fugro, December 2022; *Geophysical Site Investigation – Beehive Pre-Drill Survey. Bonaparte Basin: Volume 2 – Interpretation (Survey Results) Report*. 206084-1-052-REP-006 1. Includes Appendices C and D as well as Charts and Drawings.
- EOG Resources and EGS Group, November 2021; *Beehive Regional Shallow Hazards Assessment*.

[1] Underwater Cultural Heritage Act 2018 Part 1, Division 2, Section 15

Location of proposed seabed works

EOG Resources is proposing to undertake drill exploration of BEEHIVE-1 in 2024. The proposed wellsite location is at:

WELL BEEHIVE-1	GDA2020		WGS84 UTM 52 South	
	Longitude	***Latitude***	***Easting***	***Northing***
	128°34'18.51"E	14°03'23.74"S	453770.24	8445972.64

It is understood that this location is located 250 m southeast of that shown in Figure 3.

It is understood that 2 other locations, WHP -1 and WHP-2, within the BEEHIVE-1 site boundary are nominal locations for future work.

Proposed seabed disturbance

The planned operation is to spud an exploration well from the three-legged jack up rig Valaris–107. The spuds can penetrate up to 10 m into a sandy/silty seabed. The planned drill hole has a diameter of 36".

BEEHIVE-1 surrounding area

The BEEHIVE-1 well is located within Joseph Bonaparte Gulf in water depths of 45.6 m below sea level, and ~80 km from the present coastline. The Joseph Bonaparte Gulf (including the Cambridge Gulf) is a large embayment, approximately 300 km east-west and 120 km north-south with regional Northwest Shelf located to the northeast. Several large rivers including the Durack, Pentecost, and Ord rivers drain into Cambridge Gulf, while the Victoria and Fitzmaurice rivers drain into the Joseph Bonaparte Gulf. Sediments within the Gulf are terrigenous inshore and grading to carbonates offshore.

Local sea level curve

A locally derived sea level curve spanning the last 80,000 years shows the relative and changing position of BEEHIVE -1 wellsite to the ancient shorelines. Around the time of first Human arrival around 65,000 years ago sea level was approximately 80 m lower than present and BEEHIVE -1 wellsite located around 85 km inland of the ancient coastline. BEEHIVE -1 wellsite became a coastal environment for a period between 60,000 and 50,000 yeas BP and gradually becoming situated further inland as sea level continued to fall until the peak of the last glacial maximum (LGM) around 18,000 years BP. At this time the BEEHIVE -1 wellsite was situated 450 km from open marine coastal environments, however it was proximal to (approx. 100 km) a large lacustrine system that likely formed within the Bonaparte basin fed by river systems that drained the hinterland catchments. The termination of the LGM saw rapid sea level rise with the BEEHIVE-1 site becoming inundated at around 13,500 years BP.

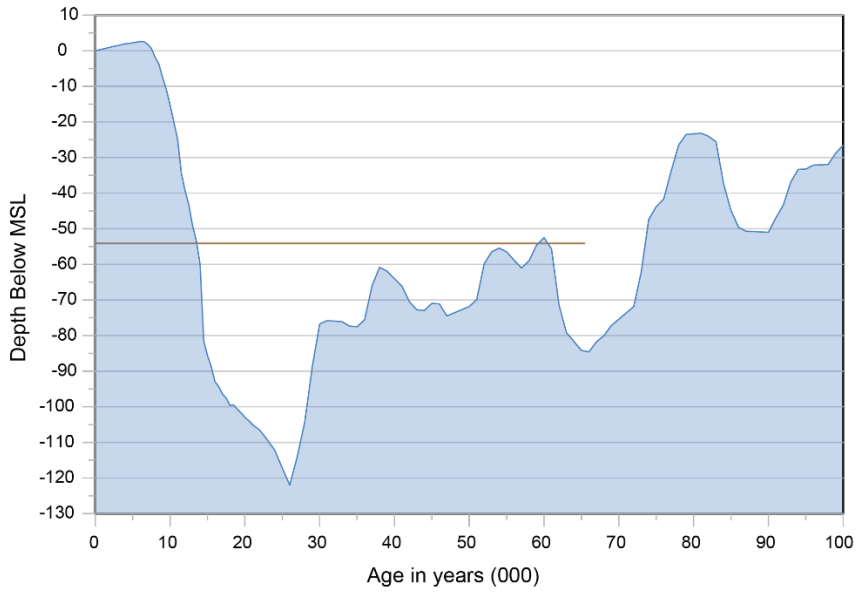

Figure 1: Sea level curve with the brown line showing the elevation of the antecedent Pleistocene land surface at BEEHIVE-1 well site compared to the palaeosea level record, the length of the line representing the duration of occupation.

Regional landscape reconstructions

Despite terrigenous sedimentation along the inner gulf during the mid to late Holocene, regional scale bathymetry still provides some evidence of the preinundaiton landscapes and associated palaeoenvironments. The inner margin of the Joseph Bonaparte Gulf is characterised by a relatively flat and seaward sloping terrain. Remnant palaeochannels can be seen incising the shelf, the most prominent being the palaeoVictoria river system which passes about 30 km to the east of BEEHIVE-1. Smaller palaeochannels are intermittently exposed at the seabed likely representing the palaeoKeep/Sandy river systems which appear to flow in the direction of the BEEHIVE-1 well site. Palaeodrainage channels appear to become less prominent at sea floor depths > 40 m, the likely result of channels becoming less entrenched and/or becoming buried by marine sediments.

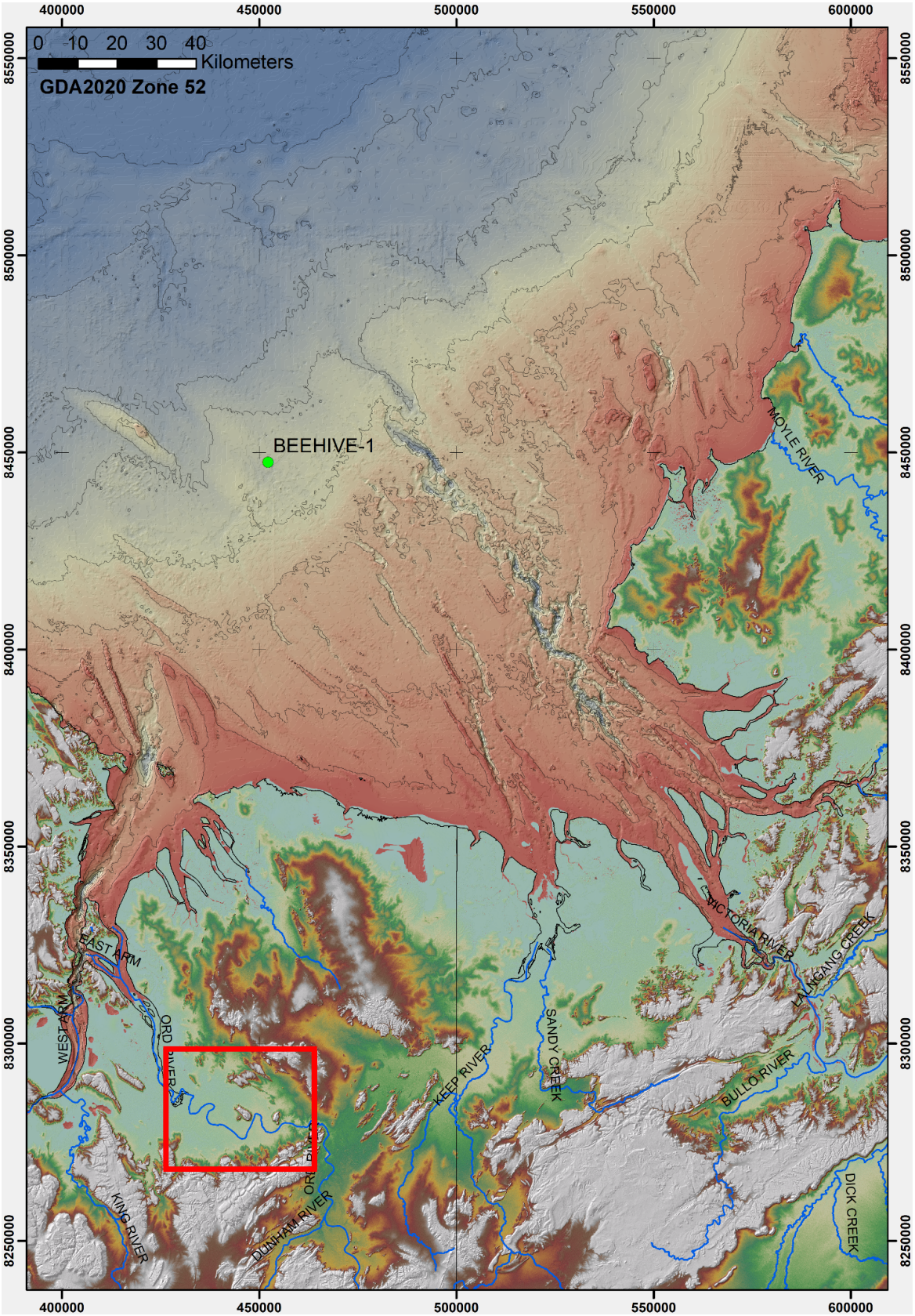

Figure 2: Terrestrial and submerged landscapes of the Joseph Bonaparte Gulf. Depth contours representing 10 m intervals. Red box shows location of figure 5.

Local Geomorphology

The antecedent Pleistocene landscapes around the BEEHIVE-1 well site have been buried by Recent marine sedimentation. A large low relief sand body is situated to the immediate north and east of BEEHIVE-1 at a depth of -44 to -45 m below mean sea level (bmsl) with what appears to be sand wave forming to the west. An interpretation of the subbottom survey data suggest the swales between sand waves may represent outcropping preinundation land surface at the seabed (at depths of -48 to -49 m bms) though no distinctive landforms are evident.

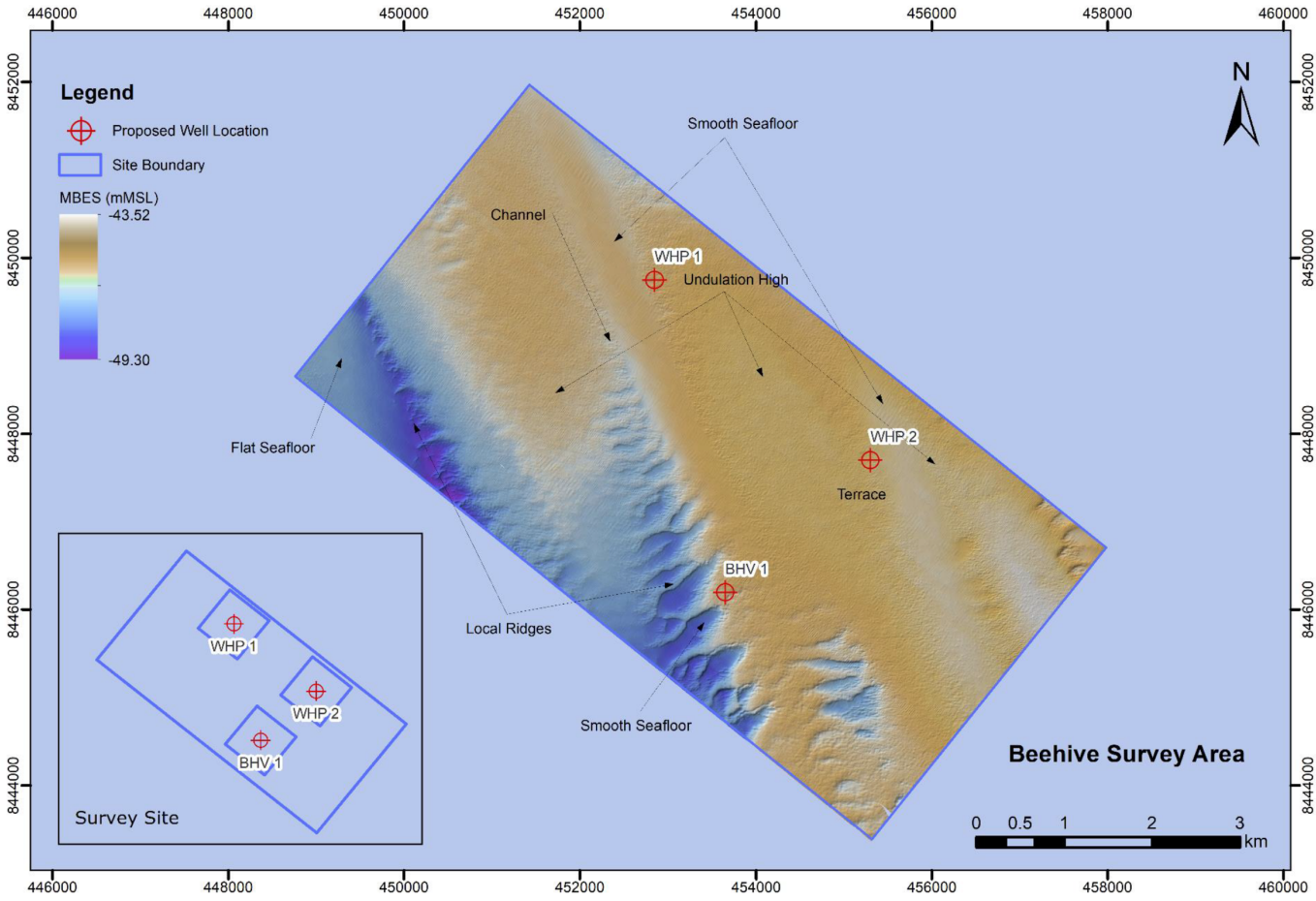

Figure 3 Bathymetric Image of the Beehive General Survey Area [Image from 206084-1-052-REP-006 1 | Volume 2 – Interpretation (Survey Results) Report Page 34 of 99]. Note the proposed location of the exploration well is 250 m SE of that depicted in the figure.

Local palaeolandscapes and environments

An isopach map showing the thickness of overlying Recent marine sediments (up to 5 m around the BEEHIVE -1 well site) to seismic reflector R1 (understood to represent the antecedent Pleistocene land surface), explains the lack of expression of submerged terrestrial landforms at the sea floor. Furthermore, the fact that there are no prominent positive relief features present within the study area suggests that the palaeolandscape was subdued and likely dominated by negative relief features. This interpretation is supported by analysis of shallow seismic datasets which has revealed an extensive network of palaeochannels which have incised the Pleistocene land surface.

This evidence of palaeochannels along with (1) a very low topographic relief and shallow seaward slope of the underlying Pleistocene land surface, (2) the vast inland catchments and large palaeodrainage system evident along the inner shelf, suggest this region was situated within a large regional scale floodplain characterised by a fluvial meander belt (the zone within which a meandering stream periodically shifts its channel and typically ranges from 15 to 18 times the width of the channel) complex, with channels, scroll bars, cut banks, oxbow lakes, and terraces at the local level. These types of sedimentary environments are highly dynamic on geomorphic timescales with meanders typically migrating downstream.

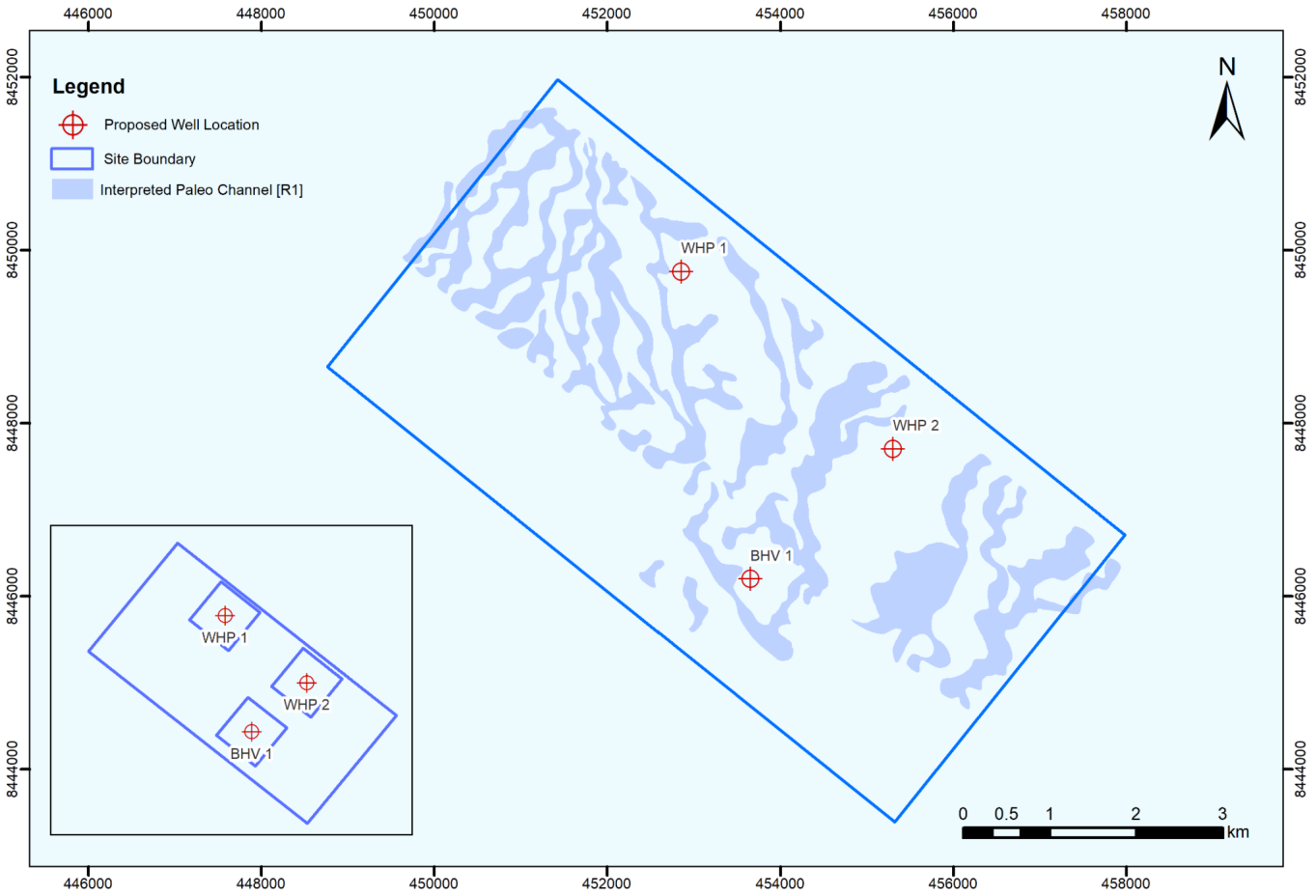

Figure 4: Interpreted Paleo Channel margins representing the reflector 1 boundary [From 206084-1-052-REP-006 1 | Volume 2 – Interpretation (Survey Results) Report Page 63 of 99.

Terrestrial Analogue of the BEEHIVE-1 Meander System

A terrestrial landform analogue to the interpreted BEEHIVE -1 meander belt complex can be found in the lower reaches of the Ord River system, which is located approximately 170 km south of the BEEHIVE-1 well site. A 5 m Lidar product shows the location of the main river channel which drains through the lower Ord River catchment and onto the flat coastal plain. As the land surface slope decreases the river begins to meander with evidence of an active meander bends with advancing scroll bars and eroding cut banks. There is also evidence of older abandoned channels forming oxbow lakes. The down channel migration of fluvial meanders means that most of the river terraces/flood plains within the meaner belt will eventually erode at the cut bank and become redeposited along the downstream scroll bar, resulting in a relatively young land surface. As a result of this particular geomorphic system,

archaeological material situated within a meaner belt should equally be relatively young. The Department of Planning, Land and Heritage (DPLH) archaeological site database identified a total of 8 archaeological sites along a 20 km section of the Ord River meander belt. All sites are registered as artifact scatters and would be considered to have a very low site density.

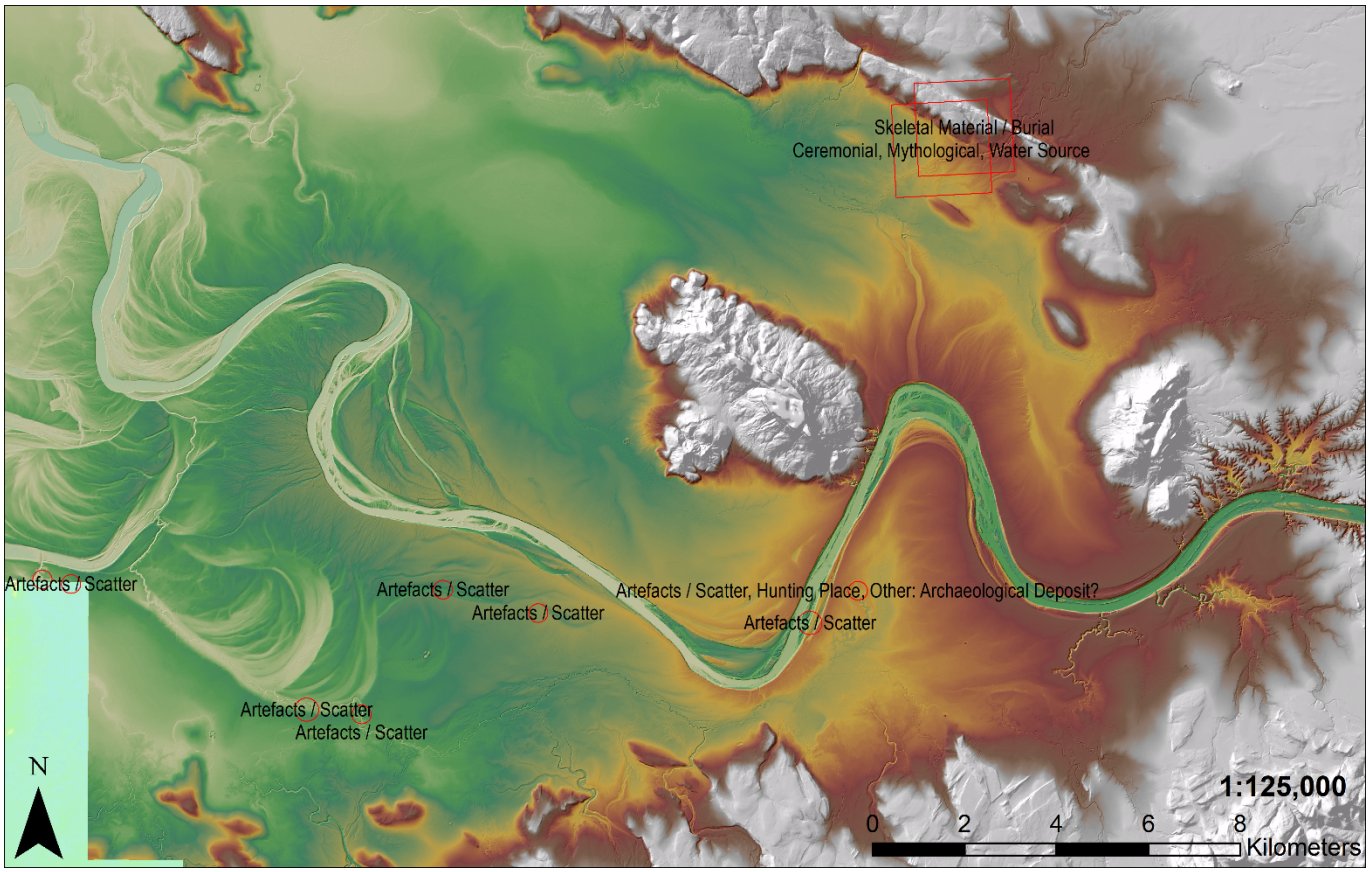

Figure 5: DEM showing the lower reaches of the Ord River system before draining into East Arm of the Cambridge Gulf.

Potential of archaeological sites at the Beehive -1 well site

Given that the BEEHIVE-1 well site is located within an interpreted meander belt, which has likely been an active fluvial system across the period of occupation, would suggest that the natural down-stream migration of these meanders would have resulted in multiple phases of erosion and deposition (recycling) of the fluvial flood plain. This would mean that archaeological material periodically deposited within a meander belt system would eventually erode and transported downstream, or on the case of larger lithics simply deposited at the foot of the cut bank and buried by the advancing scroll bar. This type of fluvial process might explain the very low density of archaeological sites within the lower reaches of the Ord River and if used as an analogue for the BEEHIVE-1 meander belt, it would equally suggest a very low density of archaeological sites having formed around the BEEHIVE-1 development area.

Due to the exposed nature of the BEEHIVE-1 wellsite, during the process of inundation wave and tidal energy may have further mobilised the lithic artefacts that comprised the more 'recent' sites either dispersing or concentrating them depending on their exposure, rate of burial and micro-geomorphological context. As such it is possible that some sites may have undergone relatively low levels of disturbance as has been demonstrated at the Dampier

Archipelago (Murujuga) thereby retaining a relatively high level of archaeological integrity.[2] However, for the majority of exposed sites composed of artefact scatters it can be expected that they have been dispersed or dissipated and for the most part from have moved from an archaeological context towards a geomorphological/sedimentological context. This would reduce but not eliminate the archaeological/scientific values associated with these artefacts. Note that the inherent cultural heritage values of the artefacts themselves as may be identified and expressed by the relevant First Nations stakeholder would not be diminished.

Potential impact

The three spuds and the drill hole will penetrate the recent Holocene sediments and impact the former Late Pleistocene surfaces. Each point of contact will impact an area of between 0.5 to 1 m^2. There is a remote likelihood that the spuds or drill will intersect a lithic artefact. Only the drill would destroy such an artefact while the spuds will dislocate it or modify it. Even with the remote likelihood that an artefact may be impacted such an impact will not appreciably alter the existing archaeological integrity of any site present and as such will not affect its archaeological/scientific cultural heritage values.

Potential mitigation

The relocation of the drilling site within the site boundary as shown in Figures 3 and 4 will not alter the risk of impact.

Any form of retrieval of seabed material from the potential impact areas for the purposes of recovering artefacts will likely cause the same or greater disturbance than the proposed works.

It is believed that any further remote sensing or geotechnical investigation will not alter the assessment of the identified landform and archaeological potential presented in this report.

Compliance with the *Underwater Cultural Heritage Act 2018*.

Ship and aircraft wrecks over 75 years old are automatically protected in Commonwealth waters. All other forms of underwater cultural heritage including First Nations submerged terrestrial sites can be protected by the Minister however they have to have been found before they can be declared protected.

Though it has been assessed that there is a remote likelihood that the undertaking of the proposed works would lead to the discovery of any form of underwater cultural heritage it is noted that under Section 40 of the Act a person who finds … *an article of underwater cultural heritage*… which … *appears to be of an archaeological character*… is legally obligated to report the find to the Minister.

Compliance with Relevant Guidelines

On 31st March the Department of Climate Change, Energy the Environment and Water issued draft *Guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage*. This document is currently exposed for public comment.[3]

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[2] **Benjamin, J., O'Leary, M., McDonald, J., Wiseman, C., McCarthy, J., Beckett, E., Morrison, P., Stankiewicz, F., Leach, J., Hacker, J. and Baggaley, P., 2020**. Aboriginal artefacts on the continental shelf reveal ancient drowned cultural landscapes in northwest Australia. *PloS one*, *15*(7), p.e0233912.
[3] **DCCEEW, March 2023,** Draft guidelines to protect underwater cultural heritage https://consult.dcceew.gov.au/draft-guidelines-to-protect-uc-heritage

The purpose of the document is to provide guidance to proponents proposing to undertake activities in Australian waters.

The Guidelines propose a range of cultural heritage assessment and mitigation actions in response to seabed development. The commencement of this process is the undertaking of a UCH desktop assessment.[4] The draft Guidelines state the UCH desktop assessment :

> ***…*** *outlines the initial assessment of known protected UCH and potential unlocated UCH within the project area and proposes a forward work program for the detailed assessment of UCH in the project area and potential impacts as a result of the proposed work. A forward work program may not be necessary if a negligible risk of impact to UCH is assessed. A UCH desktop assessment should always be prepared by a qualified maritime archaeologist should appropriate experience.*

Elsewhere in the draft Guidelines this is referred to as a 'due diligence desktop assessment'.[5]

This document complies with the above described desktop assessment process and furthermore includes the review of remote sensing data and has assessed the risk of impact to be remote which is comparable to 'negligible'.

Note that the draft Guidelines are more focused on maritime heritage, such as shipwrecks, than First Nations UCH. The Commonwealth is currently preparing Technical guidance notes specific to the investigation and assessment of First Nations UCH.

Conclusion

The proposed works as presented in this short letter report will have a remote likelihood of impacting First Nations tangible UCH. The level of analysis undertaken in this short letter report is sufficient to make the aforementioned statement with confidence. A more detailed UCH impact assessment is not required.

It is advised that an Unexpected Finds Protocol be prepared and implemented in the event that that seabed material is bought aboard the jack up barge during the works.

This report has been prepared by:

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Dr. Michael O'Leary, Associate Professor in Climate Geoscience, The University of Western Australia

12th June 2023

[4] **DCCEEW, March 2023**: Section 3.2
[5] **DCCEEW, March 2023**: Table 6

Appendix 13 Oil Spill Trajectory Modelling Report

BEEHIVE-1 – EXPLORATION DRILLING

Crude Oil Spill Modelling

MAQ1110J

Beehive-1 – Exploration Drilling

Rev1

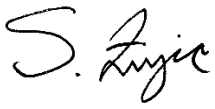
18 January 2022

www.rpsgroup.com/mst

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
Rev A	Draft issued for internal review	Jeremie Bernard Dr. Ferando Alvarez	Jeremie Bernard		
Rev 0	Draft issued for Client review		Jeremie Bernard	Dr. Sasha Zigic	21/12/2021
Rev1			Jeremie Bernard	Dr. Sasha Zigic	18/01/2022

Approval for issue

Dr. Sasha Zigic  18 January 2022

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TERMS AND ABBREVIATIONS

°	Degrees
‘	Minutes
“	Seconds
µm	Micrometre (unit of length; 1 µm = 0.001 mm)
Actionable oil	Oil which is thick enough for the effective use of mitigation strategies
AIS	Automatic identification system
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
ANZECC	Australian and New Zealand Environment and Conservation Council
API	American Petroleum Institute gravity. A measure of how heavy or light a petroleum liquid is compared to water.
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ASTM	American Society for Testing and Materials
Aventus	Aventus Consulting Pty Ltd
bbl	Barrel (unit of volume; 1 bbl = 0.159 m3)
bbl/d	Barrels per day
Bonn Agreement	An agreement for cooperation in dealing with pollution of the North Sea by oil and other harmful substances, 1983, includes: Governments of the Kingdom of Belgium, the Kingdom of Denmark, the French Republic, the Federal Republic of Germany, the Republic of Ireland, the Kingdom of the Netherlands, the Kingdom of Norway, the Kingdom of Sweden, the United Kingdom of Great Britain and Northern Ireland and the European Union.
BP	Boiling point. The temperature at which the vapor pressure of the liquid is equal to the pressure exerted on it by the surrounding atmosphere
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
°C	degree Celsius (unit of temperature)
CFSR	Climate Forecast System Reanalysis
cm	Centimetre (unit of length)
cP	Centipoise (unit of dynamic viscosity)
Decay	The process where oil components are changed either chemically or biologically (biodegradation) to another compound. It includes breakdown to simpler organic carbon compounds by bacteria and other organisms, photo-oxidation by solar energy, and other chemical reactions.
Dynamic viscosity	The dynamic viscosity of a fluid expresses its resistance to shearing flows, where adjacent layers move parallel to each other with different speeds.
EOG	EOG Resources, Inc.
EP	Environment Plan
Floating oil exposure	Contact by floating oil on the sea surface at concentrations equal to or exceeding defined threshold concentrations. The consequence will vary depending on the threshold and the receptors

g/m2	Grams per square meter (unit of surface area density)
GODAE	Global Ocean Data Assimilation Experiment
HYCOM	Hybrid Coordinate Ocean Model. A data-assimilative, three-dimensional ocean model
HYDROMAP	Advanced ocean/coastal tidal model used to predict tidal water levels, current speed and current direction.
IBRA	Interim Biogeographic Regionalisation for Australia
IMCRA	Integrated Marine and Coastal Regionalisation of Australia
IOA	Index of Agreement
ITOPF	International Tanker Owners Pollution Federation Limited
KEF	Key Ecological Feature
km	Kilometre (unit of length)
km^2	Square Kilometres (unit of area)
Knots	unit of speed (1 knot = 0.514 m/s)
LOWC	Loss of well control
m	Meter (unit of length)
m3	Cubic meter (unit of volume)
m/s	Meter per Second (unit of speed)
MAE	Mean Absolute Error
MAHs	Monoaromatic Hydrocarbons
MNP	Marine National Park
MP	Marine Park
N	Number of observations
NASA	National Aeronautics and Space Administration (USA)
NCEP	National Centres for Environmental Prediction (USA)
nm	Nautical mile
NOAA	National Oceanic and Atmospheric Administration (USA)
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NP	National Park
NR	Nature Reserve
O	Observed variable
Oi	Observed surface elevation
OPEP	Oil Pollution Emergency Plan
P	Model-predicted variable
Pi	Model predicted surface elevation
PAH	Polynuclear Aromatic Hydrocarbons
PDSA	Pre-drilling seabed assessment

Pour Point	The pour point of a liquid is the temperature below which the liquid loses its flow characteristics
ppb	Parts per billion (concentration)
psu	Practical salinity nits
RSB	Reefs, Shoals and Banks
scf	Standard cubic feet (defined as one cubic foot of gas at 15.56 °C and at normal sea level air pressure)
Shoreline contact	Arrival of oil at or near shorelines at on-water concentrations equal to or exceeding defined threshold concentrations. Shoreline contact is judged for floating oil arriving within a 2 km buffer zone from any shoreline as a conservative measure
SIMAP	Spill Impact Model Application Package. SIMAP is designed to simulate the fate and effects of spilled hydrocarbons for surface or subsea releases
Single Oil spill modelling	Oil spill modelling involving a computer simulation of a single hypothetical oil spill event subject to a single sequence of wind, current and other sea conditions over time. Single oil spill modelling, also referred to as “deterministic modelling” provides a simulation of one possible outcome of a given spill scenario, subject to the metocean conditions that are imposed. Single oil spill modelling is commonly used to consider the fate and effects of ‘worst-case’ oil spill scenarios that are carefully selected in consideration of the nature and scale of the offshore petroleum activity and the local environment (NOPSEMA, 2017). Because the outcomes of a single oil spill simulation can only represent the outcome of that scenario under one sequence of metocean conditions, worst-case conditions are often identified from stochastic modelling. It is impossible to calculate the likelihood of any outcome from a single oil spill simulation. Single oil spill modelling is generally used for response planning, preparedness planning and for supporting oil spill response operations in the event of an actual spill
SRTM	Shuttle Radar Topography Mission
Stochastic oil spill modelling	Stochastic oil spill modelling is created by overlaying and statistically analysing the outcomes of many single oil-spill simulations of a defined spill scenario, where each simulation was subject to a different sequence of metocean conditions, selected objectively (typically by random selection) from a long sequence of historic conditions for the study area. Analysis of this larger set of simulations provides a more accurate indication of the environment that maybe affected (EMBA) and indicates which locations are more likely to be affected (as well as other statistics). Stochastic oil spill modelling avoids biases that affect single oil spill modelling (due to the reliance on only one possible sequence of conditions). However, when interpreting stochastic modelling, which is based on a wide range of potential conditions that might happen to occur, it is essential to understand that calculations will encompass a much larger area than could be affected in any single spill event, where a more limited set of conditions will occur. Consequently, it is misleading to imply that the region derived from stochastic modelling indicate the outcomes expected from a single spill event (NOPSEMA, 2017) Stochastic modelling is generally used for risk assessment and preparedness planning by indicating locations that could be exposed and may require response or subsequent impact assessment
TOPEX/Poseidon	A joint satellite mission between NASA and CNES to map ocean surface topography using an array of satellites equipped with detailed altimeters
USA	United States of America
US CG	United States Coast Guard
US EPA	United States Environmental Protection Agency
World Ocean Atlas	A collection of objectively analysed, quality controlled physicochemical parameters (e.g. temperature, salinity, oxygen, phosphate, silicate, and nitrate) based on profile data from the World Ocean Database (NCEI, 2021) established by NOAA’s National Centers for Environmental Information (NCEI)
WGS 1984	World Geodetic System 1984 (WGS84); reference coordinate system
Xmodel	Model predicted surface elevation

Xobs	Observed surface elevation

EXECUTIVE SUMMARY

Background

EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to undertake the Beehive-1 drilling campaign within permit area WA-488-P located in the Bonaparte Basin in the Joseph Bonaparte Gulf, Western Australia.

Aventus Consulting Pty Ltd (Aventus) has been contracted by EOG to prepare the Environment Plan (EP) and Oil Pollution Emergency Plan (OPEP) for the planned activity.

To inform the potential environmental impact and risk assessments for the proposed drilling campaign, Aventus commissioned RPS to undertake a detailed crude oil spill modelling study assessing the following hypothetical scenario:

- **Scenario**: A 786,858 m^3 (or 4,949,338 bbl) surface release of crude oil over 77 days to represent a loss of well control (LOWC).

The purpose of the modelling is to provide an understanding of a conservative 'outer envelope' of the potential area that may be affected in the unlikely event of hydrocarbon spill. The modelling does not take into consideration any of the spill prevention, mitigation and response capabilities that would be implemented in response to the spill. Therefore, the modelling results represent the maximum extent that the released hydrocarbon may influence.

The spill modelling was performed using an advanced three-dimensional trajectory and fates model; Spill Impact Model Application Program (SIMAP). The SIMAP model calculates the transport, spreading, entrainment and evaporation of spilled hydrocarbons over time, based on the prevailing wind and current conditions and the physical and chemical properties.

Methodology

The modelling study was carried out in several stages. Firstly, a ten-year CFSR wind and HYCOM current dataset (2010–2019) was generated and the currents included the combined influence of three-dimensional large-scale ocean currents and tidal currents. Secondly, the currents, winds and detailed hydrocarbon characteristics were used as inputs in the three-dimensional oil spill model (SIMAP) to simulate the drift, spread, weathering and fate of the spilled oil.

As spills can occur during any set of wind and current conditions, modelling was conducted using a stochastic (random or non-deterministic) approach, which involved running 100 spill simulations initiated at random start times, using the same release information (spill volume, duration and composition of the oil). This ensured that each simulation was subject to different wind and current conditions and, in turn, movement and weathering of the oil for an annual based assessment.

The SIMAP system, the methods and analysis presented herein, use modelling algorithms which have been anonymously peer reviewed and published in international journals. Further, RPS warrants that this work meets and exceeds the ASTM Standard F2067-13 "Standard Practice for Development and Use of Oil Spill Models".

Oil Properties

An analogue crude oil was used to represent the LOWC scenario. The analogue crude oil was carefully selected based on EOG recommendations to represent the crude oil likely to be found within permit area WA-488-P. The crude oil has an API of 42.3 and a density of 813.9 kg/m^3 (at 15ºC) with a viscosity value (3.0 cP) classifying it as a Group II (light-persistent) oil according to the International Tankers Owners Pollution Federation (ITOPF, 2014) and US EPA/USCG classifications.

The crude is a mixture of volatile (79%) and persistent hydrocarbons (21%). In favourable evaporation conditions, about 24.2% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 20.8% should evaporate within the first 24 hours (180°C < BP < 160°C); and a further 33.9% should evaporate over several days (160°C < BP < 380°C). Approximately 21.0% of the oil is shown to be persistent.

Results

Scenario: LOWC – 786,858 m^3 Surface release of Crude Oil over 77 Days

- The maximum distance from the release location to the low (1–10 g/m^2), moderate (10–50 g/m^2) and high (> 50 g/m^2) exposure levels was 1,517 km (winter), 153 km (summer) and 61 km (winter) respectively.

- Of all the receptors considered in the assessment, the Joseph Bonaparte Gulf AMP was the only receptor predicted to be exposed to floating oil above the low, moderate and high thresholds during all seasonal conditions.

- The probability of accumulation to any shoreline at, or above, the low threshold (10-100 g/m^2) was 100% for all seasons and the minimum time before shoreline accumulation at, or above, the low threshold ranged between 10.29 days (transitional) to 11.58 days (summer).

- The maximum volume ashore for a single spill trajectory ranged between 406.9 m^3 (winter) and 704.67 m^3 (summer) and maximum length of shoreline contacted at the low threshold was 201 km for winter and 224 km for summer and transitional. The predicted shoreline length above the high (≥1,000 g/m^2) shoreline threshold decreased to a maximum of 16 km, 9 km and 8 km during summer, winter and transitional months respectively.

- In the surface (0-10 m) depth layer, low, moderate and high exposure to dissolved hydrocarbons was recorded for a range of receptors. The highest dissolved hydrocarbon concentrations were predicted for the Joseph Bonaparte Gulf AMP and the carbonate bank and terrace system of the Sahul Shelf KEF, followed by the North Kimberley MP and Kimberley AMP during all seasonal conditions. In addition, the nearshore waters of the Thamarrurr, Wyndham-East Kimberley, Dorcherty Island, Clump Island Quoin Island, Daly, Victoria Daly shorelines and Ord River floodplain (Ramsar) were some of the receptors with the highest entrained hydrocarbons concentrations for all seasonal conditions.

- In the surface (0-10 m) depth layer, low, moderate and high exposure to dissolved hydrocarbons was recorded for a range of receptors. The highest dissolved hydrocarbon concentrations were predicted for the Joseph Bonaparte Gulf AMP and the carbonate bank and terrace system of the Sahul Shelf KEF, followed by the North Kimberley MP and Kimberley AMP during all seasonal conditions. In addition, the nearshore waters of the Thamarrurr, Wyndham-East Kimberley, Dorcherty Island, Clump Island Quoin Island, Daly, Victoria Daly shorelines and Ord River floodplain (Ramsar) were some of the receptors with the highest entrained hydrocarbons concentrations for all seasonal conditions.

1 INTRODUCTION

1.1 Background

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To inform the potential environmental impact and risk assessments for the proposed drilling campaign, Aventus commissioned RPS to undertake a detailed oil spill modelling study assessing the following hypothetical scenario:

- **Scenario**: A 786,858 m3 (or 4,949,338bbl) surface release of crude oil over 77 days to represent a loss of well control (LOWC).

Table 1.1 presents the Beehive-1 exploration well location used for Scenario 1. Figure 1.1 illustrates the exploration well location.

The potential risk of exposure to the surrounding waters and contact to shorelines was assessed for three distinct seasons defined by prevailing wind conditions.

i. summer (October to February),

ii. the transitional periods (March and September), and

iii. winter (April to August).

This approach assists with identifying the environmental values and sensitivities that would be at risk of exposure on a seasonal basis, given the dominant winds and water currents vary significantly among the seasons.

The purpose of the modelling is to provide an understanding of a conservative 'outer envelope' of the potential area that may be affected in the unlikely event of hydrocarbon spill. The modelling does not take into consideration any of the spill prevention, mitigation and response capabilities that would be implemented in response to the spill. Therefore, the modelling results represent the maximum extent that the released hydrocarbon may influence.

The spill modelling was performed using an advanced three-dimensional trajectory and fates model; Spill Impact Model Application Program (SIMAP). The SIMAP model calculates the transport, spreading, entrainment and evaporation of spilled hydrocarbons over time, based on the prevailing wind and current conditions and the physical and chemical properties.

Note that the oil spill model, the method and analysis presented herein uses modelling algorithms which have been anonymously peer reviewed and published in international journals. Furthermore, RPS warrants that this work meets and exceeds the American Society for Testing and Materials (ASTM) Standard F2067-13 "*Standard Practice for Development and Use of Oil Spill Models*".

Table 1.1 Coordinates for the Beehive-1 exploration well (GDA2020).

Location	Latitude	Longitude
Beehive-1	14° 03' 14.4" S	128° 34' 35.76" E

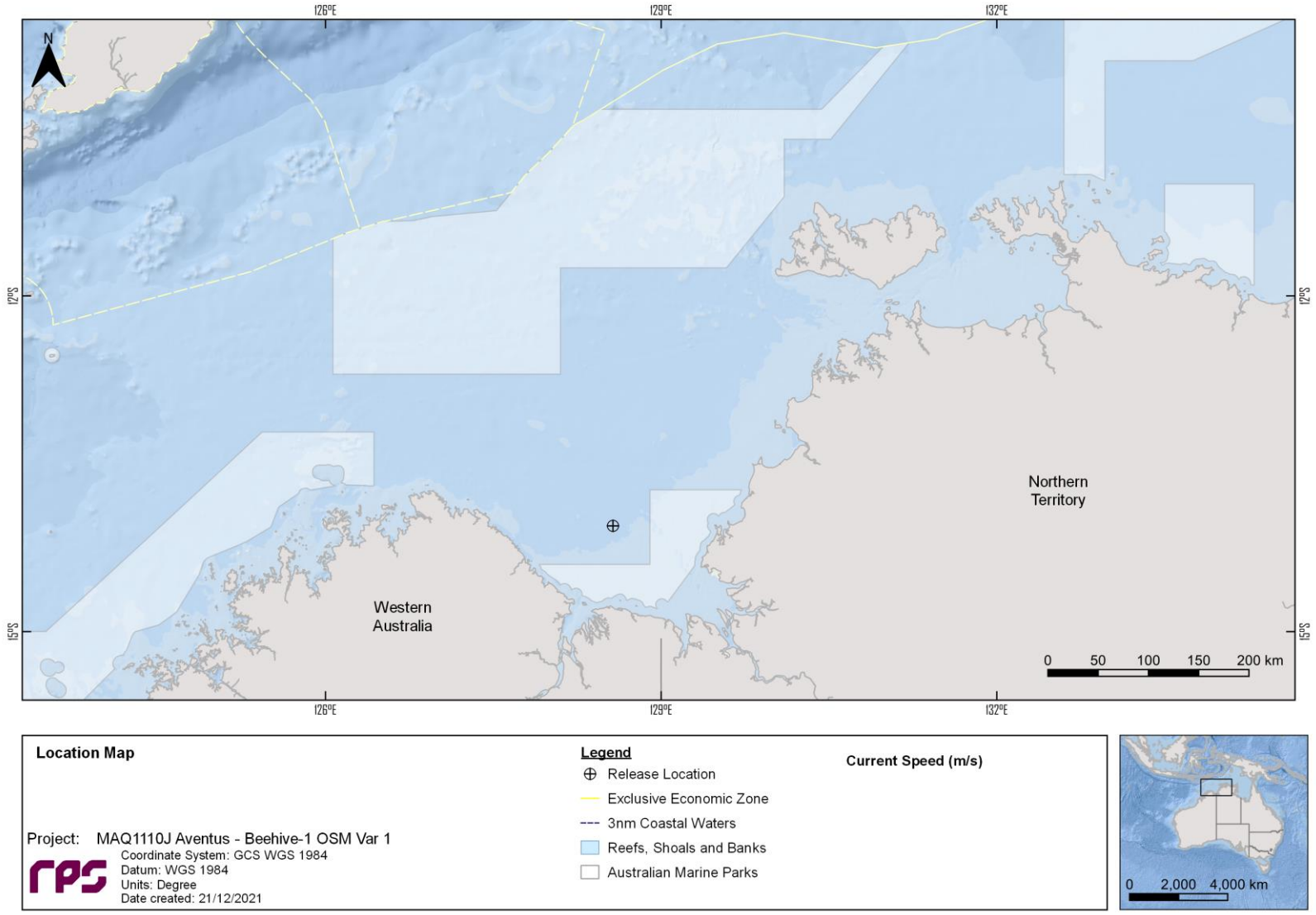

Figure 1.1 Map of the Beehive-1 exploration well.

1.2 What is Oil Spill Modelling?

Oil spill modelling is a valuable tool widely used for risk assessment, emergency response and contingency planning where it can be particularly helpful to proponents and decision makers. By modelling a series of the most likely oil spill scenarios, decisions concerning suitable response measures and strategic locations for deploying equipment and materials can be made, and the locations at most risk can be identified. The two types of oil spill modelling often used are stochastic (Section 1.2.1) and deterministic (Section 1.2.2) modelling.

1.2.1 Stochastic Modelling (Multiple Spill Simulations)

Stochastic oil spill modelling is created by overlaying a great number (often hundreds) of individual, computer-simulated hypothetical spills (NOPSEMA, 2018; Figure 1.2).

Stochastic modelling is a common means of assessing the potential risks from oil spills related to new projects and facilities. Stochastic modelling typically utilises hydrodynamic data for the location in combination with historic wind data. Typically, 100 iterations of the model will be run utilising the data that is most relevant to the season or timing of the project.

The outcomes are often presented as a probability of exposure and is primarily used for risk assessment purposes in view to understand the range of environments that may be affected or impacted by a spill. Elements of the stochastic modelling can also be used in oil spill preparedness and planning.

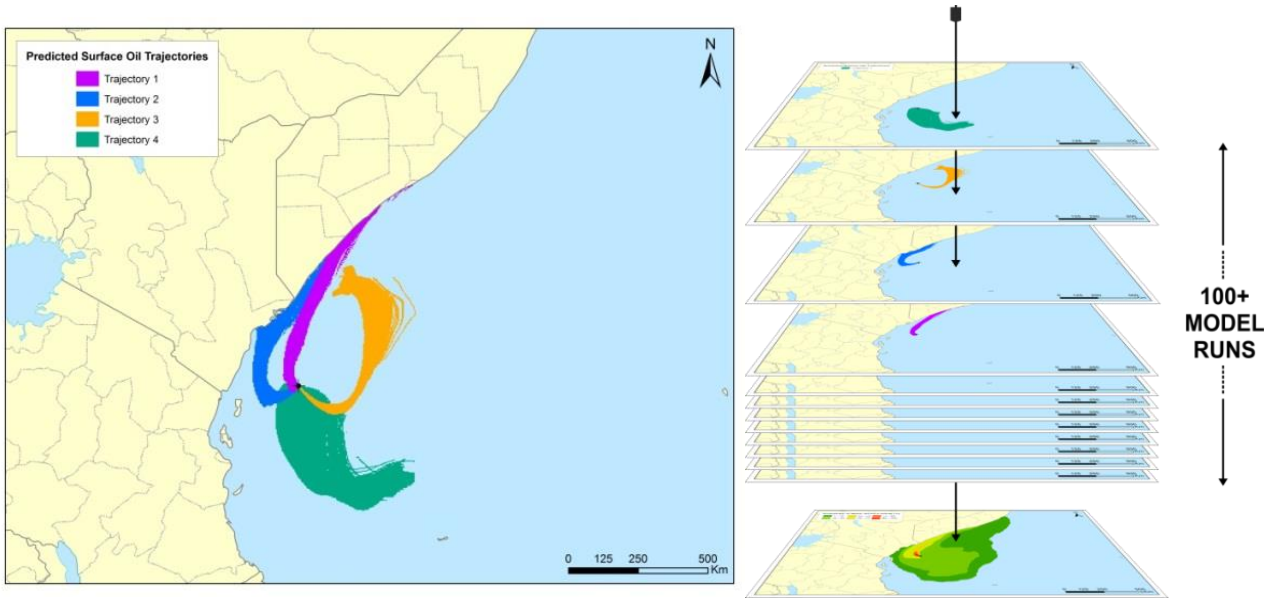

Figure 1.2 Examples of four individual spill trajectories (four replicate simulations) predicted by SIMAP for a spill scenario. The frequency of contact with given locations is used to calculate the probability of impacts during a spill. Essentially, all model runs are overlain (shown as the stacked runs on the right) and the number of times that trajectories contact a given location at a concentration is used to calculate the probability.

1.2.2 Deterministic Modelling (Single Spill Simulation)

Deterministic modelling is the predictive modelling of a single incident subject to a single sample of wind and weather conditions over time (NOPSEMA, 2018; Figure 1.3).

Deterministic modelling is often paired with stochastic modelling to place the large stochastic footprint into perspective. This deterministic analysis is generally a single run selected from the stochastic analysis and serves as the basis for developing the plans and equipment needs for a realistic spill response. Deterministic spills can be selected on several basis such as minimum time to shoreline, largest swept area, maximum volume ashore and longest length of shoreline contacted by oil.

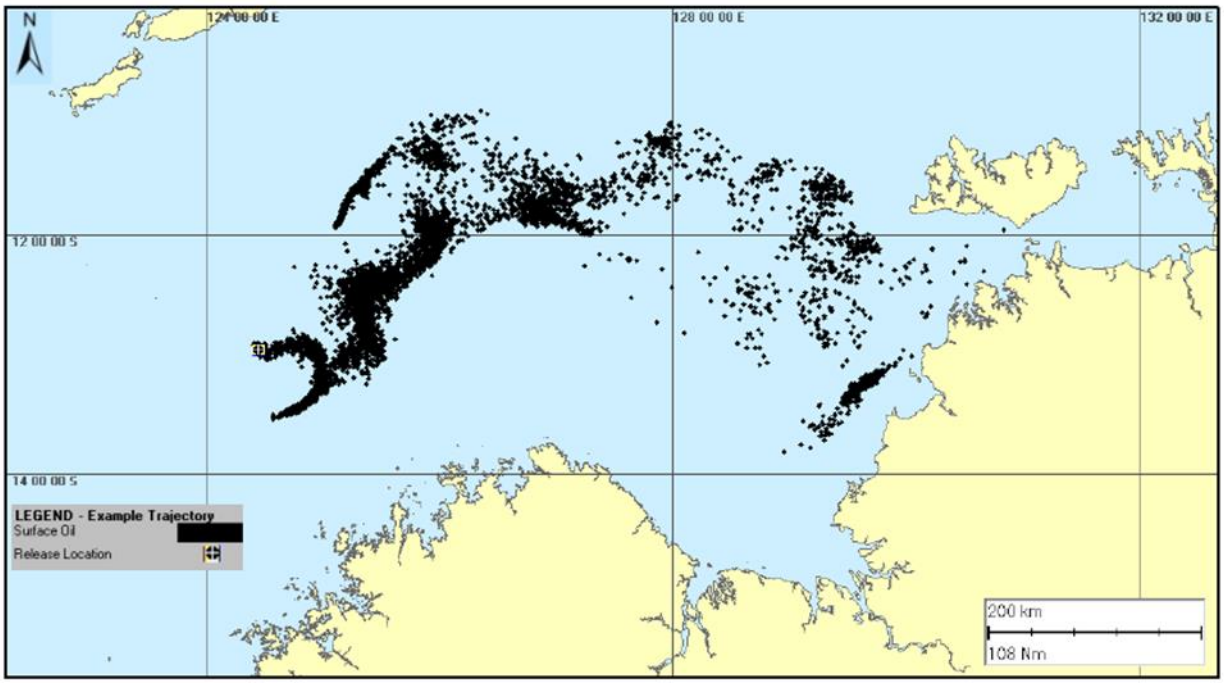

Figure 1.3 Example of an individual spill trajectory predicted by SIMAP for a spill scenario. Note, this image represents surface oil as spillets and do not take any thresholds into consideration.

2 SCOPE OF WORK

The scope of work included the following components:

- Generate 10 years of CFSR winds and three-dimensional hindcast HYCOM currents from 2010 to 2019 (inclusive). The currents include the combined influence of HYDROMAP tidal and HYCOM ocean currents;
- Include the wind and current data and hydrocarbon characteristics of the crude oil as input into the three-dimensional oil spill model SIMAP, to model the movement, spreading, weathering and shoreline accumulation by hydrocarbons over time;
- Use SIMAP's stochastic model (also known as a probability model) to calculate exposure to surrounding waters and shorelines. This involved running 100 randomly selected single trajectory simulations (per season), with each simulation having the same spill information (spill volume, location, duration and composition of hydrocarbons) but with varying start times. This ensured that each spill trajectory was subject to a unique set of wind and current conditions; and
- Review the stochastic model results and present the worst-case deterministic runs based on the following criteria:
    a. Largest swept area of floating oil above 1 g/m^2 (visible floating oil);
    b. Minimum time before shoreline accumulation above 10 g/m^2;
    c. Largest volume of oil ashore;
    d. Longest length of shoreline accumulation above 10 g/m^2;
    e. Largest area of entrained hydrocarbons above 10 ppb; and
    f. Largest area of dissolved hydrocarbons above 10 ppb.

3 REGIONAL CURRENTS

The Operational Area is located within the Joseph Bonaparte Gulf, a shallow (generally <100 m) waterbody bordered by the Indian Ocean and Timor Sea. The gulf is characterised by complex geomorphology (i.e. shoals, valleys and terraces) and is dominated by tidal (ranges > 4 m) and wind driven currents which are dependent on season (DEWHA, 2007).

The Indonesian Throughflow brings southwest flowing, less saline, warm waters from the tropics, however the internal gyres generate local currents in any direction. As these gyres migrate through the area, large spatial variations in the speed and direction of currents will occur at a given location over time. The Holloway current, which flows southwest and close to the coastline, intensifies during April to July due to increased wind forcing.

A comprehensive description of the circulation patterns of the Northwest Shelf and Timor Sea is provided in a review by Condie and Andrewartha (2008). A schematic of the ocean currents along the Northwest Australian continental shelf is shown in Figure 3.1.

While, the tidal currents are generally weaker in the deeper waters (beyond the Gulf), its influence is greatest along the near shore, within the Gulf, coastal passage regions and, in and around the islands. Therefore, to accurately account for the movement of an oil spill, which can move between the offshore and near shore region, ocean and tidal currents were combined as part of the study.

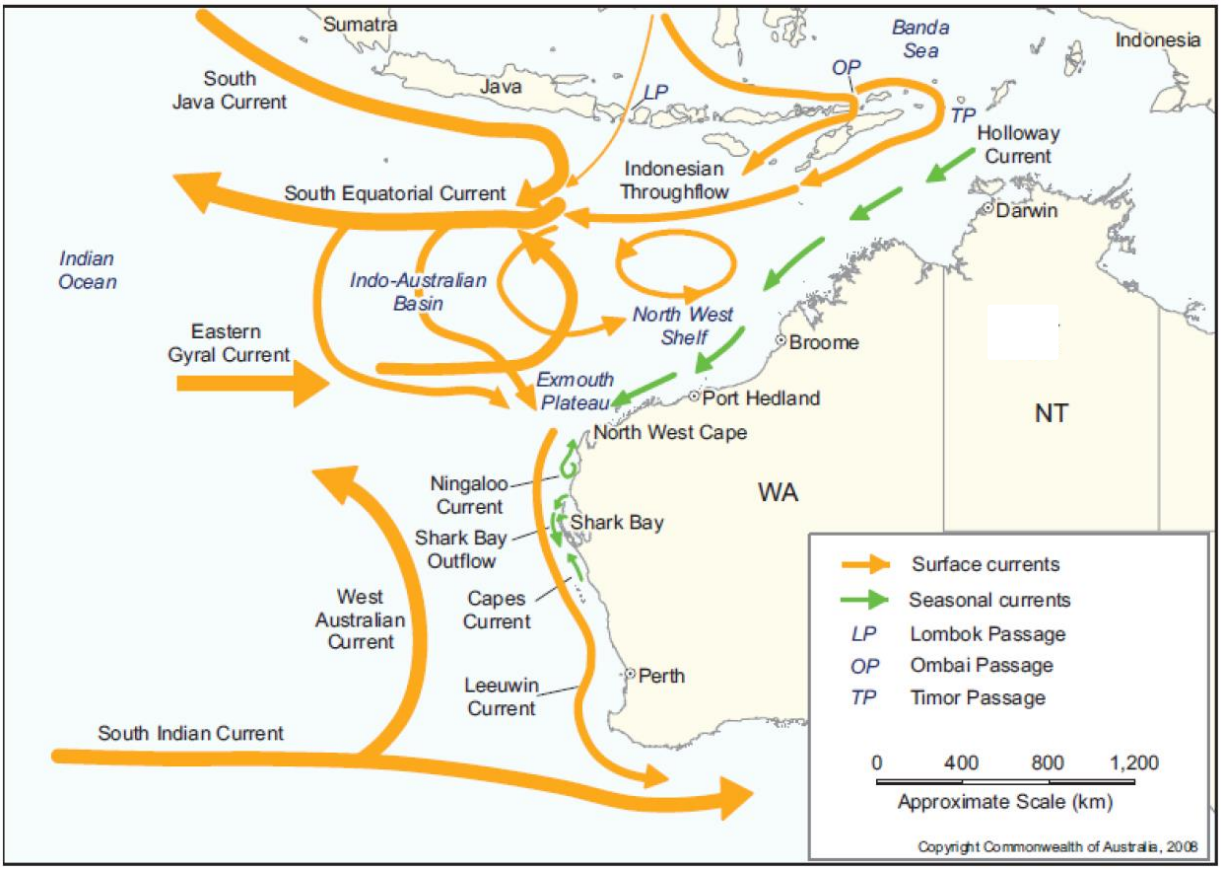

Figure 3.1 Schematic of ocean currents along the Northwest Australian continental shelf. Image adapted from DEWHA (2008).

3.1 Tidal currents

Tidal current data was generated using RPS's advanced ocean/coastal model, HYDROMAP. The HYDROMAP model has been thoroughly tested and verified through field measurements throughout the world for more than 30 years (Isaji & Spaulding, 1984; Isaji, et al., 2001; Zigic, et al., 2003). HYDROMAP tidal current data has been used as input to forecast (in the future) and hindcast (in the past) pollutant spills in Australian waters and forms part of the Australian National Oil Spill Emergency Response System operated by AMSA (Australian Maritime Safety Authority).

HYDROMAP employs a sophisticated sub-gridding strategy, which supports up to six levels of spatial resolution, halving the grid cell size as each level of resolution is employed. The sub-gridding allows for higher resolution of currents within areas of greater bathymetric and coastline complexity, and/or of interest to a study.

The numerical solution methodology follows that of Davies (1977a and 1977b) with further developments for model efficiency by Owen (1980) and Gordon (1982). A more detailed presentation of the model can be found in Isaji and Spaulding (1984) and Isaji et al. (2001).

3.1.1 Grid Setup

RPS has a global tidal model with global coverage. The model is sub-gridded to a resolution of 500 m for shallow and coastal regions, starting from an offshore (or deep water) resolution of 8 km. The finer grids are progressively allocated in a step-wise fashion to more accurately resolve flows along the coastline, around islands and over regions with more complex bathymetry. Figure 3.2 shows the tidal model grid covering the study domain.

A combination of datasets was used and merged to describe the shape of the seabed within the grid domain (Figure 3.3). These included spot depths and contours which were digitised from nautical charts released by the hydrographic offices as well as Geoscience Australia database and depths extracted from the Shuttle Radar Topography Mission (SRTM30_PLUS) Plus dataset (see Becker et al., 2009).

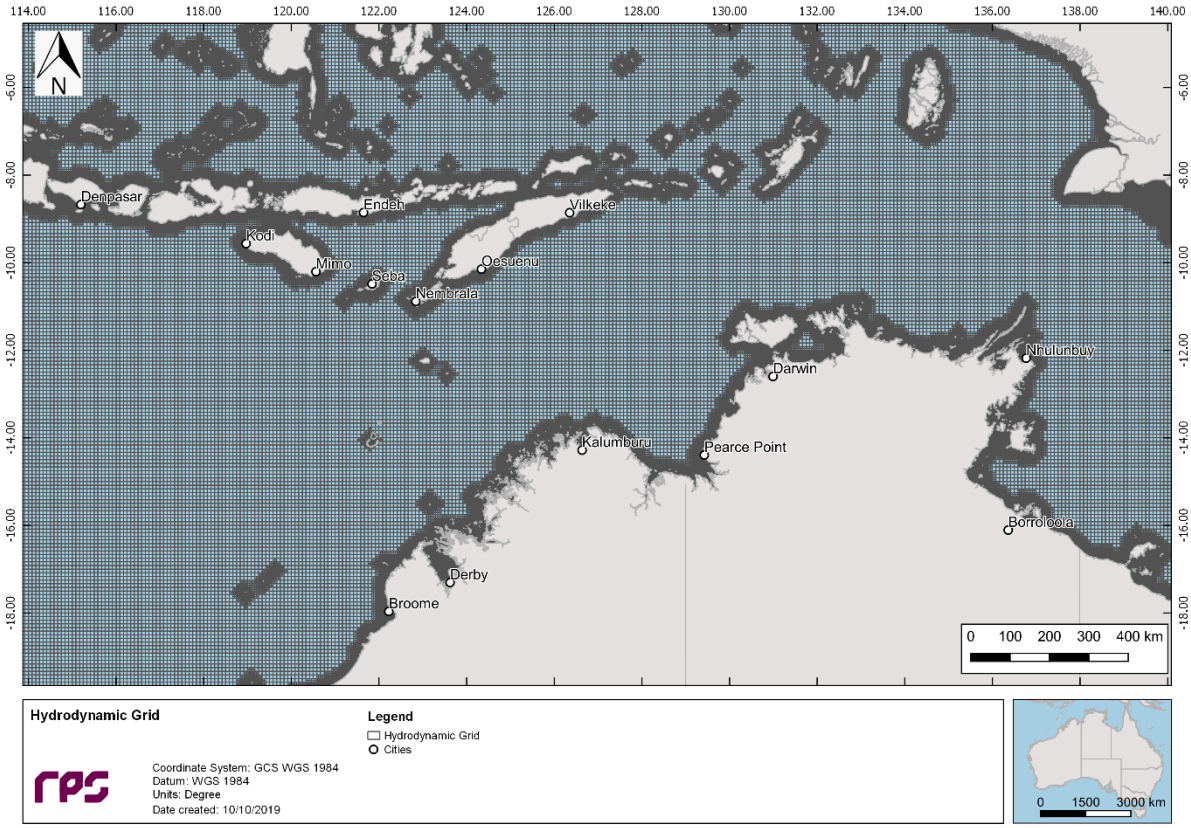

Figure 3.2 Sample of the model grid used to generate the tidal currents for the study region. Higher resolution areas are shown by the denser mesh.

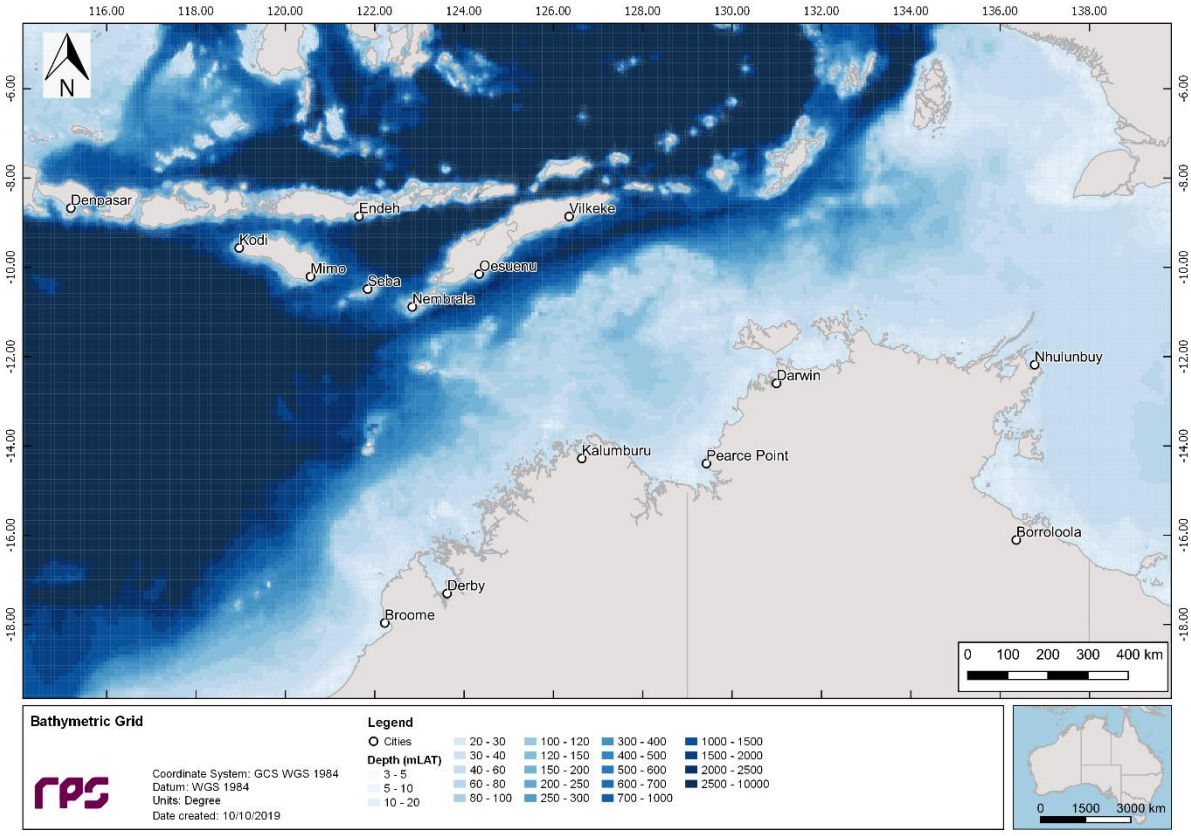

Figure 3.3 Bathymetry defined throughout the tidal model domain.

3.1.2 Tidal Conditions

The ocean boundary data for the regional model was obtained from satellite measured altimetry data (TOPEX/Poseidon 8.0) which provided estimates of the eight dominant tidal constituents at a horizontal scale of approximately 0.25 degrees. The eight major tidal constituents used were K_2, S_2, M_2, N_2, K_1, P_1, O_1 and Q_1. Using the tidal data, time series surface heights were calculated along the open boundaries for the simulation period.

The Topex/Poseidon satellite data has a resolution of 0.25 degrees globally, with higher resolution in coastal regions, and is produced and quality controlled by NASA (National Aeronautics and Space Administration). The data capturing satellites, equipped with two altimeters capable of taking sea level measurements accurate to less than ± 5 cm, measured oceanic surface elevations (and the resultant tides) for the period 1992–2005. In total these satellites carried out 62,000 orbits of the planet. The Topex-Poseidon tidal data has been widely used amongst the oceanographic community, being referenced in more than 2,100 research publications (e.g. Andersen, 1995; Ludicone et al., 1998; Matsumoto et al., 2000; Kostianoy et al., 2003; Yaremchuk & Tangdong, 2004; Qiu & Chen 2010). The Topex/Poseidon tidal data is considered suitably accurate for this study.

3.1.3 Surface Elevation Validation

To ensure that tidal predictions were accurate, predicted surface elevations were compared to data observed at a location situated within the study area (Figure 3.4).

To provide a statistical measure of the model performance, the Index of Agreement (IOA – Willmott, 1981) and the Mean Absolute Error (MAE – Willmott, 1982; Willmott & Matsuura, 2005) were used.

The MAE (Eq.1) is simply the average of the absolute values of the difference between the model-predicted (P) and observed (O) variables. It is a more natural measure of the average error (Willmott and Matsuura, 2005) and more readily understood. The MAE is determined by:

$$MAE = N^{-1} \sum_{i=1}^{N} |P_i - O_i| \qquad \text{Eq.1}$$

Where: N = Number of observations

Pi = Model predicted surface elevation

Oi = Observed surface elevation

The Index of Agreement (IOA; Eq. 2) in contrast, gives a non-dimensional measure of model accuracy or performance. A perfect agreement between the model predicted and observed surface elevations exists if the index gives an agreement value of 1, and complete disagreement between model and observed surface elevations will produce an index measure of 0 (Wilmott, 1981). Willmott et al. (1985) also suggests that values larger than 0.5 may represent good model performance. The IOA is determined by:

$$IOA = 1 - \frac{\sum |X_{model} - X_{obs}|^2}{\sum (|X_{model} - \overline{X_{obs}}| + |X_{obs} - \overline{X_{obs}}|)^2} \qquad \text{Eq.2}$$

Where: Xmodel = Model predicted surface elevation

Xobs = Observed surface elevation

Clearly, a greater IOA and lower MAE represent a better model performance.

Figure 3.5 and Figure 3.6illustrate a comparison of the predicted and observed surface elevations in January 2014. As shown on the graph, the model accurately reproduced the phase and amplitudes throughout the spring and neap tidal cycles.

Table 3.1 shows the IOA and MAE values for the selected tide station locations indicating that the model is performing well.

Table 3.1 Statistical comparison between the observed and HYDROMAP predicted surface elevations.

Tide Station	IOA	MAE (m)
Calder Shoal	0.95	0.21
Evans Shoal	0.97	0.14
Lacrosse Island	0.97	0.44
Snake Bay	0.98	0.16
The Boxers	0.94	0.23

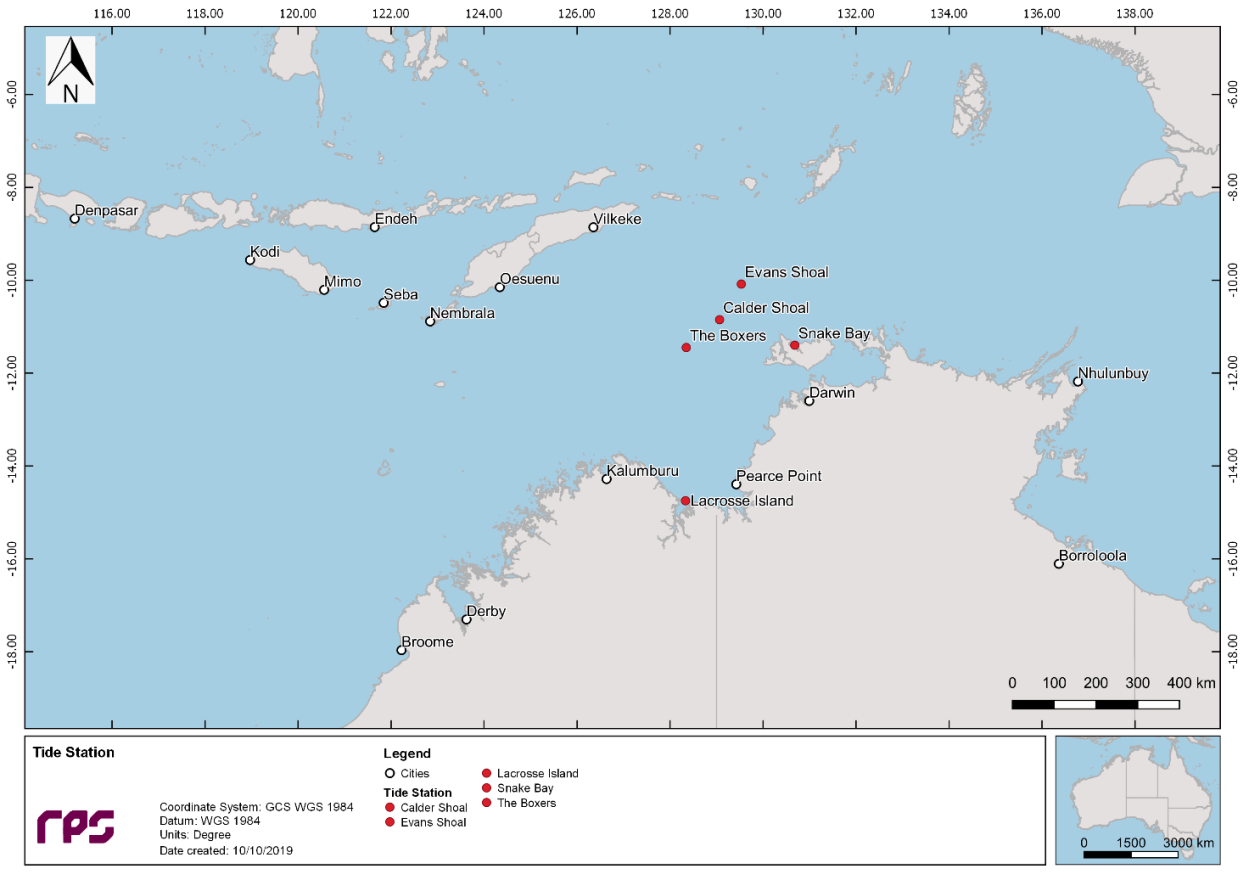

Figure 3.4 Location of the tide stations used in the surface elevation validation.

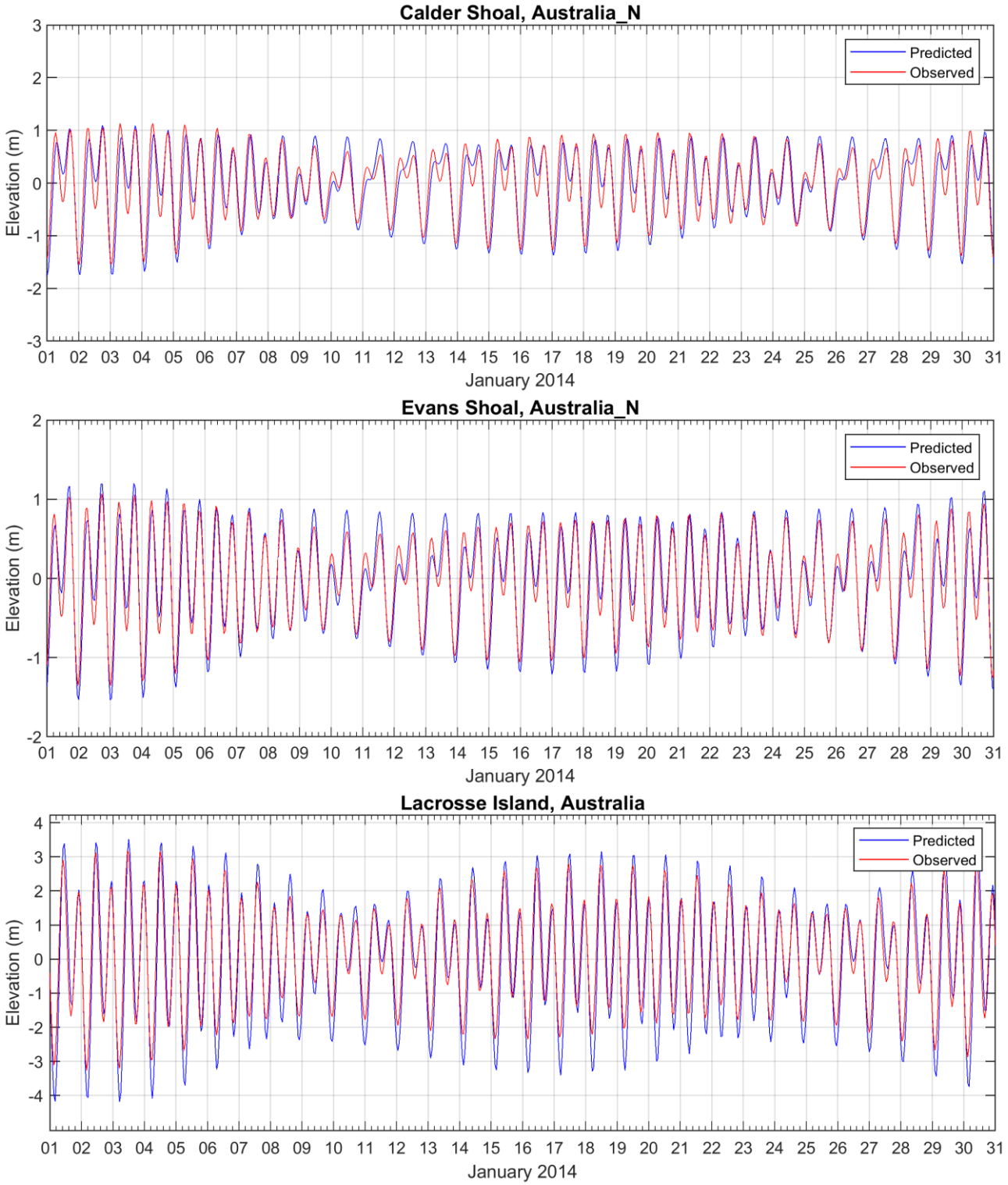

Figure 3.5 Comparison between HYDROMAP predicted (blue line) and observed (red line) surface elevation at tidal stations Calder Shoal (upper image), Evans Shoal (middle image) and Lacrosse Island (lower image).

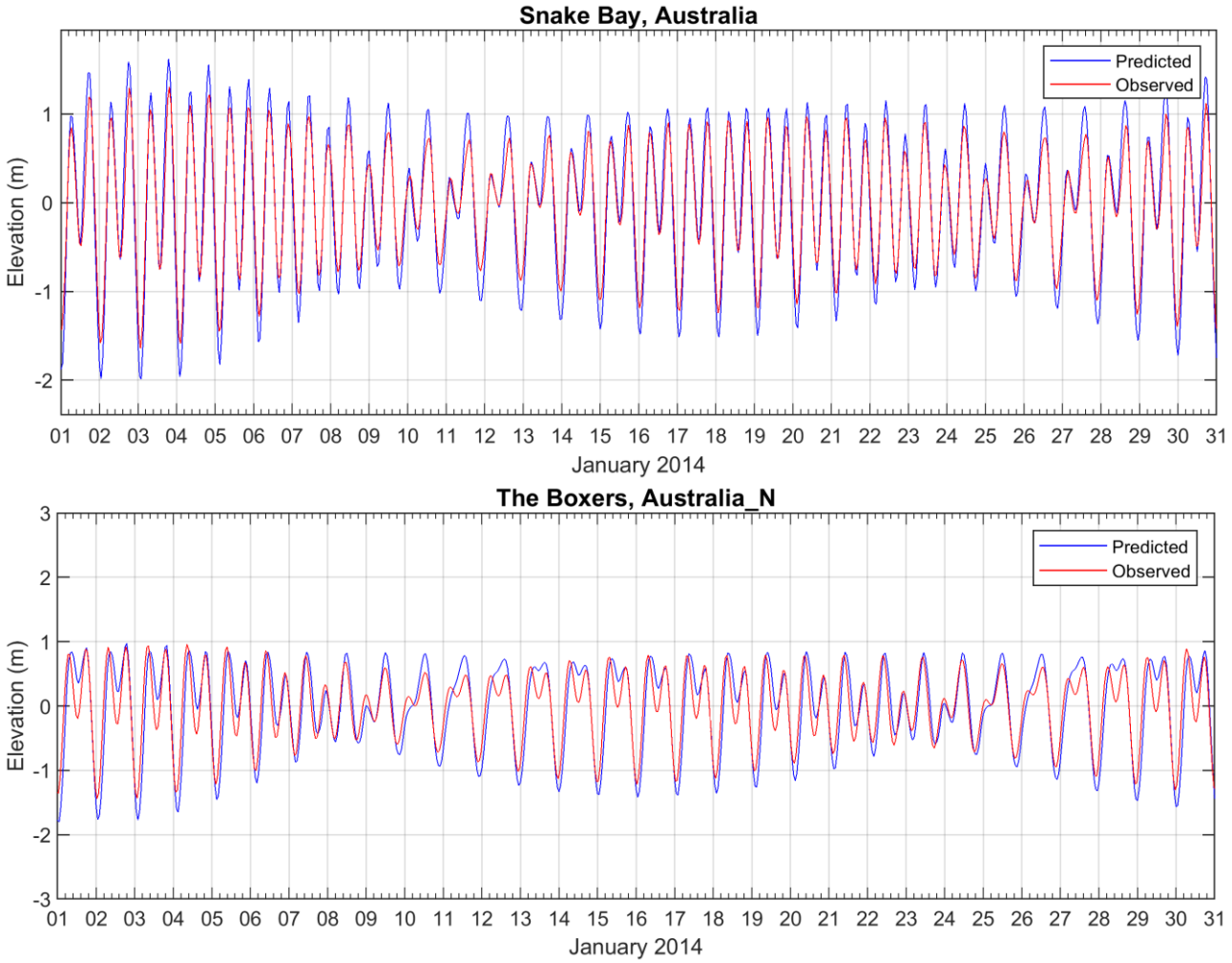

Figure 3.6 Comparison between HYDROMAP predicted (blue line) and observed (red line) surface elevation at tidal stations Snake Bay (upper image) and The Boxers (lower image).

3.2 Ocean Currents

Data describing the flow of ocean currents was obtained from HYCOM (Hybrid Coordinate Ocean Model, (Chassignet et al., 2007), which is operated by the HYCOM Consortium, sponsored by the Global Ocean Data Assimilation Experiment (GODAE). HYCOM is a data-assimilative, three-dimensional ocean model that is run as a hindcast (for a past period), assimilating time-varying observations of sea surface height, sea surface temperature and in-situ temperature and salinity measurements (Chassignet et al., 2009). The HYCOM predictions for drift currents are produced at a horizontal spatial resolution of approximately 8.25 km (1/12th of a degree) over the region, at a frequency of once per day. HYCOM uses isopycnal layers in the open, stratified ocean, but uses the layered continuity equation to make a dynamically smooth transition to a terrain-following coordinate in shallow coastal regions, and to z-level coordinates in the mixed layer and/or unstratified seas.

For this study, the HYCOM hindcast currents were obtained for the years 2010 to 2019 (inclusive). Figure 3.7 illustrates the spatial resolution of HYCOM currents.

Table 3.2 presents the average and maximum net current speeds from combined HYCOM and tidal currents nearby the Beehive-1 release location. Current speed and direction in the study area were shown to be dominated by the tides, flowing predominantly along the northwest to southeast axis. The monthly current speeds averaged between 0.33 to 0.40 m/s and reached a peak of 0.96 to 1.17 m/s.

Figure 3.8 and Figure 3.9 show the monthly and total current rose distributions resulting from the combination of HYCOM ocean current data and HYDROMAP tidal data nearby the release location.

Note the convention for defining current direction is the direction the current flows towards, which is used to reference current direction throughout this report. Each branch of the rose represents the currents flowing to that direction, with north to the top of the diagram. Sixteen directions are used. The branches are divided into segments of different colour, which represent the current speed ranges for each direction. Speed intervals of 0.1 m/s are predominantly used in these current roses. The length of each coloured segment is relative to the proportion of currents flowing within the corresponding speed and direction.

Table 3.2 Predicted monthly average and maximum surface current speeds nearby the Beehive-1 release location. The data was derived by combining the HYCOM ocean data and HYDROMAP tidal data from 2010–2019 (inclusive).

Season	Month	Average current speed (m/s)	Maximum current speed (m/s)	General direction (Towards)
Summer	January	0.35	1.10	Northwest and Southeast
	February	0.37	1.12	
Transitional	March	0.40	1.05	
Winter	April	0.39	1.06	
	May	0.35	1.17	
	June	0.34	1.07	
	July	0.35	0.96	
	August	0.37	1.15	
Transitional	September	0.39	1.10	
Summer	October	0.37	1.09	
	November	0.34	1.06	
	December	0.33	0.98	
Minimum		0.33	0.96	
Maximum		0.40	1.17	

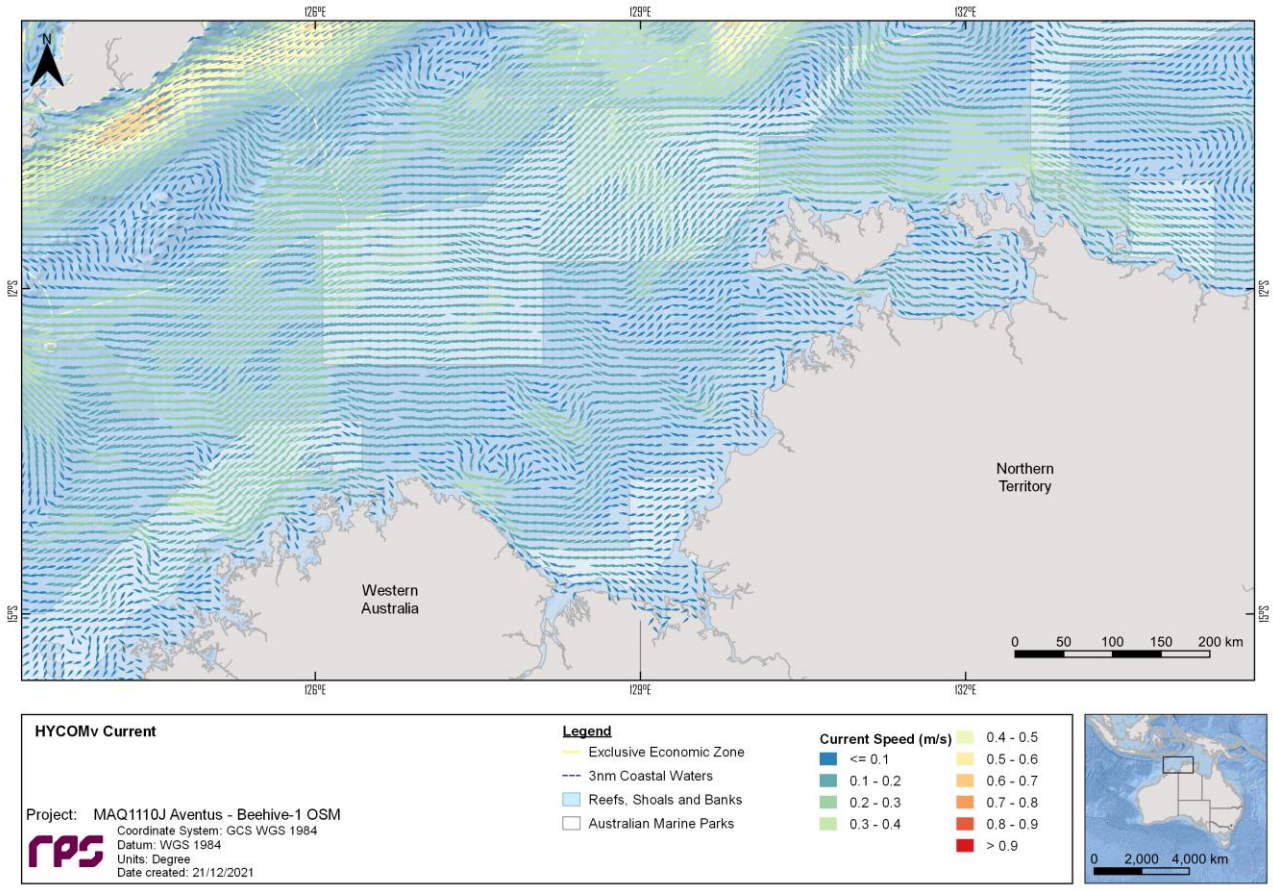

Figure 3.7 Map illustrating the spatial resolution of HYCOM currents.

RPS Data Set Analysis

Current Speed (m/s) and Direction Rose (All Records)

Longitude = 128.57°E, Latitude = 14.05°S
Analysis Period: 01-Jan-2010 to 31-Dec-2019

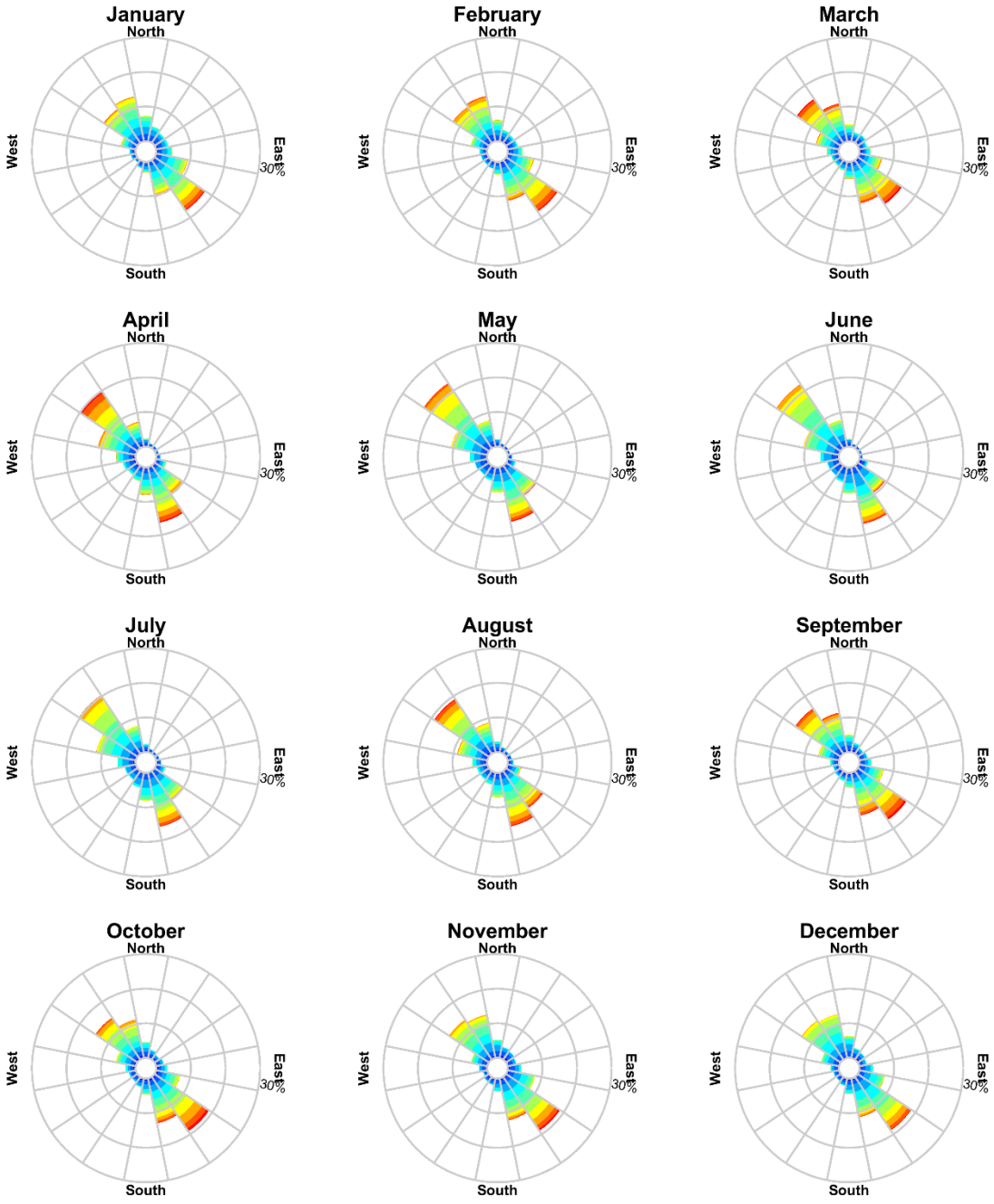

Figure 3.8 Monthly surface current rose plots nearby the Beehive-1 release location (derived by combining the HYDROMAP tidal currents and HYCOM ocean currents for 2010–2019 (inclusive).

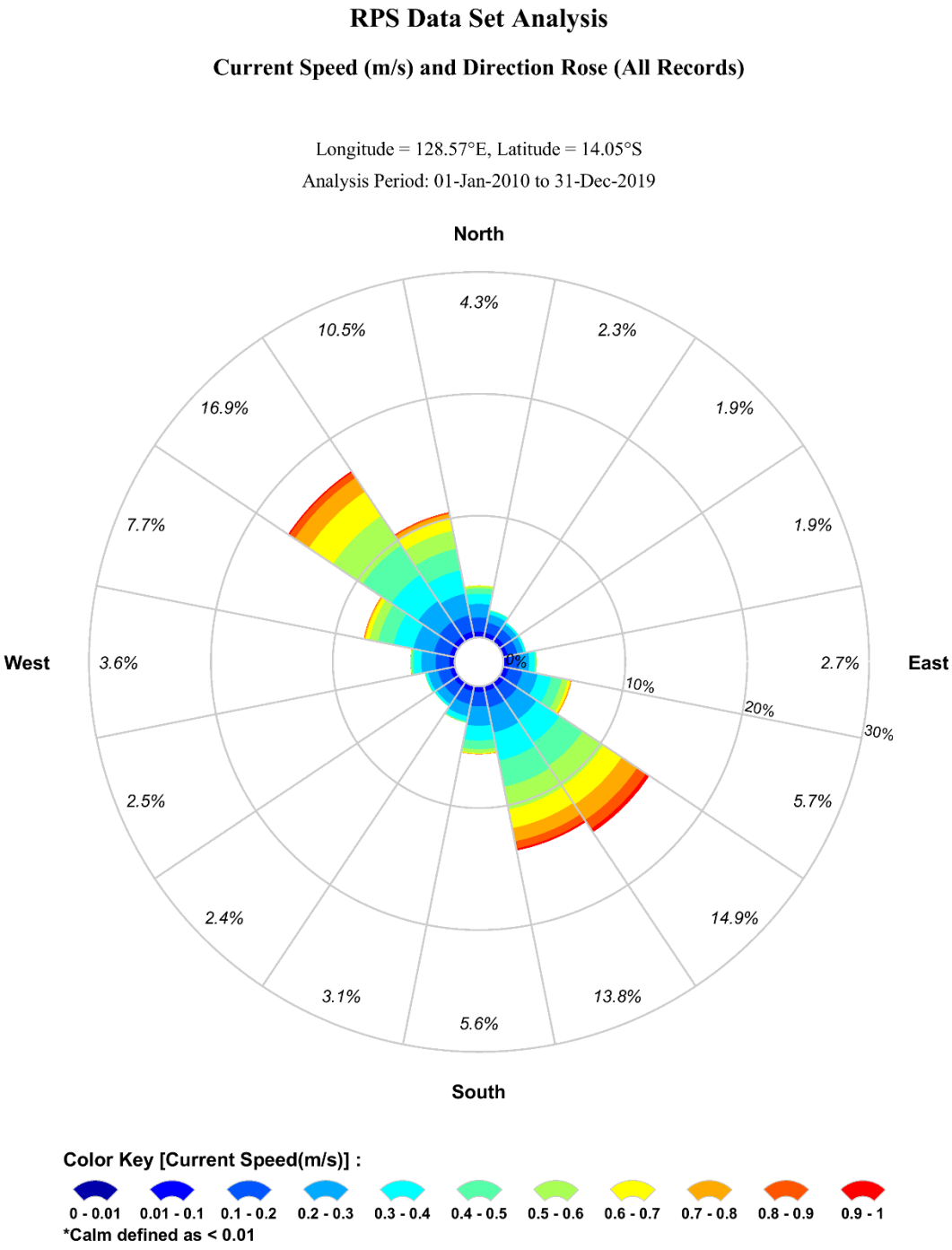

Figure 3.9 Modelled total surface current rose plot nearby the Beehive-1 release location (derived by combining the HYDROMAP tidal currents and HYCOM ocean currents for 2010–2019 (inclusive).

4 WIND DATA

High resolution wind data was sourced from the National Centre for Environmental Prediction (NCEP) Climate Forecast System Reanalysis dataset (CFSR; see Saha et al., 2010). The CFSR wind model is a fully coupled, data-assimilative hindcast model representing the interaction between the earth's oceans, land and atmosphere. The gridded wind data output is available at ¼ of a degree resolution (~33 km) and 1-hourly time intervals.

The CFSR wind data for the years 2010–2019 (inclusive) was extracted across the entire current model domain for input into the oil spill model. Figure 4.1 shows the spatial resolution of the wind field used as input into the oil spill model. Table 4.1 presents the monthly average and maximum winds derived from a CFSR wind node nearby the release location.

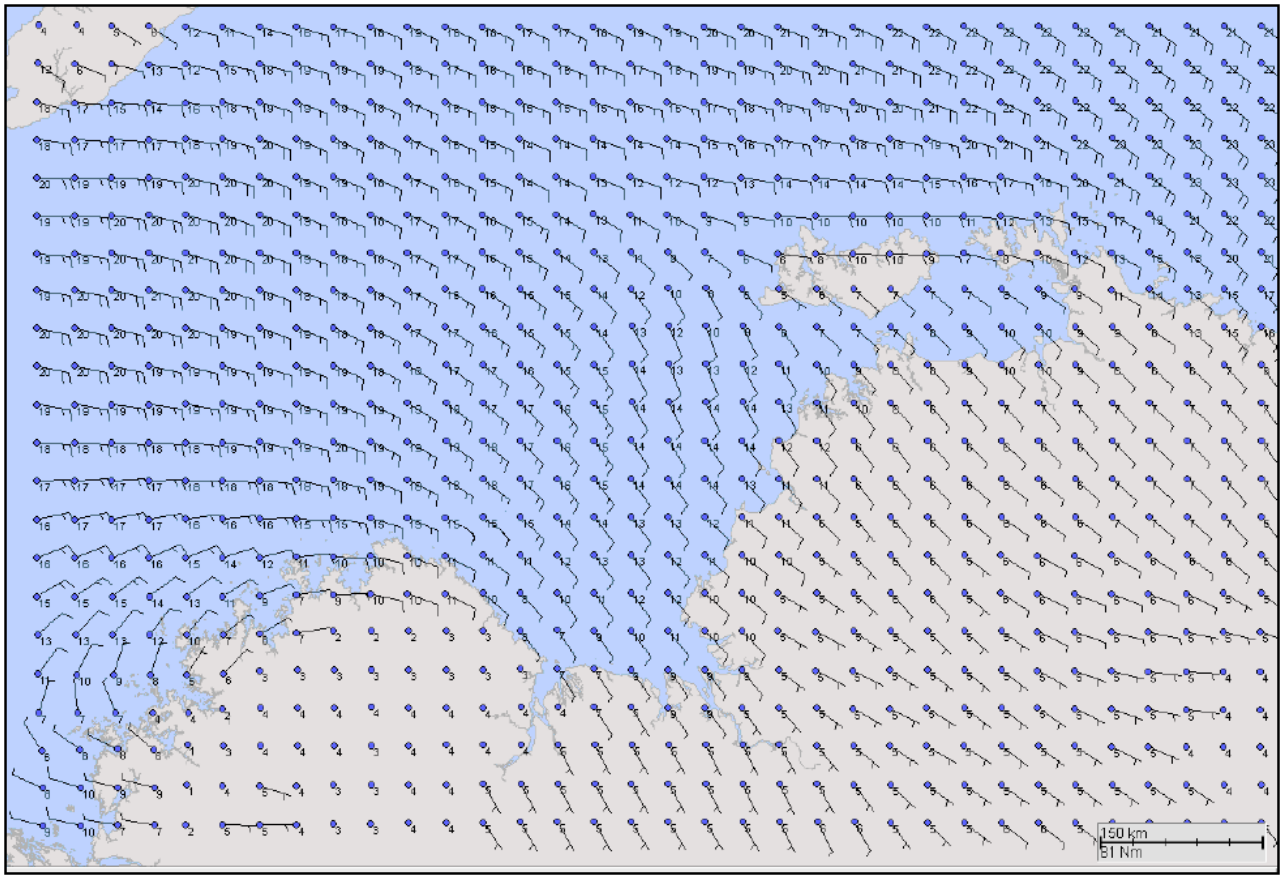

Figure 4.1 Spatial resolution of the CFSR modelled wind data used as input into the oil spill model.

Figure 4.2 and Figure 4.3 show the monthly and total wind rose distributions derived from the CFSR data for the nearest CFSR wind node to the release location. The wind data demonstrated a clear seasonality throughout the year with winds from the west-northwest in summer and southeast during the winter months. Monthly average wind speeds ranged between 8.7 and 14.1 knots whilst monthly maximums oscillated between 24.1 and 46.2 knots.

Note that the atmospheric convention for defining wind direction, that is, the direction the wind blows from, is used to reference wind direction throughout this report. Each branch of the rose represents wind coming from that direction, with north to the top of the diagram. Sixteen directions are used. The branches are divided into segments of different colour, which represent wind speed ranges from that direction. Speed ranges of 3 knots are predominantly used in these wind roses. The length of each segment within a branch

is proportional to the frequency of winds blowing within the corresponding range of speeds from that direction.

Table 4.1 Predicted average and maximum winds for the nearest CFSR wind node to the Beehive-1 release location. Data derived from CFSR hindcast model from 2010–2019 (inclusive).

Season	Month	Average wind speed (knots)	Maximum wind speed (knots)	General direction (from)
Summer	January	13.2	44.9	West-Northwest
	February	11.4	35.2	
Transitional	March	9.7	46.2	Variable
Winter	April	9.3	32.7	Southeast
	May	11.7	28.8	
	June	14.1	27.4	
	July	12.3	30.9	
	August	10.4	29.5	
Transitional	September	8.7	29.3	Variable
Summer	October	8.8	24.7	West-Northwest
	November	8.8	24.1	
	December	9.9	35.9	
Minimum		8.7	24.1	
Maximum		14.1	46.2	

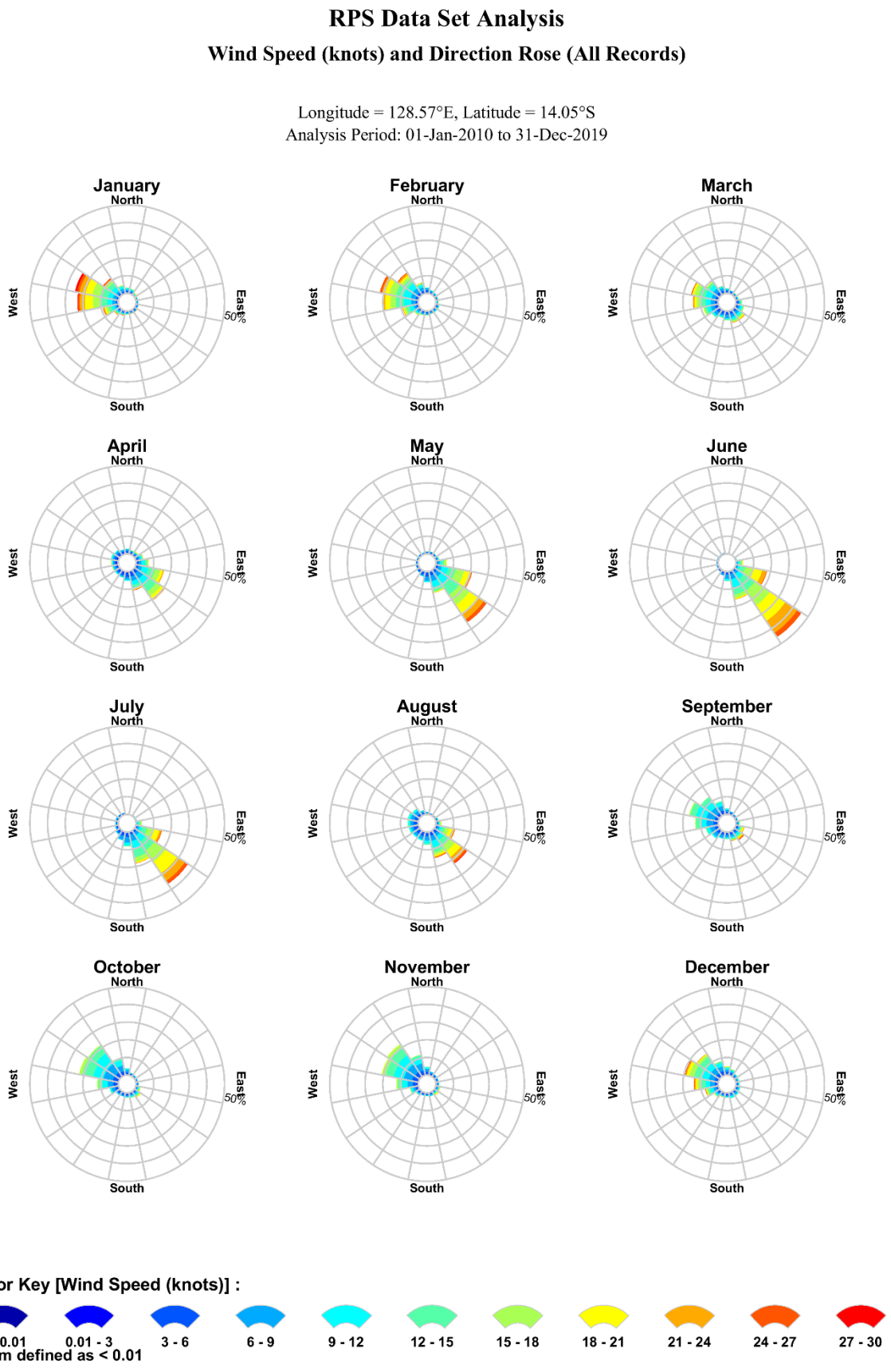

Figure 4.2 Modelled monthly wind rose distributions from 2010–2019 (inclusive), for the closest wind node to the Beehive-1 release location.

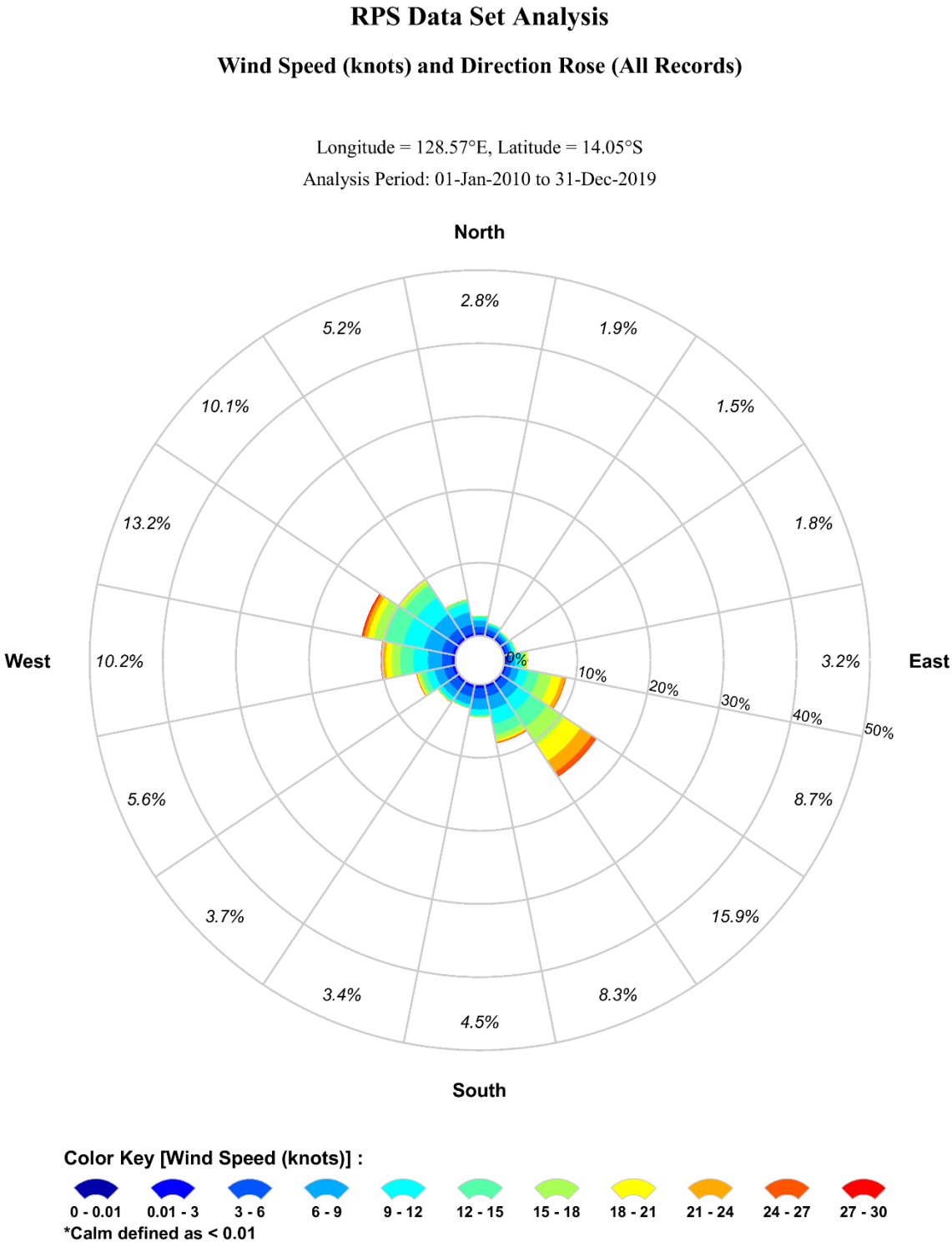

Figure 4.3 Modelled total wind rose distributions from 2010–2019 (inclusive), for the closest wind node to the Beehive-1 release location.

5 WATER TEMPERATURE AND SALINITY

The monthly sea temperature and salinity profiles of the water column within the study was obtained from the World Ocean Atlas 2013 database produced by the National Oceanographic Data Centre (National Oceanic and Atmospheric Administration) and its co-located World Data Center for Oceanography (see Levitus et al., 2013).

To account for depth-varying sea temperature and salinity the modelling used monthly average sea temperature and salinity profiles. Table 5.1 presents the sea temperature and salinity of the surface layer nearby the release sites.

The monthly average sea surface temperatures ranged between 25.9°C (July) and 30.9°C (March). The monthly average salinity values remain relatively consistent ranging between 33.4 psu and 35.2 psu, observed during April and October, respectively.

These parameters were used as factors to inform the weathering, movement and evaporative loss of hydrocarbon spills in the surface and sub-surface layers.

Figure 5.1 illustrates the vertical profile of sea temperature and salinity nearby the release location.

Table 5.1 Monthly average sea surface temperature and salinity in the study area.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (ºC)	29.5	30.1	30.9	29.6	28.0	26.8	25.9	26.4	26.8	28.6	30.1	30.0
Salinity (psu)	34.1	34.5	34.9	33.4	33.6	34.8	34.3	34.8	34.2	35.2	34.8	34.8

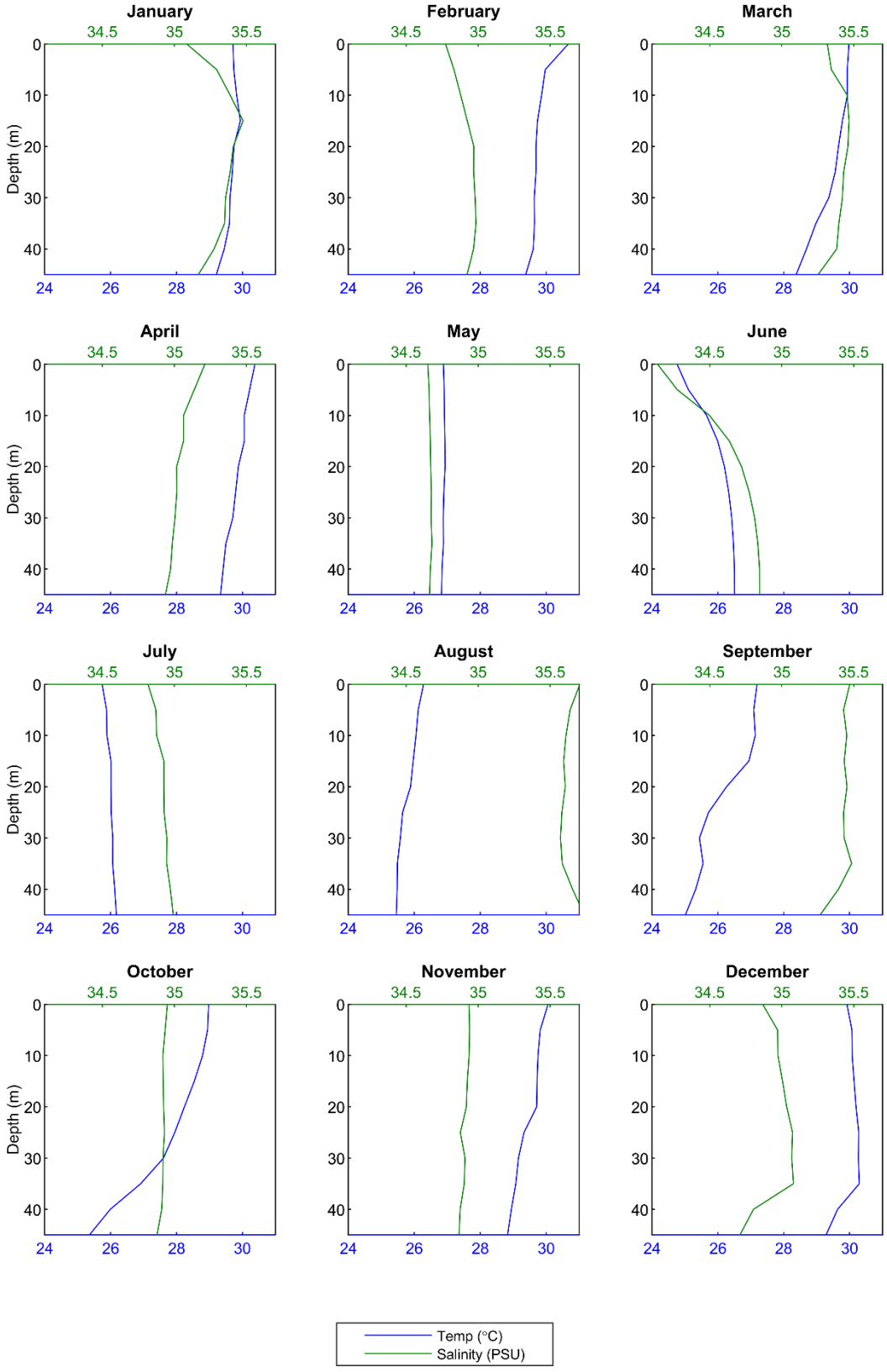

Figure 5.1 Temperature and salinity profiles nearby the Beehive-1 release location.

6 OIL SPILL MODEL – SIMAP

Modelling of the fate of oil was performed using the Spill Impact Mapping Analysis Program (SIMAP). SIMAP is designed to simulate the fate and effects of spilled hydrocarbons for both the surface and subsurface releases (Spaulding et al., 1994; French et al., 1999; French-McCay, 2003, 2004; French-McCay et al., 2004).

SIMAP has been used to predict the weathering and fate of oil spills during and after major incidents including: Montara (Australia) well blowout August 2009 in the Timor Sea (Asia-Pacific ASA, 2010); Macondo (USA) well blowout April 2010 in the Gulf of Mexico; Bohai Bay (China) oil spill August 2011; and the pipeline oil spill July 2013 in the Gulf of Thailand.

The SIMAP model calculates the transport, spreading, entrainment, evaporation and decay of surface hydrocarbon slicks as well as the entrained and dissolved oil components in the water column, either from surface slicks or from oil discharged subsea. The movement and weathering of the spilled oil is calculated for specific oil types. Input specifications for oil mixtures include the density, viscosity, pour point, distillation curve (volume lost versus temperature) and the aromatic/aliphatic component ratios within given boiling point ranges.

SIMAP is a three-dimensional model that allows for various response actions to be modelled including oil removal from skimming, burning, or collection booms, and surface and subsurface dispersant application.

The SIMAP oil spill model includes advanced weathering algorithms, specifically focussed on unique oils that tend to form emulsions and/or tar balls. The weathering algorithms are based on 5 years of extensive research conducted in response to the Deepwater Horizon oil spill in the Gulf of Mexico (French-McCay et al., 2015).

Biodegradation is included in the oil spill model. In the model, SIMAP, degradation is calculated for the surface slick, deposited oil on the shore, the entrained oil and dissolved constituents in the water column, and oil in the sediments. For surface oil, water column oil and sedimented oil, a first order degradation rate is specified. Biodegradation rates are relatively high for hydrocarbons in dissolved state or in dispersed small droplets.

6.1 Stochastic Modelling

Stochastic oil spill modelling is created by overlaying a great number (often 100 hundred) simulated hypothetical oil spills (Section 1.2.1). Stochastic modelling involves running numerous individual oil spill simulations using a range of prevailing wind and current conditions that are historically representative of the season and location of where the spill event may occur.

For the stochastic modelling undertaken in this study, 100 oil spills were modelled per season (300 spills in total) using the same spill information (spill volume, duration and oil type) but with varied start dates and times. During each simulation, the model records whether any grid cells are exposed to any oil concentrations, the concentrations involved and the elapsed time before exposure. The results of all 100 oil spill simulations (per season) were analysed to determine the following annualised statistics for every grid cell:

- Exposure load (concentrations and volumes);
- Minimum time before exposure;
- Probability of contact above defined concentrations;
- Volume of oil that may strand on shorelines from any single simulation;

- Concentration that might occur on sections of individual shorelines;
- Exposure (instantaneous and/or over a specified duration) to dissolved hydrocarbons in the water column; and
- Exposure (instantaneous and/or over a specified duration) to entrained hydrocarbons in the water column.

6.1 Floating, Shoreline and In-Water Thresholds

The thresholds and their relationship to exposure for the sea surface, shoreline, and water column (entrained and dissolved hydrocarbons) are presented in Sections 6.1.1 to 6.1.3. Supporting justifications of the adopted thresholds applied during the study and additional context relating to the area of influence are also provided. It is important to note that the thresholds herein are based on NOPSEMA (2019).

6.1.1 Floating Oil Exposure Thresholds

The modelling results can be presented to any levels; therefore, thresholds have been specified (based on scientific literature) to record floating oil exposure to the sea-surface at meaningful levels only, described in the following paragraphs.

The low threshold to assess the potential for floating oil exposure, was 1 g/m^2, which equates approximately to an average thickness of 1 µm, referred to as visible oil. Oil of this thickness is described as rainbow sheen in appearance, according to the Bonn Agreement Oil Appearance Code (Bonn Agreement, 2009; AMSA, 2014) (see Table 6.1). Figure 6.1 shows photographs highlighting the difference in appearance between a silvery sheen, rainbow sheen and metallic sheen. This threshold is considered below levels which would cause environmental harm and it is more indicative of the areas perceived to be affected due to its visibility on the sea surface and potential to trigger temporary closures of areas (i.e., fishing grounds) as a precautionary measure. Table 6.1 provides a description of the appearance in relation to exposure zone thresholds used to classify the zones of floating oil exposure.

Ecological impact has been estimated to occur at 10 g/m^2 (a film thickness of approximately 10 µm or 0.01 mm) according to French et al. (1996) and French-McCay (2009) as this level of fresh oiling has been observed to mortally impact some birds through adhesion of oil to their feathers, exposing them to secondary effects such as hypothermia. The appearance of oil at this average thickness has been described as a metallic sheen (Bonn Agreement, 2009). Concentrations above 10 g/m^2 is also considered the lower actionable threshold, where oil may be thick enough for containment and recovery as well as dispersant treatment (AMSA, 2015).

Scholten et al. (1996) and Koops et al. (2004) indicated that at oil concentrations on the sea surface of 25 g/m^2 (or greater), would be harmful for all birds that have landed in an oil film due to potential contamination of their feathers, with secondary effects such as loss of temperature regulation and ingestion of oil through preening. The appearance of oil at this thickness is also described as metallic sheen (Bonn Agreement, 2009). For this study the high exposure threshold was set to 50 g/m^2 and above based on NOPSEMA (2019). This threshold can also be used to inform response planning.

Table 6.2 defines the thresholds used to classify the zones of floating oil exposure reported herein.

Table 6.1 The Bonn Agreement Oil Appearance Code.

Code	Description Appearance	Layer Thickness Interval (g/m^2 or µm)	Litres per km^2
1	Sheen (silvery/grey)	0.04 - 0.30	40 - 300
2	Rainbow	0.30 – 5.0	300 – 5,000
3	Metallic	5.0 – 50	5,000 – 50,000
4	Discontinuous True Oil Colour	50 – 200	50,000 – 200,000
5	Continuous True Oil Colour	≥ 200	≥ 200,000

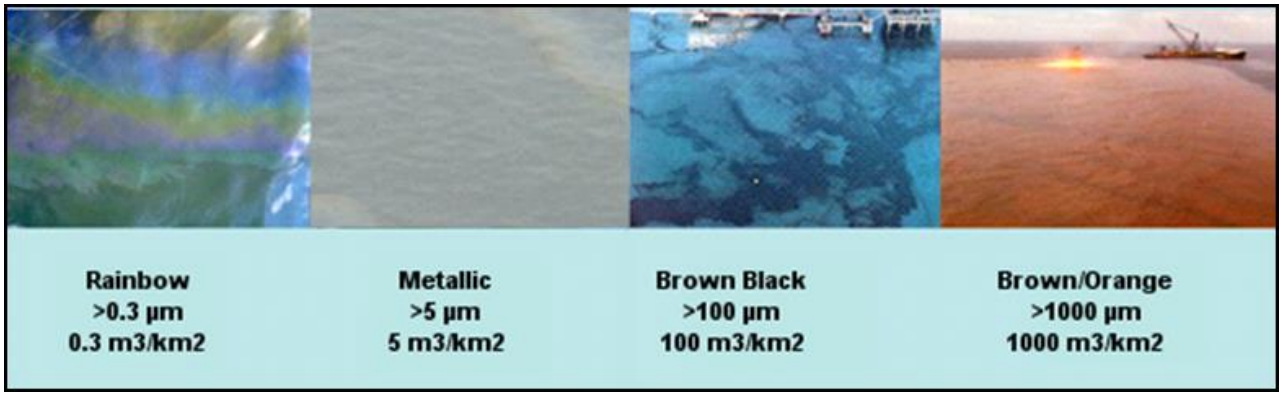

Figure 6.1 Photographs showing the difference between oil colour and thickness on the sea surface (source: adapted from Oilspillsolutions.org, 2015).

Table 6.2 Floating oil exposure thresholds used in this report (in alignment with NOPSEMA (2019)).

Threshold level	Floating oil (g/m^2)	Description
Low	1	Approximates range of socio-economic effects and establishes planning area for scientific monitoring
Moderate	10	Approximates lower limit for harmful exposures to birds and marine mammals
High	50*	Approximates surface oil slick and informs response planning

* 50 g/m^2 also used to define the threshold for actionable floating oil.

6.1.2 Shoreline Accumulation Thresholds

There are many different types of shorelines, ranging from cliffs, rocky beaches, sandy beaches, mud flats and mangroves, and each of these influences the volume of oil that can remain stranded ashore and its thickness before the shoreline saturation point occurs. For instance, a sandy beach may allow oil to percolate through the sand, thus increasing its ability to hold more oil ashore over tidal cycles and various wave actions than an equivalent area of water; hence oil can increase in thickness onshore over time. A rocky shoreline was assumed as the default shoreline type for the modelling in this study, as a large part of the shoreline in the study area (especially the western part of the Joseph Bonaparte Gulf) is characterised by exposed rocky shorelines.

In previous risk assessment studies, French-McCay et al. (2005a; 2005b) used a threshold of 10 g/m2 to assess the potential for shoreline accumulation. This is a conservative threshold used to define regions of socio-economic impact, such as triggering temporary closures of adjoining fisheries or the need for shore clean-up on beaches or man-made features/amenities (breakwaters, jetties, marinas, etc.). It would equate to approximately 2 teaspoons of hydrocarbon per square meter of shoreline accumulation. The appearance is described as a stain/film. On that basis, the 10 g/m^2 shoreline accumulation threshold has been selected to define the zone of potential “low shoreline accumulation”.

French et al. (1996) and French-McCay (2009) define a shoreline oil accumulation threshold of 100 g/m2, or above, would potentially harm shorebirds and wildlife (fur-bearing aquatic mammals and marine reptiles on or along the shore) based on studies for sub-lethal and lethal impacts. This threshold has been used in previous environmental risk assessment studies (see French-McCay, 2003; French-McCay et al., 2004, French-McCay et al., 2011; 2012; NOAA, 2013). Additionally, a shoreline concentration of 100 g/m^2, or above, is the minimum concentration that the oil can be effectively cleaned according to AMSA (2015). This threshold equates to approximately ½ a cup of oil per square meter of shoreline accumulation. The appearance is described as a thin oil coat. Therefore, 100 g/m^2 has been selected to define the zone of potential “moderate shoreline accumulation”.

Observations by Lin & Mendelssohn (1996), demonstrated that loadings of more than 1,000 g/m^2 of hydrocarbon during the growing season would be required to impact marsh plants significantly. Similar thresholds have been found in studies assessing hydrocarbon impacts on mangroves (Grant et al., 1993; Suprayogi & Murray, 1999). Hence, 1,000 g/m^2 has been selected to define the zone of potential “high shoreline accumulation”. It equates to approximately 1 litre of hydrocarbon per square meter of shoreline accumulation. The appearance is described as a hydrocarbon cover.

These shoreline accumulation thresholds derived from extensive literature review (outlined in Table 6.3) align with the commonly used threshold values for oil spill modelling specified in NOPSEMA (2019).

Table 6.3 Thresholds used to assess shoreline accumulation.

Threshold level	Shoreline concentration (g/m^2)	Description
Low (socio-economic/sublethal)	10	Predicts potential for some socio-economic impact
Moderate	100*	Loading predicts area likely to require clean-up effort
High	> 1,000	Loading predicts area likely to require intensive clean-up effort

* 100 g/m2 also used to define the threshold for actionable shoreline oil.

6.1.3 In-water Exposure Thresholds

Oil is a mixture of thousands of hydrocarbons of varying physical, chemical, and toxicological characteristics, and therefore, demonstrate varying fates and impacts on organisms. As such, for in-water exposure, the SIMAP model provides separate outputs for dissolved and entrained hydrocarbons from oil droplets. The consequences of exposure to dissolved and entrained components will differ because they have different modes and magnitudes of effect.

Entrained hydrocarbon concentrations were calculated based on oil droplets that are suspended in the water column, though not dissolved. The composition of this oil would vary with the state of weathering (oil age) and may contain soluble hydrocarbons when the oil is fresh. Calculations for dissolved hydrocarbons specifically calculates oil components which are dissolved in water, which are known to be the primary source of toxicity exerted by oil.

6.1.3.1 Dissolved Hydrocarbons

Laboratory studies have shown that dissolved hydrocarbons exert most of the toxic effects of oil on aquatic biota (Carls et al., 2008; Nordtug et al., 2011; Redman, 2015). The mode of action is a narcotic effect, which is positively related to the concentration of soluble hydrocarbons in the body tissues of organisms (French-McCay, 2002). Dissolved hydrocarbons are taken up by organisms directly from the water column by absorption through external surfaces and gills, as well as through the digestive tract. Thus, soluble hydrocarbons are termed “bioavailable”.

Hydrocarbon compounds vary in water-solubility and the toxicity exerted by individual compounds is inversely related to solubility, however bioavailability will be modified by the volatility of individual compounds (Nirmalakhandan & Speece, 1988; Blum & Speece, 1990; McCarty, 1986; McCarty et al., 1992a, 1992b; Mackay et al., 1992; McCarty & Mackay, 1993; Verhaar et al., 1992, 1999; Swartz et al., 1995; French-McCay, 2002; McGrath and Di Toro, 2009). Of the soluble compounds, the greatest contributor to toxicity for water-column and benthic organisms are the lower-molecular-weight aromatic compounds, which are both volatile and soluble in water. Although they are not the most water-soluble hydrocarbons within most oil types, the polynuclear aromatic hydrocarbons (PAHs) containing 2-3 aromatic ring structures typically exert the largest narcotic effects because they are semi-soluble and not highly volatile, so they persist in the environment long enough for significant accumulation to occur (Anderson et al., 1974, 1987; Neff & Anderson, 1981; Malins & Hodgins, 1981; McAuliffe, 1987; NRC, 2003). The monoaromatic hydrocarbons (MAHs), including the BTEX compounds (benzene, toluene, ethylbenzene, and xylenes), and the soluble alkanes (straight chain hydrocarbons) also contribute to toxicity, but these compounds are highly volatile, so that their contribution will be low when oil is exposed to evaporation and higher when oil is discharged at depth where volatilisation does not occur (French-McCay, 2002).

French-McCay (2002) reviewed available toxicity data, where marine biota was exposed to dissolved hydrocarbons prepared from oil mixtures, finding that 95% of species and life stages exhibited 50% population mortality (LC_{50}) between 6 and 400 ppb total PAH concentration after 96 hrs exposure, with an average of 50 ppb. Hence, concentrations lower than 6 ppb total PAH value should be protective of 97.5% of species and life stages even with exposure periods of days (at least 96 hours). Early life-history stages of fish appear to be more sensitive than older fish stages and invertebrates.

Exceedances of 10, 50 or 400 ppb over a 1 hour timestep (see Table 6.4) were applied in this study to indicate the increasing potential for sub-lethal to lethal toxic effects (or low to high), based on NOPSEMA (2019).

6.1.3.2 Entrained Hydrocarbons

Entrained hydrocarbons consist of oil droplets that are suspended in the water column and insoluble. Insoluble compounds in oil cannot be absorbed from the water column by aquatic organisms, therefore they are not bioavailable through absorption of compounds from the water. Exposure to these compounds would require routes of uptake other than absorption of soluble compounds. The route of exposure of organisms to whole oil alone include direct contact with tissues of organisms and uptake of oil by direct consumption, with potential for biomagnification through the food chain (NRC, 2005).

The 10 ppb threshold represents the very lowest concentration and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in the ANZECC (2000) water quality guidelines. Due to the requirement for relatively long exposure times (> 24 hours) for these concentrations to be expressed, they are likely to be more meaningful for juvenile fish, larvae and planktonic organisms that might be entrained (or otherwise moving) within the entrained plumes, or when entrained hydrocarbons adhere to organisms or trapped against a shoreline for periods of several days or more.

This exposure zone is not considered to be of significant biological impact and is therefore outside the adverse exposure zone. This exposure zone represents the area contacted by the spill. This area does not define the area of influence as it is considered that the environment will not be affected by the entrained hydrocarbon at this level.

Thresholds of 10 ppb and 100 ppb were applied over a 1 hour time exposure (Table 6.4), to cover the range of thresholds outlined in ANZECC, (2000) water quality guidelines, the incremental change for greater potential effect and is per NOPSEMA (2019).

A complicating factor that should be considered when assessing the consequence of dissolved and entrained oil distributions is that there will be some areas where both physically entrained oil droplets and dissolved hydrocarbons co-exist. Higher concentrations of each will tend to occur close to the source where sea conditions can force mixing of relatively unweathered oil into the water column, resulting in more rapid dissolution of soluble compounds.

Table 6.4 Dissolved and entrained hydrocarbon exposure values assessed over a 1-hour time step, as per NOPSEMA (2019).

Threshold level	Dissolved hydrocarbon concentration (ppb)	Entrained hydrocarbon concentrations (ppb)
Low	10	10
Moderate	50	-
High	400	100

7 OIL PROPERTIES

7.1 Oil Characteristics

7.1.1 Overview

Table 7.1 and Table 7.2 present the physical properties and boiling point ranges analogue crude oil used in this study. The analogue crude oil was carefully selected based on EOG recommendations to represent the crude oil likely to be found within permit area WA-488-P, which is likely to have an API gravity of 43° (light crude). EOG narrowed down oils in the region with a similar API to be Jabiru, Puffin, Mutineer-Exeter and Legendre crudes, all of which have APIs between 42 and 44. Based on having an API closest to that expected at Beehive-1, together with being the most conservative in terms of the residual components, EOG elected to use Jabiru crude as the analogue for spill modelling purposes.

Table 7.1 Physical properties of the oil types used in this study.

Characteristic	Crude Oil
Density (kg/m^3)	813.9 (at 15°C)
API	42.3
Dynamic viscosity (cP)	3.0 (at 20°C)
Pour point (°C)	18
Hydrocarbon property category	Group II
Hydrocarbon property classification	Light-persistent

Table 7.2 Boiling point ranges of the oil types used in this study.

Oil Type	Component	Volatile (%)	Semi-volatile (%)	Low-volatility (%)	Residual (%)
	Boiling point (°C)	<180 C_4 to C_{10}	180-160 C_{11} to C_{15}	160-380 C_{16} to C_{20}	>380 >C_{20}
Jabiru crude oil	% of total	24.2	20.9	33.9	21.0

The boiling points (BP) are dictated by the length of the carbon chains, with the longer and more complex compounds having a higher boiling point, and therefore lower volatility and evaporation rate.

The aromatic components within the volatile to low-volatility range are also soluble (with decreasing solubility following decreasing volatility) and will dissolve across the oil-water interface. The rate of dissolution will increase with increased surface area. Hence, dissolution rates will be higher under discharge conditions that generate smaller oil droplets.

Atmospheric weathering will commence if and when oil droplets float to the water surface. Typical evaporation times once the hydrocarbons reach the surface and are exposed to the atmosphere are:

- Up to 12 hours for the C_4 to C_{10} compounds (or less than 180°C BP).
- Up to 24 hours for the C_{11} to C_{15} compounds (180-160°C BP).
- Several days for the C_{16} to C_{20} compounds (160-380°C BP).

- Not applicable for the residual compounds (BP > 380°C), which will resist evaporation, persist in the marine environment for longer periods, and be subject to relatively slow degradation.

The actual fate of released oil in the marine environment will depend greatly on the amount of oil that reaches the surface, either through the initial release or by rising after discharge in the water column.

7.1.2 Crude Oil

The analogue crude oil has an API of 42.3 and a density of 813.9 kg/m^3 (at 15ºC) with a viscosity value (3.0 cP) classifying it as a Group II (light-persistent) oil according to the International Tankers Owners Pollution Federation (ITOPF, 2014) and US EPA/USCG classifications.

The crude is a mixture of volatile (79%) and persistent hydrocarbons (21%). In favourable evaporation conditions, about 24.2% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 20.8% should evaporate within the first 24 hours (180 °C < BP < 160 °C); and a further 33.9% should evaporate over several days (160 °C < BP < 380 °C). Approximately 21.0% of the oil is shown to be persistent.

7.2 Weathering Characteristics

7.2.1 Overview

A series of model weather tests were conducted to illustrate the potential behaviour of the Jabiru crude oil when exposed to idealised and representative environmental conditions:

- A 1-hour release onto the water surface at a discharge rate of 25 m^3/hr under calm wind conditions (constant 5 knots), assuming low seasonal water temperature (25 °C) and average air temperature (29 °C). The slick was also subject to ambient tidal and drift currents.

- A 1-hour release onto the water surface at a discharge rate of 50 m^3/hr under variable wind conditions (1-12 knots, drawn from representative data files), assuming low seasonal water temperature (25 °C) and average air temperature (29 °C). The slick was also subject to ambient tidal and drift currents.

The first case is indicative of cumulative weathering rates under calm conditions that would not generate entrainment, while the second case may represent conditions that could cause a minor degree of entrainment. Both scenarios provide examples of potential behaviour during periods of a spill event once the oil reaches the surface.

7.2.2 Crude Oil Mass Balance Forecasts

The mass balance forecast for the constant-wind case (Figure 7.1) shows that 45.3% of the oil is predicted to evaporate within 24 hours. Under calm conditions, the majority of the remaining oil on the water surface will weather at a slower rate due to being comprised of the longer-chain compounds with higher boiling points. Evaporation of the residual compounds will slow significantly, and they will then be subject to more gradual decay through biological and photochemical processes.

Under the variable-wind case (Figure 7.2), where the winds are of greater strength on average, entrainment of the crude oil into the water column is predicted to increase. Approximately 24 hours after the spill, 54.1% of the oil mass is forecast to have entrained and a further 42.8% is forecast to have evaporated, leaving only

a small proportion of the oil floating on the water surface (<1%). The residual compounds will tend to remain entrained beneath the surface under conditions that generate wind waves (approximately >6 m/s).

The increased level of entrainment in the variable-wind case will result in a higher percentage of biological and photochemical degradation, where the decay of the floating slicks and oil droplets in the water column occurs at an approximate rate of ~1.3% per day with an accumulated total of ~9.1% after 7 days, in comparison to a rate of ~0.3% per day and an accumulated total of ~2.4% after 7 days in the constant-wind case. Given the proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons will decay over several weeks.

Table 7.3 illustrates the summary of the mass balance for the calm wind and variable wind case at day 7.

Table 7.3 Summary of the mass balance at day 7. Results are based on a 25 m^3 surface release of crude oil over 1 hour, tracked for 7 days under calm and variable wind conditions.

End of the simulation (day 7)		
Exposure Metrics	**Calm wind conditions**	**Variable wind conditions**
Surface/Floating Oil (%)	44.4	0.0
Ashore/Shoreline (%)	0.0	0.0
Entrained (%)	3.6	44.5
Evaporated (%)	49.2	44.2
Decay (%)	2.4	9.1

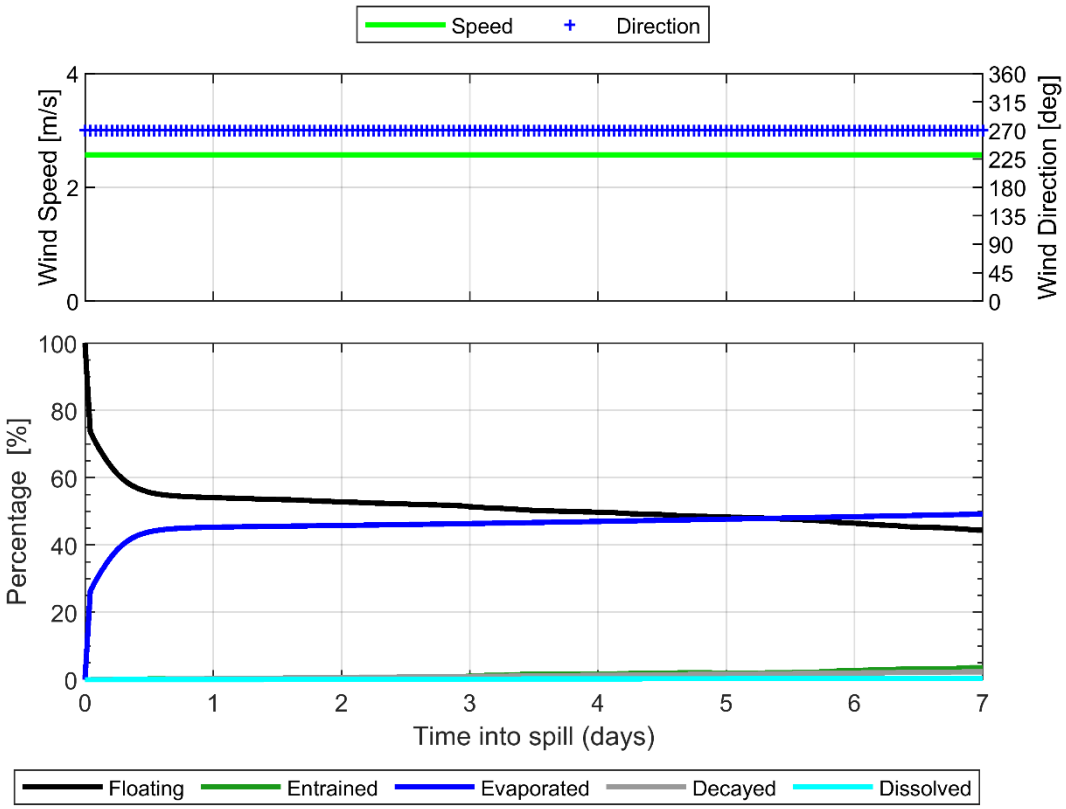

Figure 7.1 Proportional mass balance plot representing the weathering of crude oil spilled onto the water surface over 1 hour and subject to a constant 5 knots (2.6 m/s) wind speed at 25°C water temperature and 29 °C air temperature.

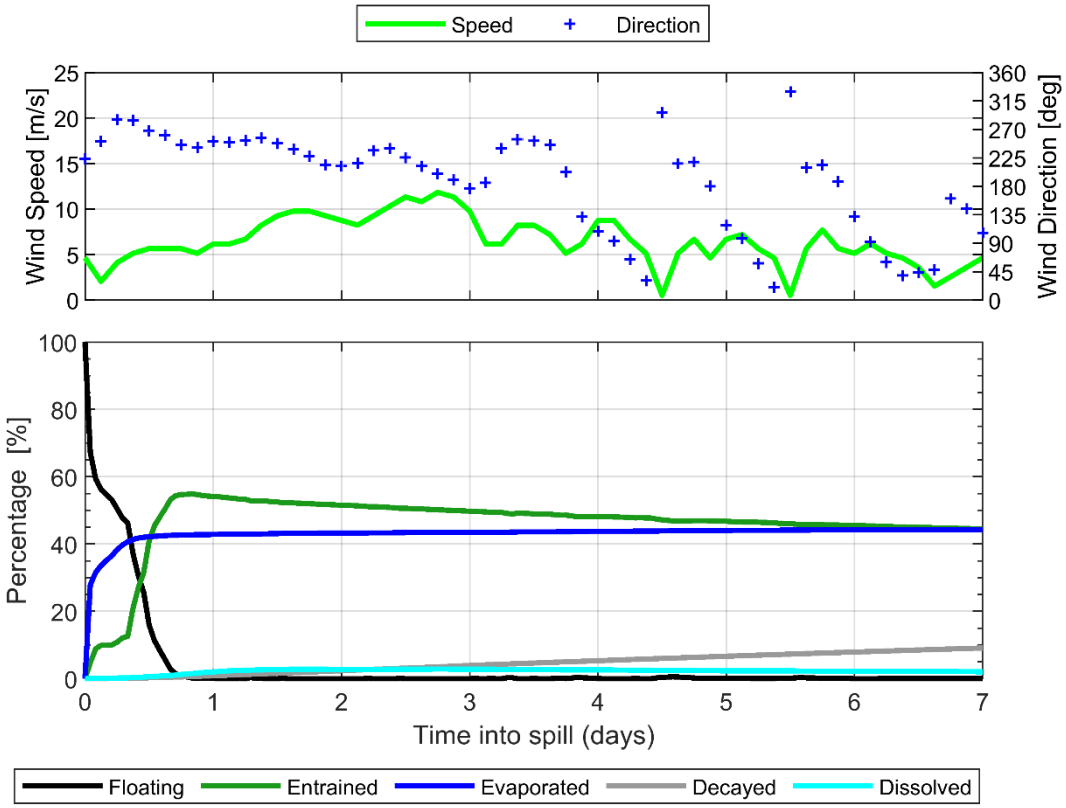

Figure 7.2 Proportional mass balance plot representing the weathering of crude oil spilled onto the water over 1 hour and subject to variable wind speeds (1-12 knots) at 25°C water temperature and 29 °C air temperature.

8 MODEL SETTINGS

Table 8.1 provides a summary of the oil spill model settings for the scenario.

Each season uses the same 100 random spill locations.

Table 8.1 Summary of the oil spill model settings used in this assessment.

Parameter	Scenario
Description	LOWC
Number of randomly selected spill start times per season for each scenario	100 (300 in total)
Release location	Single location at the Beehive-1 exploration well
Model period	Summer (October to February) Transitional (March and September) Winter (April to August)
Oil type	Crude oil
Spill volume	786,858 m^3 (4,949,192 bbl)
Release type	Surface
Release duration	77 days
Simulation length (days)	98
Surface oil concentration thresholds (g/m^2) (NOPSEMA Thresholds)	1, potential low exposure 10, potential moderate exposure 50, potential high exposure
Shoreline load thresholds (g/m^2) (NOPSEMA Thresholds)	10, potential low exposure 100, potential moderate exposure 1,000, potential high exposure
Dissolved hydrocarbon concentrations (ppb) (NOPSEMA Thresholds)	10, potential low exposure 50, potential moderate exposure 400, potential high exposure
Entrained hydrocarbon concentrations (ppb) (NOPSEMA Thresholds)	10, potential low exposure 100, potential high exposure

9 PRESENTATION AND INTERPRETION OF MODEL RESULTS

The results from the modelling study are presented in a number of tables and figures, which aim to provide an understanding of the predicted sea-surface and water column (subsurface) exposure and shoreline accumulation (if predicted).

9.1 Annual Analysis

9.1.1 Statistics

The statistics are based on the following principles:

- The greatest distance travelled by a spill trajectory – is determined by a) recording the maximum and b) second greatest distance travelled (or 99th percentile) by a single trajectory, within a scenario, from the release location to the identified exposure thresholds.
- The probability of oil exposure to a receptor – is determined by recording the number of spill trajectories to reach a specified sea surface or subsea threshold within a receptor polygon, divided by the total number of spill trajectories within that scenario.
- The minimum time before oil exposure to a receptor – is determined by ranking the elapsed time before sea surface exposure, at a specified threshold, to grid cells within a receptor polygon and recording the minimum value.
- The probability of oil accumulation at a receptor – is determined by recording the number of spill trajectories to reach a specified shoreline accumulation threshold within a receptor polygon, divided by the total number of spill trajectories within that scenario.
- The maximum potential oil loading within a receptor – is determined by identifying the maximum loading to any grid cell within a receptor polygon, for a scenario.
- The dissolved and entrained hydrocarbon exposure – is determined by recording the maximum instantaneous concentrations at each grid cell by applying a 96-hour time-based averaging.

9.2 Deterministic Trajectories

The seasonal stochastic modelling results were assessed for each scenario, and the “worst case” deterministic runs were identified and are presented in the result section based on the following criteria:

a. Largest swept area of floating oil above 1 g/m^2 (visible floating oil);

b. Minimum time before shoreline accumulation above 10 g/m^2;

c. Largest volume of oil ashore;

d. Longest length of shoreline accumulation above 10 g/m^2;

e. Largest area of entrained hydrocarbons above 10 ppb; and

f. Largest area of dissolved hydrocarbons above 10 ppb.

When no shoreline accumulation above the lowest shoreline accumulation threshold was predicted for any of the seasons modelled, only the largest swept area of floating oil, the largest area of entrained hydrocarbons and the largest area of dissolved hydrocarbons is presented.

9.2.1 Receptors Assessed

A range of environmental receptors and shorelines were assessed for sea surface exposure, shoreline contact and water column exposure as part of the study (see Figure 9.1 to Figure 9.7). Receptor categories (see Table 9.1) include sections of shorelines and offshore islands. All other sensitive receptors other than submerged reefs, shoals and banks (RSB) were sourced from Australian Government Department of Agriculture, Water and the Environment (http://www.environment.gov.au/). Risks of exposure were separately calculated for each sensitive receptor area and have been tabulated.

Table 9.1 Summary of receptors used to assess floating oil, shoreline and in-water exposure to hydrocarbons.

Receptor Category	Acronym	Hydrocarbon Exposure Assessment		
		Water Column	Floating oil	Shoreline
Australian Marine Park	AMP	✓	✓	×
Marine Park	MP	✓	✓	×
National Marine Reserves	MNP	✓	✓	×
Nature Reserve	NR	✓	✓	×
Key Ecological Feature	KEF	✓	✓	×
Shoreline	Shoreline	✓ (Reported as: Nearshore Waters)	✓ (Reported as: Nearshore Waters)	✓ (Reported as: Shore)
Ramsar wetland	Ramsar	✓	✓	×
Reefs, Shoals and Banks	RSB	✓	✓	×
State Waters	State Waters	✓	✓	×

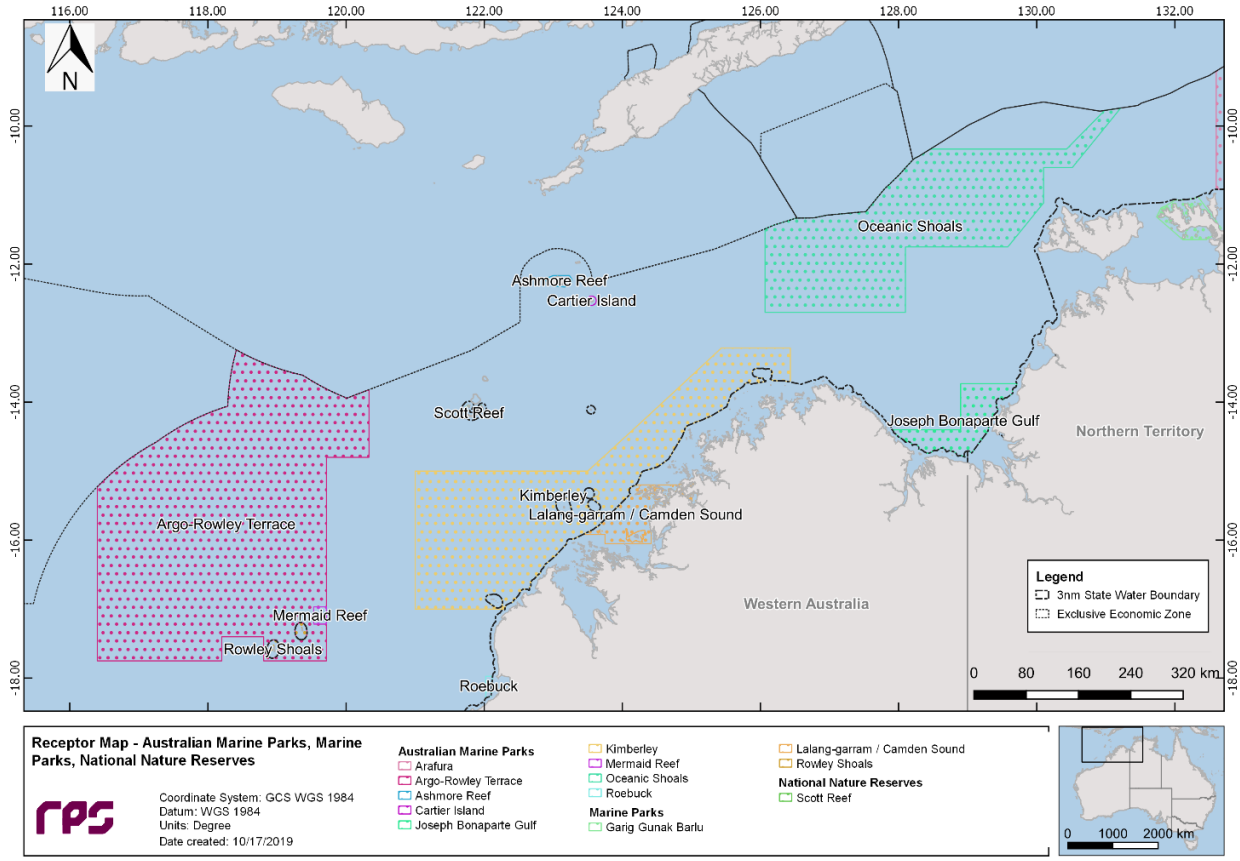

Figure 9.1 Receptor map for Australian Marine Parks, Marine Parks and National Nature Reserves.

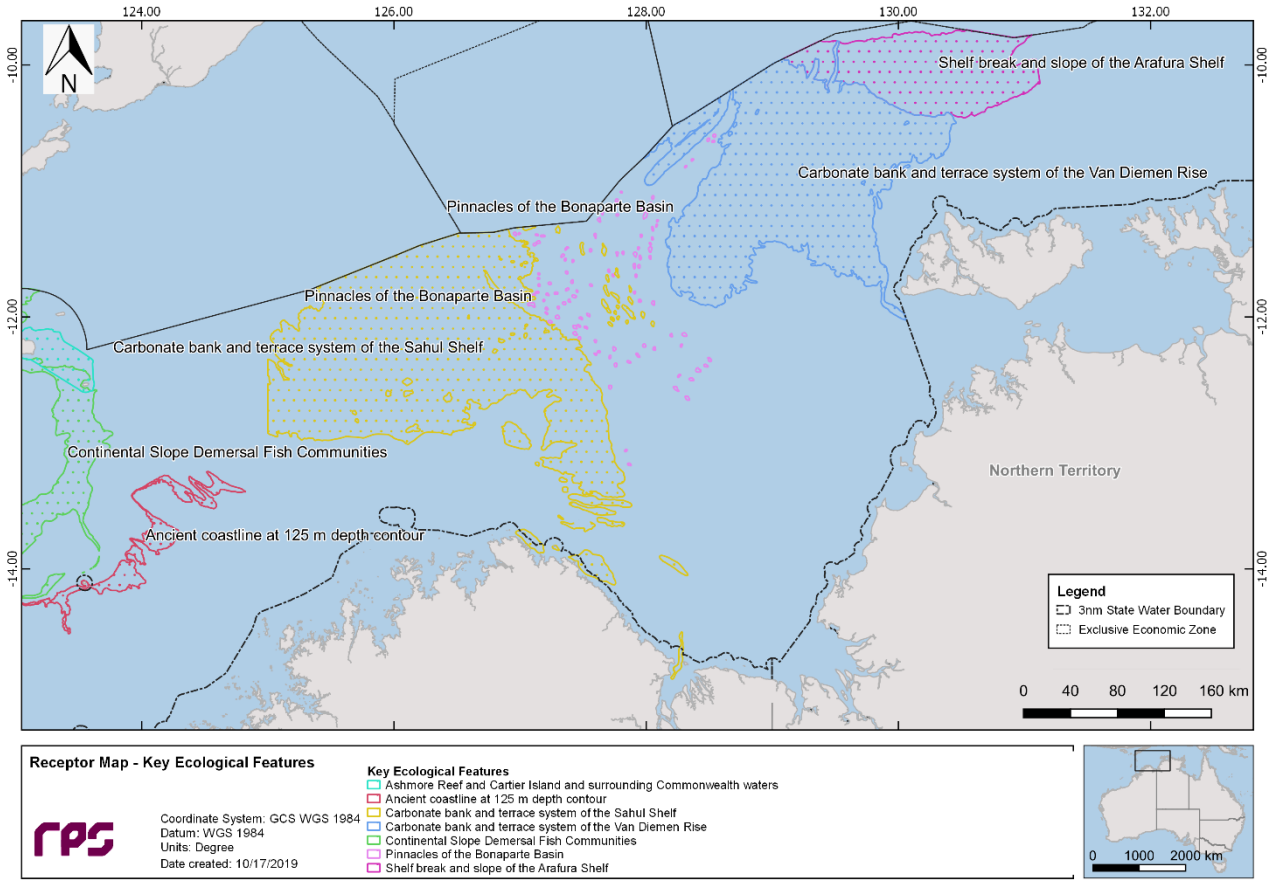

Figure 9.2 Receptor map of Key Ecological Features (KEF) (1 of 2).

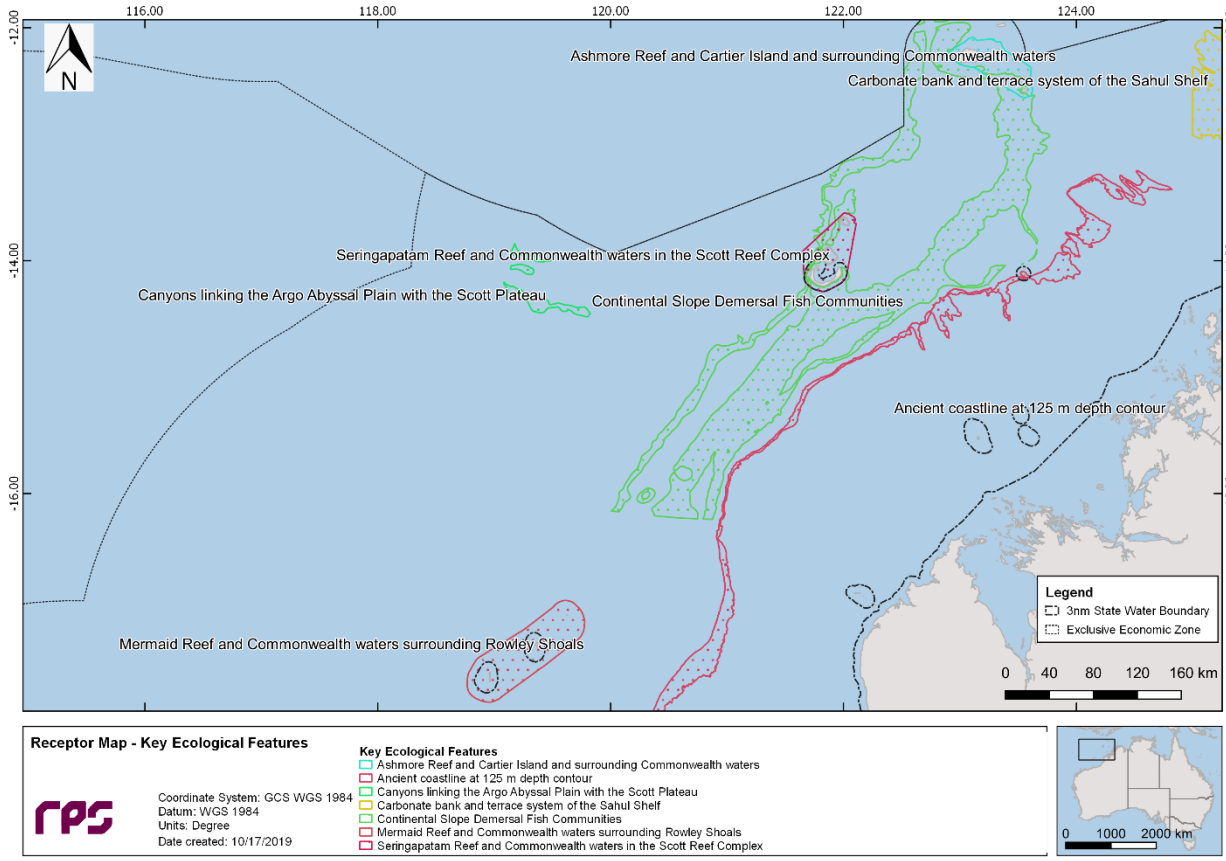

Figure 9.3 Receptor map of Key Ecological Features (KEF) (2 of 2).

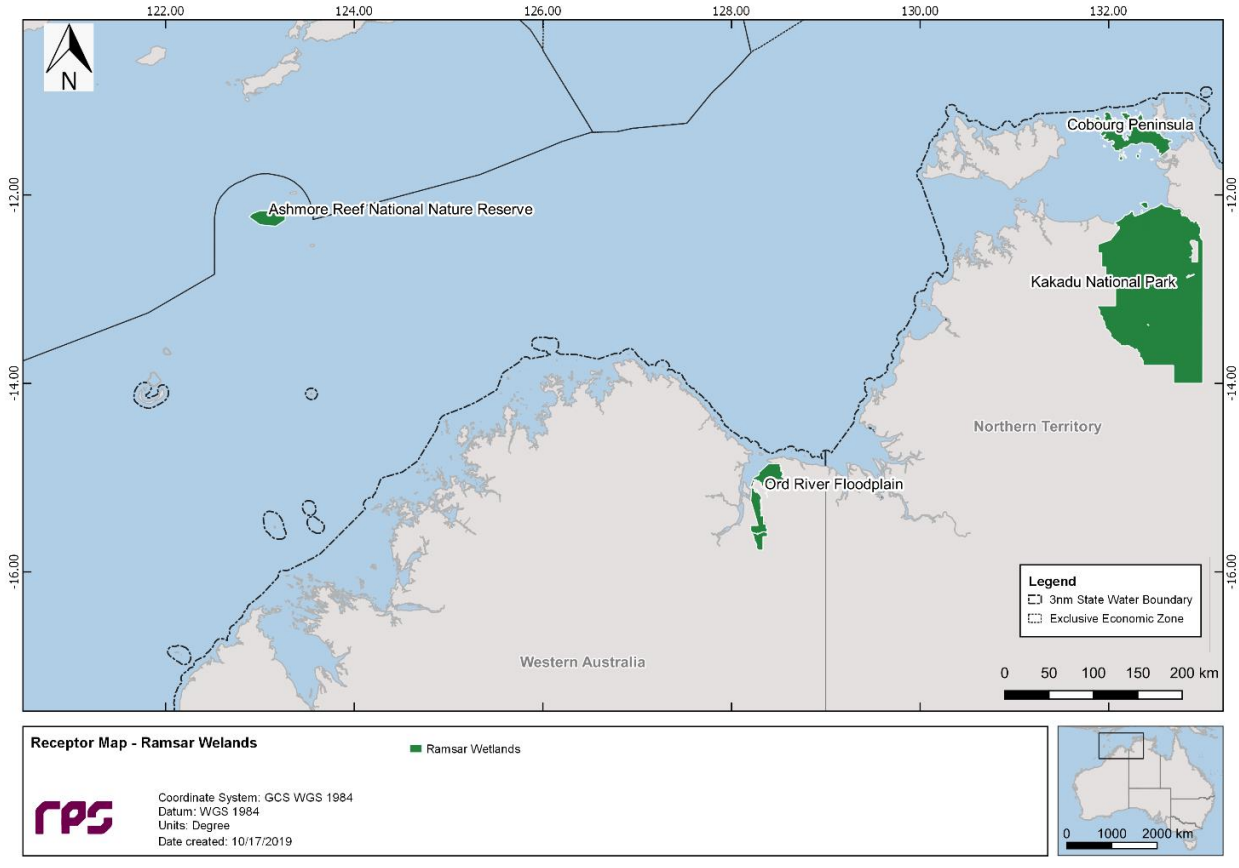

Figure 9.4 Receptor map for RAMSAR wetlands.

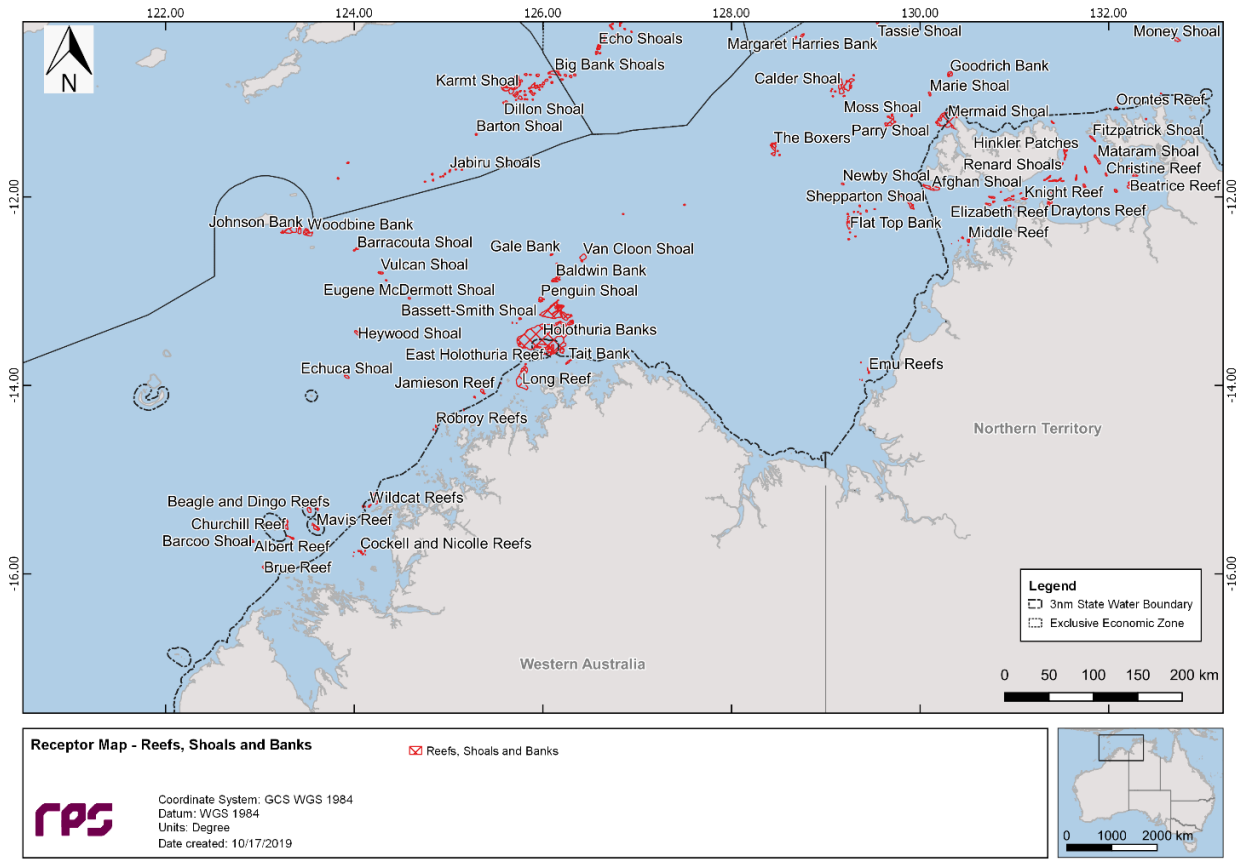

Figure 9.5 Receptor map for Reefs, Shoals and Banks.

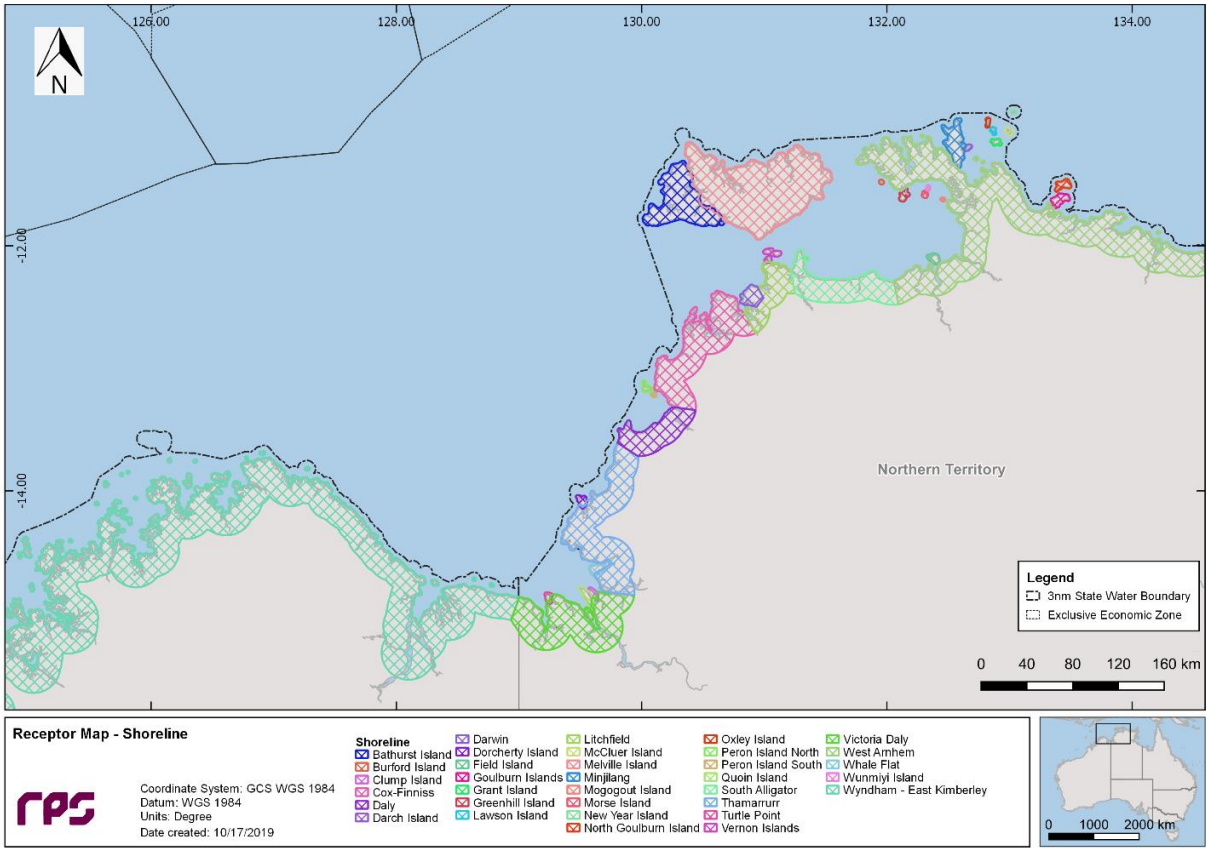

Figure 9.6 Receptor map for the shoreline sectors – names and locations (1 of 2).

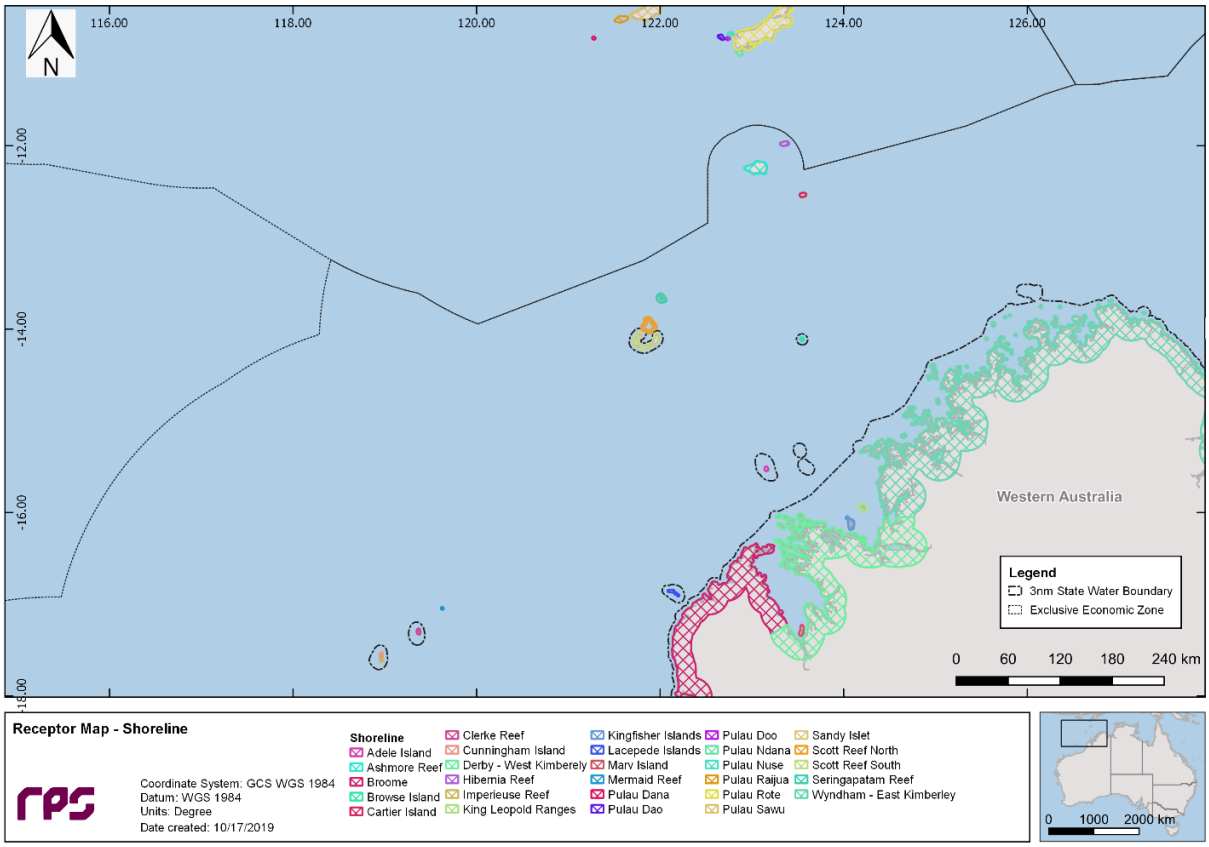

Figure 9.7 Receptor map for the shoreline sectors – names and locations (2 of 2).

10 RESULTS – SCENARIO – LOWC – 786,858 M^3 SURFACE RELEASE OF CRUDE OIL OVER 77 DAYS

This scenario examined a loss of well control of 786,858 m^3 surface release of crude oil over 77 days, tracked for a period of 98 days. A total of 100 spill trajectories were simulated per season (300 in total).

10.1 presents the seasonal stochastic analysis and Section 10.2 presents the deterministic results.

10.1 Stochastic Analysis

10.1.1 Floating Oil Exposure

Table 10.1 summarises the maximum distance travelled by oil on the sea surface at each threshold for the seasonal conditions assessed. The maximum distance from the release location to the low (1–10 g/m^2), moderate (10–50 g/m^2) and high (> 50 g/m^2) exposure levels was 1,517 km (winter), 153 km (summer) and 61 km (winter) respectively.

Table 10.2 summarises the potential floating oil exposure to individual receptors for each season.

Of all the receptors considered in the assessment, the Joseph Bonaparte Gulf AMP was the only receptor predicted to be exposed to floating oil above the low, moderate and high thresholds during all seasonal conditions.

Figure 10.1 to Figure 10.3 present the zones of potential floating oil exposure for the NOPSEMA thresholds under summer, transitional and winter conditions, respectively.

Table 10.1 Potential zones of floating oil exposure, at each threshold. Results are based on a 786,858 m3 surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions. The results were calculated from 100 spill trajectories per season.

Season	Distance and direction travelled	Zones of potential floating oil exposure		
		Low	Moderate	High
Summer	Maximum distance (km) from the release location	1,048	153	49
	Maximum distance (km) from the release location (99th percentile)	731	95	45
	Direction	West-Southwest	East-Northeast	South-Southeast
Transitional	Maximum distance (km) from the release location	1,136	79	49
	Maximum distance (km) from the release location (99th percentile)	903	62	46
	Direction	West-Southwest	South-Southeast	South-Southeast
Winter	Maximum distance (km) from the release location	1,517	79	61
	Maximum distance (km) from the release location (99th percentile)	730	68	55
	Direction	West-Northwest	Southeast	Southeast

Table 10.2 Summary of the potential floating oil exposure to individual receptors. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Summer						Transitional						Winter					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
AMP	Argo-Rowley Terrace	2	-	-	93.17	-	-	7	-	-	88.63	-	-	2	-	-	73.21	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	80.79	-	-
	Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	66.75	-	-
	Joseph Bonaparte Gulf	100	47	5	1.88	3.13	3.63	96	36	4	2.13	3.46	14.96	87	22	9	2.67	3.96	4.29
	Kimberley	43	-	-	21.71	-	-	57	-	-	12	-	-	70	-	-	16.13	-	-
	Oceanic Shoals	22	-	-	24.54	-	-	2	-	-	24.13	-	-	21	-	-	35.29	-	-
EEZ	Indonesian Exclusive Economic Zone	-	-	-	-	-	-	7	-	-	77.33	-	-	12	-	-	46.54	-	-
KEF	Ancient coastline at 125 m depth contour	24	-	-	43.54	-	-	44	-	-	28.46	-	-	27	-	-	33.88	-	-
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	66.75	-	-
	Carbonate bank and terrace system of the Sahul Shelf	94	36	-	2.54	8.54	-	91	34	1	1.75	2.58	36.08	97	19	1	1.58	5.71	11.25
	Carbonate bank and terrace system of the Van Diemen Rise	6	-	-	58.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Continental Slope Demersal Fish Communities	21	-	-	50.25	-	-	38	-	-	31.54	-	-	23	-	-	39.08	-	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	-	-	-	-	-	-	1	-	-	95.21	-	-	-	-	-	-	-	-
	Pinnacles of the Bonaparte Basin	6	-	-	47.42	-	-	2	-	-	30.38	-	-	11	-	-	25.88	-	-
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	7	-	-	62	-	-	-	-	-	-	-	-	1	-	-	62.33	-	-
MP	Lalang-garram / Camden Sound	-	-	-	-	-	-	2	-	-	51.38	-	-	-	-	-	-	-	-
	North Kimberley	91	9	-	5.63	22.54	-	90	-	-	7.33	-	-	98	-	-	8.08	-	-
	North Lalang-garram	1	-	-	73.54	-	-	3	-	-	89.38	-	-	-	-	-	-	-	-
	Rowley Shoals	-	-	-	-	-	-	1	-	-	95.25	-	-	-	-	-	-	-	-
NR	Scott Reef	3	-	-	69.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ramsar	Ashmore Reef National Nature Reserve	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	80.79	-	-
	Ord River Floodplain	12	-	-	28.71	-	-	13	-	-	46.08	-	-	8	-	-	47.33	-	-
RSB	Albert Reef	-	-	-	-	-	-	2	-	-	93.42	-	-	-	-	-	-	-	-
	Baldwin Bank	15	-	-	22.29	-	-	8	-	-	52.71	-	-	3	-	-	46.83	-	-
	Barracouta Shoal	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	64.63	-	-
	Bass Reef	7	-	-	27.71	-	-	1	-	-	98	-	-	-	-	-	-	-	-
	Bassett-Smith Shoal	7	-	-	41.92	-	-	15	-	-	31.29	-	-	10	-	-	42.29	-	-
	Beagle and Dingo Reefs	3	-	-	86.67	-	-	2	-	-	68.63	-	-	1	-	-	80.96	-	-
	Branch Banks	27	-	-	37.75	-	-	35	-	-	28.13	-	-	25	-	-	23.38	-	-
	Churchill Reef	-	-	-	-	-	-	2	-	-	94.46	-	-	1	-	-	73.04	-	-
	Draytons Reef	1	-	-	41.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	East Holothuria Reef	33	-	-	37.21	-	-	40	-	-	17.04	-	-	33	-	-	18.5	-	-
	Echuca Shoal	16	-	-	49.63	-	-	28	-	-	48.63	-	-	10	-	-	41.08	-	-

Receptor		Summer						Transitional						Winter					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Emu Reefs	59	-	-	6.96	-	-	8	-	-	65.04	-	-	11	-	-	31.46	-	-
	Eugene McDermott Shoal	4	-	-	67.88	-	-	-	-	-	-	-	-	6	-	-	57.79	-	-
	Favell Bank	4	-	-	49.75	-	-	-	-	-	-	-	-	1	-	-	48.71	-	-
	Fish Reef	6	-	-	58.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Flat Top Bank	2	-	-	66.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Foelsche Bank	2	-	-	28.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gale Bank	1	-	-	58	-	-	-	-	-	-	-	-	2	-	-	51.92	-	-
	Goeree Shoal	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	65.58	-	-
	Hancox Shoal	1	-	-	72.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Heritage Reef	12	-	-	64.25	-	-	17	-	-	40.58	-	-	4	-	-	35.92	-	-
	Heywood Shoal	7	-	-	52.58	-	-	1	-	-	88.04	-	-	1	-	-	89.21	-	-
	Holothuria Banks	40	-	-	19.29	-	-	53	-	-	13	-	-	61	-	-	17.38	-	-
	Howland Shoals	47	-	-	11.63	-	-	13	-	-	36.42	-	-	11	-	-	26.83	-	-
	Ingram Reef	14	-	-	61.25	-	-	21	-	-	42.13	-	-	10	-	-	38.5	-	-
	Jamieson Reef	16	-	-	59.33	-	-	26	-	-	34.54	-	-	20	-	-	31.63	-	-
	Jones Bank	2	-	-	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Knight Reef	1	-	-	38.79	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Long Reef	29	-	-	40	-	-	39	-	-	29.42	-	-	36	-	-	23.75	-	-
	Lowry Shoal	1	-	-	71.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Lyne Reef	1	-	-	29.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Marsh Shoal	2	-	-	63.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mavis Reef	3	-	-	76.71	-	-	2	-	-	74.25	-	-	2	-	-	74.25	-	-
	Middle Reef	1	-	-	88.13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Moresby Shoals	1	-	-	72.63	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Oliver Reef	2	-	-	72.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Oliver Rock	9	-	-	52.46	-	-	15	-	-	30.92	-	-	5	-	-	33.83	-	-
	Otway Bank	24	-	-	42.42	-	-	31	-	-	23.17	-	-	24	-	-	23.96	-	-
	Parry Shoal	1	-	-	67.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Penguin Shoal	16	-	-	28.67	-	-	16	-	-	28.96	-	-	8	-	-	38.5	-	-
	Robroy Reefs	10	-	-	64.5	-	-	12	-	-	39.13	-	-	3	-	-	50.33	-	-
	Rothery Reef	17	-	-	49.71	-	-	21	-	-	29.46	-	-	7	-	-	33.88	-	-
	Shepparton Shoal	2	-	-	82.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Skottowe Shoal	2	-	-	55.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tait Bank	29	-	-	37	-	-	38	-	-	29.17	-	-	33	-	-	19.88	-	-
	Tregenna Reef	1	-	-	60.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Van Cloon Shoal	8	-	-	42.17	-	-	1	-	-	53.04	-	-	4	-	-	38.63	-	-
	Vulcan Shoal	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	60.29	-	-
	West Holothuria Reef	9	-	-	47.83	-	-	15	-	-	26.58	-	-	2	-	-	28.38	-	-
Nearshore Waters	Adele Island	-	-	-	-	-	-	3	-	-	86.46	-	-	1	-	-	71.29	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	80.79	-	-
	Bathurst Island	1	-	-	74.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Browse Island	13	-	-	50.96	-	-	14	-	-	47.79	-	-	4	-	-	62.17	-	-

Receptor		Summer						Transitional						Winter					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Clump Island	25	-	-	18.13	-	-	15	-	-	31.46	-	-	5	-	-	65.08	-	-
	Cox-Finniss	16	-	-	24.79	-	-	1	-	-	95.71	-	-	-	-	-	-	-	-
	Daly	35	-	-	15.33	-	-	-	-	-	-	-	-	1	-	-	80.5	-	-
	Darwin	1	-	-	78.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Dorcherty Island	55	-	-	17.29	-	-	13	-	-	23.71	-	-	19	-	-	35.88	-	-
	Peron Island North	19	-	-	17.38	-	-	2	-	-	91.71	-	-	-	-	-	-	-	-
	Peron Island South	6	-	-	22.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Quoin Island	33	-	-	18	-	-	29	-	-	27.75	-	-	29	-	-	41.33	-	-
	Sandy Islet	1	-	-	70.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Scott Reef North	2	-	-	63.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Scott Reef South	4	-	-	63.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	South Alligator	2	-	-	83.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Thamarrurr	71	-	-	14.5	-	-	40	-	-	22.79	-	-	29	-	-	42.63	-	-
	Turtle Point	37	-	-	23.5	-	-	16	-	-	29.33	-	-	27	-	-	14.92	-	-
	Vernon Islands	6	-	-	30.04	-	-	1	-	-	97.42	-	-	-	-	-	-	-	-
	Victoria Daly	67	-	-	18.08	-	-	36	-	-	14.29	-	-	48	-	-	14.92	-	-
	Whale Flat	33	-	-	21.54	-	-	22	-	-	29.79	-	-	13	-	-	54.75	-	-
	Wyndham - East Kimberley	70	2	-	14.92	28.88	-	77	-	-	14.5	-	-	93	-	-	9.46	-	-
State Waters	Northern Territory Sate Waters	83	3	-	9.75	46.46	-	50	-	-	7.29	-	-	59	-	-	10.83	-	-
	Western Australia State Waters	91	9	-	5.63	22.54	-	90	-	-	7.33	-	-	98	-	-	8.08	-	-

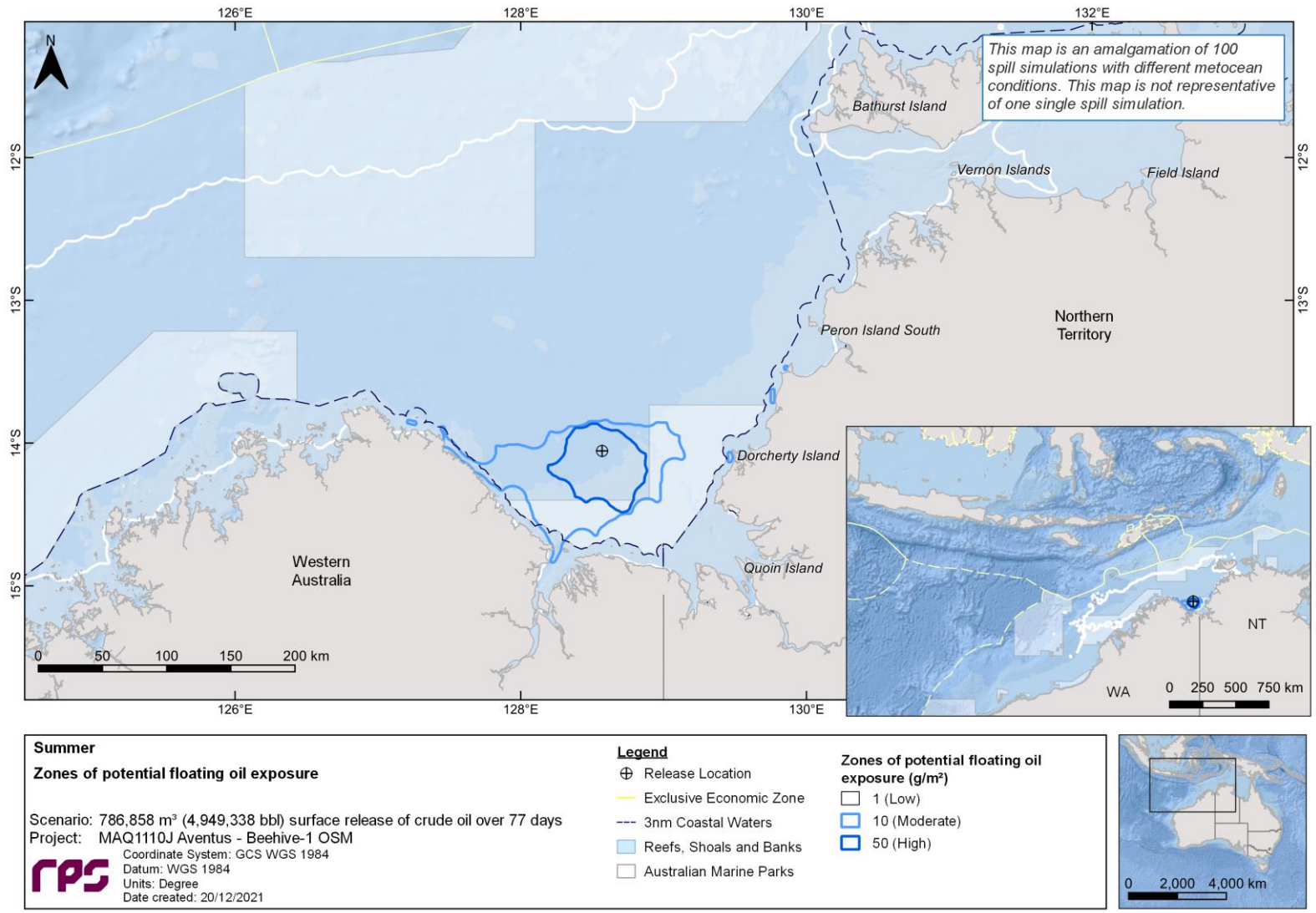

Figure 10.1 Zones of potential floating oil exposure, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during summer conditions. The results were calculated from 100 spill trajectories.

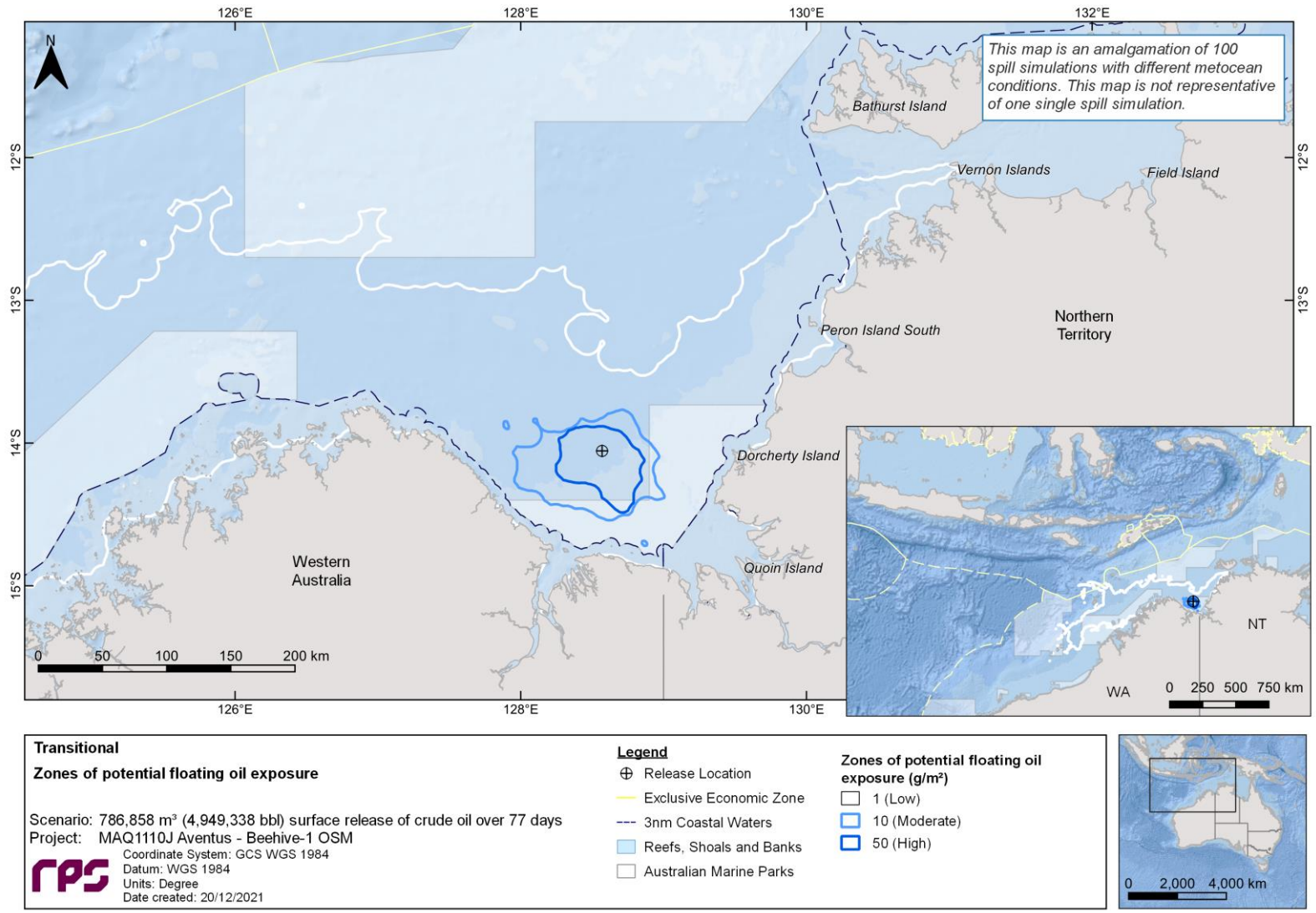

Figure 10.2 Zones of potential floating oil exposure, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during transitional conditions. The results were calculated from 100 spill trajectories.

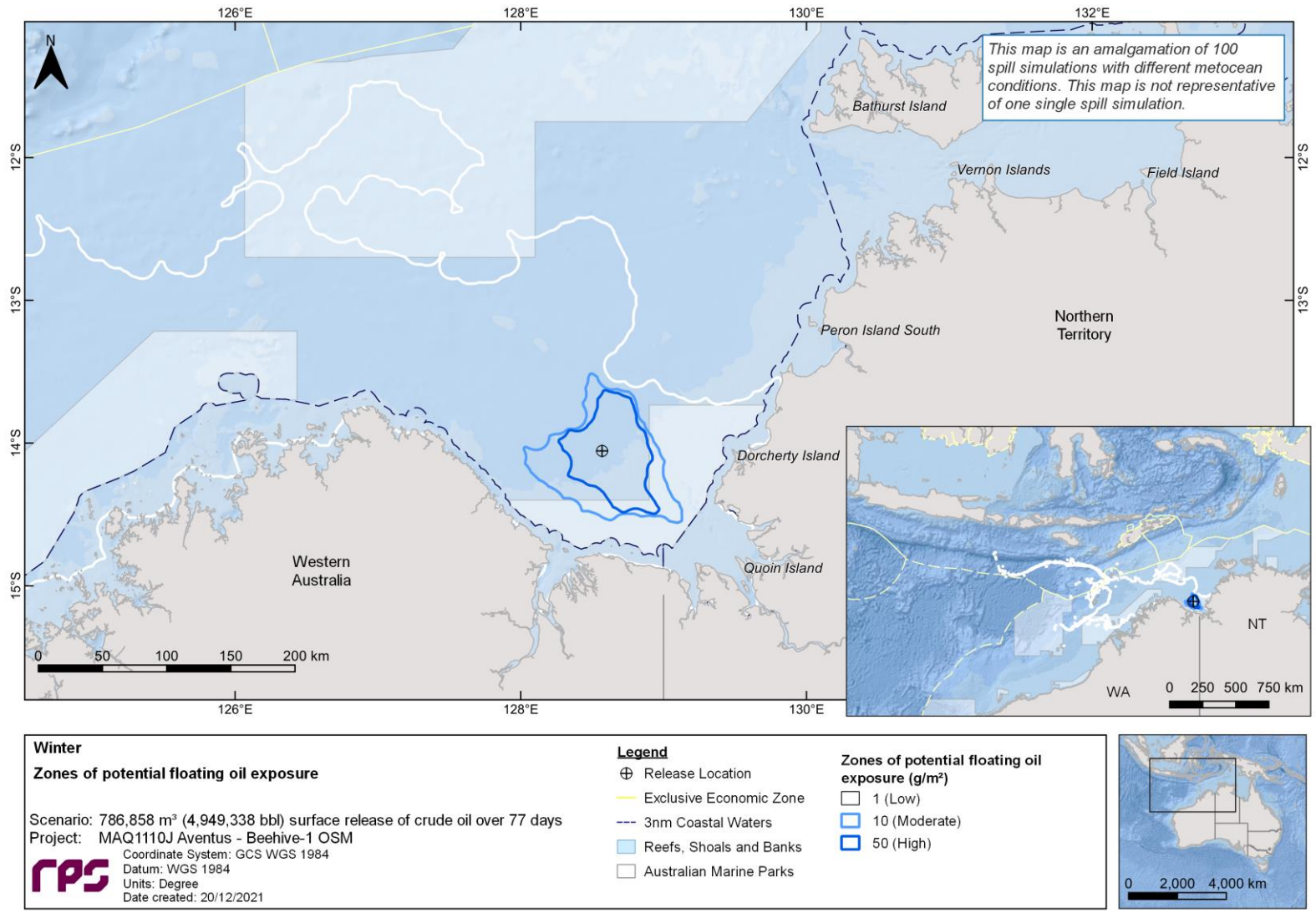

Figure 10.3 Zones of potential floating oil exposure, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during winter conditions. The results were calculated from 100 spill trajectories.

10.1.2 Shoreline Accumulation

Table 10.3 presents a summary of the predicted potential shoreline accumulation during seasonal conditions. The probability of accumulation to any shoreline at, or above, the low threshold (10-100 g/m^2) was 100% for all seasons and the minimum time before shoreline accumulation at, or above, the low threshold ranged between 10.29 days (transitional) to 11.58 days (summer). The maximum volume ashore for a single spill trajectory ranged between 406.9 m^3 (winter) and 704.67 m^3 (summer) and maximum length of shoreline contacted at the low threshold was 201 km for winter and 224 km for summer and transitional. The predicted shoreline length above the high (≥1,000 g/m^2) shoreline threshold decreased to a maximum of 16 km, 9 km and 8 km during summer, winter and transitional months respectively.

Table 10.4 summarises the shoreline accumulation on individual receptors during seasonal conditions. The shoreline assessment identified Wyndham - East Kimberley, Thamarrurr, Daly, Victoria Daly and Docherty Island shorelines as the sectors with the largest potential shoreline oil accumulation during summer conditions with volumes ranging between 134.81 m^3 to 404.39 m^3. During the transitional and winter months, the Wyndham - East Kimberley, Victoria Daly and Thamarrurr shorelines recorded potential shoreline oil accumulation ranging between 164.9 m^3 to 414.9 m^3 (transitional) and 155.6 m^3 and 406.9 m^3 (winter). Additionally, Wyndham - East Kimberley recorded the earliest shoreline contact (11.25 days) and the longest length (58.1 km) of shoreline accumulation above the low threshold during transitional conditions.

The maximum potential shoreline loading above the low, moderate and high shoreline thresholds are presented for each season in Figure 10.4 to Figure 10.6.

Table 10.3 Summary of oil accumulation across all shorelines. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions. The results were calculated from 100 spill trajectories per season.

Shoreline Statistics	Summer	Transitional	Winter
Probability of accumulation on any shoreline (%)	100	100	100
Absolute minimum time for visible oil to shore (days)	11.58	10.29	11.25
Maximum volume of hydrocarbons ashore (m^3)	704.67	414.9	406.9
Average volume of hydrocarbons ashore (m^3)	259.5	176.9	145.8
Maximum length of the shoreline at 10 g/m^2 (km)	224	224	201
Average shoreline length (km) at 10 g/m^2 (km)	119.7	82.6	90.9
Maximum length of the shoreline at 100 g/m^2 (km)	129	116	99
Average shoreline length (km) at 100 g/m^2 (km)	61.6	45.5	40.9
Maximum length of the shoreline at 1,000 g/m^2 (km)	16	9	8
Average shoreline length (km) at 1,000 g/m2 (km)	5.2	3.5	2.7

Table 10.4 Summary of oil accumulation on individual shoreline sectors. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories.

Shoreline sector	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Moderate	High	Low	Moderate	High	Mean	Peak	Mean	Peak	Low	Moderate	High	Low	Moderate	High
Adele Island	6	1	-	70.92	96.08	-	65.9	131.7	0.1	1.7	1.3	1.0	-	2.0	1.0	-
Bathurst Island	4	3	-	69.08	71.75	-	65.1	248.0	0.3	12.2	10.8	2.0	-	17.1	3.0	-
Broome	1	-	-	97.21	-	-	38.9	38.9	<0.1	0.5	1.0	-	-	1.0	-	-
Browse Island	23	20	1	48.54	50.54	91.92	299.0	2,059.4	2.9	64.4	3.5	3.0	3.0	4.0	4.0	3.0
Clump Island	55	42	-	18.58	19.58	-	164.5	927.8	3.6	20.6	3.2	1.9	-	8.0	5.0	-
Cox-Finniss	20	14	-	23.79	26.13	-	90.8	582.4	4.6	51.4	20.5	10.8	-	43.2	19.1	-
Daly	57	41	2	18.33	25.79	46.12	103.9	3,692.4	8.4	199.6	9.2	4.6	4.0	32.2	24.1	6.0
Darwin	8	3	-	48.08	51.71	-	69.3	133.6	0.1	2.6	1.9	1.0	-	3.0	1.0	-
Derby - West Kimberley	2	-	-	90.33	-	-	42.8	44.0	<0.1	1.0	1.5	-	-	2.0	-	-
Dorcherty Island	66	54	12	17.38	19.25	50.45	238.6	7,065.5	12.4	134.8	4.8	3.4	1.6	12.1	8.0	2.0
Lacepede Islands	1	-	-	95.33	-	-	39.4	39.4	<0.1	0.5	1.0	-	-	1.0	-	-
Litchfield	8	-	-	60.33	-	-	51.9	60.3	0.1	2.0	1.5	-	-	3.0	-	-
Melville Island	9	-	-	61.96	-	-	47.2	89.1	0.2	4.2	3.5	-	-	8.0	-	-
Minjilang	3	-	-	70.83	-	-	61.5	87.7	<0.1	1.1	1.0	-	-	1.0	-	-
New Year Island	2	-	-	80.25	-	-	43.6	44.6	<0.1	0.6	1.0	-	-	1.0	-	-
Oxley Island	2	-	-	81.33	-	-	43.8	44.1	<0.1	0.5	1.0	-	-	1.0	-	-
Peron Island North	27	17	-	18.71	21.58	-	144.2	880.0	2.4	32.4	3.8	3.4	-	8.0	7.0	-
Peron Island South	12	6	-	22.67	22.75	-	102.0	399.3	0.5	10.6	2.6	1.7	-	4.0	4.0	-
Quoin Island	64	49	2	17.38	17.63	59.58	124.5	1,056.2	8.4	59.1	7.5	4.7	1.0	20.1	11.1	1.0
Sandy Islet	3	-	-	70.67	-	-	48.9	50.0	<0.1	1.2	1.3	-	-	2.0	-	-
Scott Reef North	10	3	-	64.08	64.13	-	60.6	215.9	0.4	12.4	4.9	4.0	-	14.1	6.0	-
Scott Reef South	12	7	-	62.13	63.50	-	87.4	611.0	1.9	57.5	10.6	7.8	-	29.2	18.1	-
Seringapatam Reef	8	1	-	70.25	97.58	-	65.7	116.8	0.1	3.4	2.3	2.0	-	4.0	2.0	-
South Alligator	8	4	-	54.21	57.75	-	57.7	116.9	0.1	3.1	2.4	1.0	-	5.0	1.0	-
Thamarrurr	80	74	31	11.58	14.46	18.91	190.4	6,903.1	55.0	271.2	27.1	15.6	2.2	60.3	40.2	7.0
Turtle Point	58	47	-	18.63	24.17	-	154.9	818.6	4.9	29.4	4.0	2.7	-	7.0	6.0	-
Vernon Islands	18	11	-	30.54	39.17	-	98.1	627.1	1.4	26.4	5.8	3.4	-	14.1	8.0	-
Victoria Daly	76	73	28	14.75	19.13	25.21	189.4	4,229.0	54.3	258.3	27.8	14.6	2.6	57.3	42.2	6.0
Whale Flat	65	54	6	18.29	22.54	67.87	179.6	1,946.6	9.1	78.7	5.2	3.6	1.8	13.1	10.1	3.0
Wyndham - East Kimberley	78	70	41	16.17	17.38	28.37	207.9	4,643.8	105.3	404.4	51.2	30.6	4.5	156.8	85.5	9.1

Table 10.5 Summary of oil accumulation on individual shoreline receptors. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories.

Shoreline sector	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Moderate	High	Low	Moderate	High	Mean	Peak	Mean	Peak	Low	Moderate	High	Low	Moderate	High
Adele Island	6	3	-	75.29	84.38	-	172	538	0.3	10	2	2.3	-	3	3	-
Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bathurst Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Broome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Browse Island	38	27	7	40.58	47.33	59.71	303	2,053	5.1	57.2	2.8	2.8	1.9	4	4	3
Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clump Island	41	32	-	10.29	24.21	-	171	790	2.8	22.5	3.2	2.1	-	8	5	-
Cox-Finniss	1	1	-	94.63	96.71	-	135	273	< 0.1	5	3	1	-	3	1	-
Daly	9	1	-	63.5	93.17	-	56	209	0.1	4.9	1.6	1	-	5	1	-
Darwin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Derby - West Kimberley	2	-	-	54.75	-	-	50	58	< 0.1	1.1	1.5	-	-	2	-	-
Dorcherty Island	21	13	2	22.96	25.21	72.08	187	1,061	2.4	23.3	4.5	3.9	1	7	6	1
Hibernia Reef	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lacepede Islands	1	-	-	73.92	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-
Litchfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melville Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minjilang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Year Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxley Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peron Island North	2	2	-	92.08	92.54	-	160	496	0.2	17.6	5	3	-	6	5	-
Peron Island South	1	-	-	93.17	-	-	73	73	< 0.1	0.9	1	-	-	1	-	-
Quoin Island	42	40	1	18.38	19.92	86.04	148	1,067	6.3	45.1	8.4	4.6	1	16.1	10.1	1
Sandy Islet	1	-	-	66.88	-	-	51	51	< 0.1	0.6	1	-	-	1	-	-
Scott Reef North	1	-	-	66.25	-	-	52	52	< 0.1	1.3	2	-	-	2	-	-
Scott Reef South	3	2	-	43.33	44.42	-	59	130	< 0.1	4.8	4.4	1	-	6	1	-
Seringapatam Reef	4	1	-	68.63	94.21	-	51	156	< 0.1	3.4	3	1	-	6	1	-
South Alligator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamarrurr	45	41	21	15.67	22.79	29.75	222	4,062	28.1	164.9	21.5	13.6	2	47.2	27.1	4
Turtle Point	31	24	-	22.75	24.63	-	142	745	2.2	20.1	3.7	2.8	-	7	6	-
Vernon Islands	1	1	-	97.13	97.5	-	117	191	< 0.1	7.2	5	3	-	5	3	-
Victoria Daly	48	40	14	12.33	15.79	26.25	197	6,068	32.2	228.8	24.3	15	3.1	49.3	28.1	6
Whale Flat	36	29	-	26.88	30.83	-	146	697	2.5	22.8	3.7	2.3	-	6	5	-
Wyndham - East Kimberley	83	79	30	11.83	12.79	25.29	182	4,373	100.9	414.9	55.3	30.9	4.4	165.9	100.5	9

Table 10.6 Summary of oil accumulation on individual shoreline receptors. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories.

Shoreline sector	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Moderate	High	Low	Moderate	High	Mean	Peak	Mean	Peak	Low	Moderate	High	Low	Moderate	High
Adele Island	2	2	-	69.29	70.08	-	231	461	0.1	7.6	2.5	1.5	-	3	2	-
Ashmore Reef	7	3	-	69.75	80.88	-	55	225	0.3	14.4	6.6	2	-	19.1	3	-
Bathurst Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Broome	1	-	-	88.83	-	-	41	41	< 0.1	0.5	1	-	-	1	-	-
Browse Island	22	11	-	37.04	37.92	-	114	444	0.8	14.3	2.1	2.6	-	4	4	-
Cartier Island	11	5	-	66.08	67.13	-	73	277	0.4	11.2	3.4	2.2	-	9	3	-
Clump Island	41	31	-	27.54	36.63	-	134	693	1.7	16.9	2.3	1.6	-	5	4	-
Cox-Finniss	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Daly	8	3	-	53	71	-	85	286	0.2	7	1.9	1.3	-	5	2	-
Darwin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Derby - West Kimberley	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dorcherty Island	26	19	-	38.54	39.54	-	138	936	1.3	22.5	2.7	1.8	-	6	6	-
Hibernia Reef	6	3	-	70.63	87.29	-	61	281	0.2	7.8	4.4	1	-	8	1	-
Lacepede Islands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Litchfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melville Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minjilang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Year Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oxley Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peron Island North	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peron Island South	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quoin Island	50	43	1	28	31.63	76.17	131	1,232	6.2	38.2	7.3	4.1	1	15.1	11.1	1
Sandy Islet	1	-	-	92	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-
Scott Reef North	5	-	-	63.79	-	-	43	53	< 0.1	2	2.2	-	-	4	-	-
Scott Reef South	7	-	-	74.75	-	-	53	99	< 0.1	3.5	2.2	-	-	6	-	-
Seringapatam Reef	2	-	-	56.54	-	-	54	57	< 0.1	0.7	1	-	-	1	-	-
South Alligator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamarrurr	41	35	16	31.17	37.17	56.08	178	3,959	16.9	155.6	16.8	11.2	1.3	46.2	30.2	3
Turtle Point	48	38	-	13.92	14.96	-	140	666	3.2	23.8	3.8	2.7	-	7	5	-
Vernon Islands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Victoria Daly	58	54	17	13.96	14.5	49.88	181	3,492	29.7	160.7	21.5	11.8	2.4	53.3	29.2	4
Whale Flat	32	18	-	38.58	39.67	-	93	359	1.2	11.1	3.1	1.5	-	7	3	-
Wyndham - East Kimberley	99	93	23	11.25	12.54	27.88	131	2,206	88.5	406.9	58.1	25.9	2.6	164.9	93.5	8

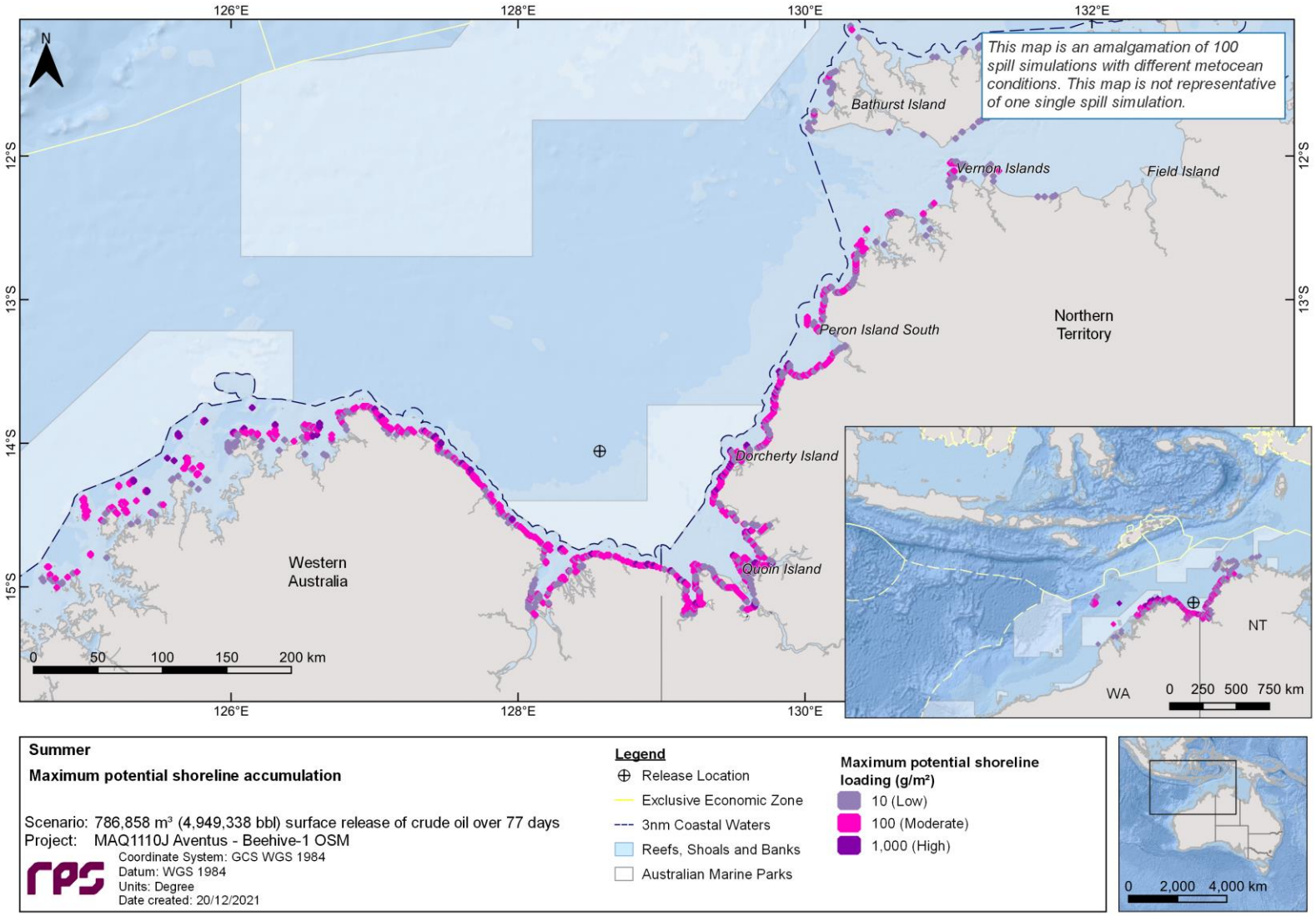

Figure 10.4 Maximum potential shoreline loading, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days during summer conditions. The results were calculated from 100 spill trajectories.

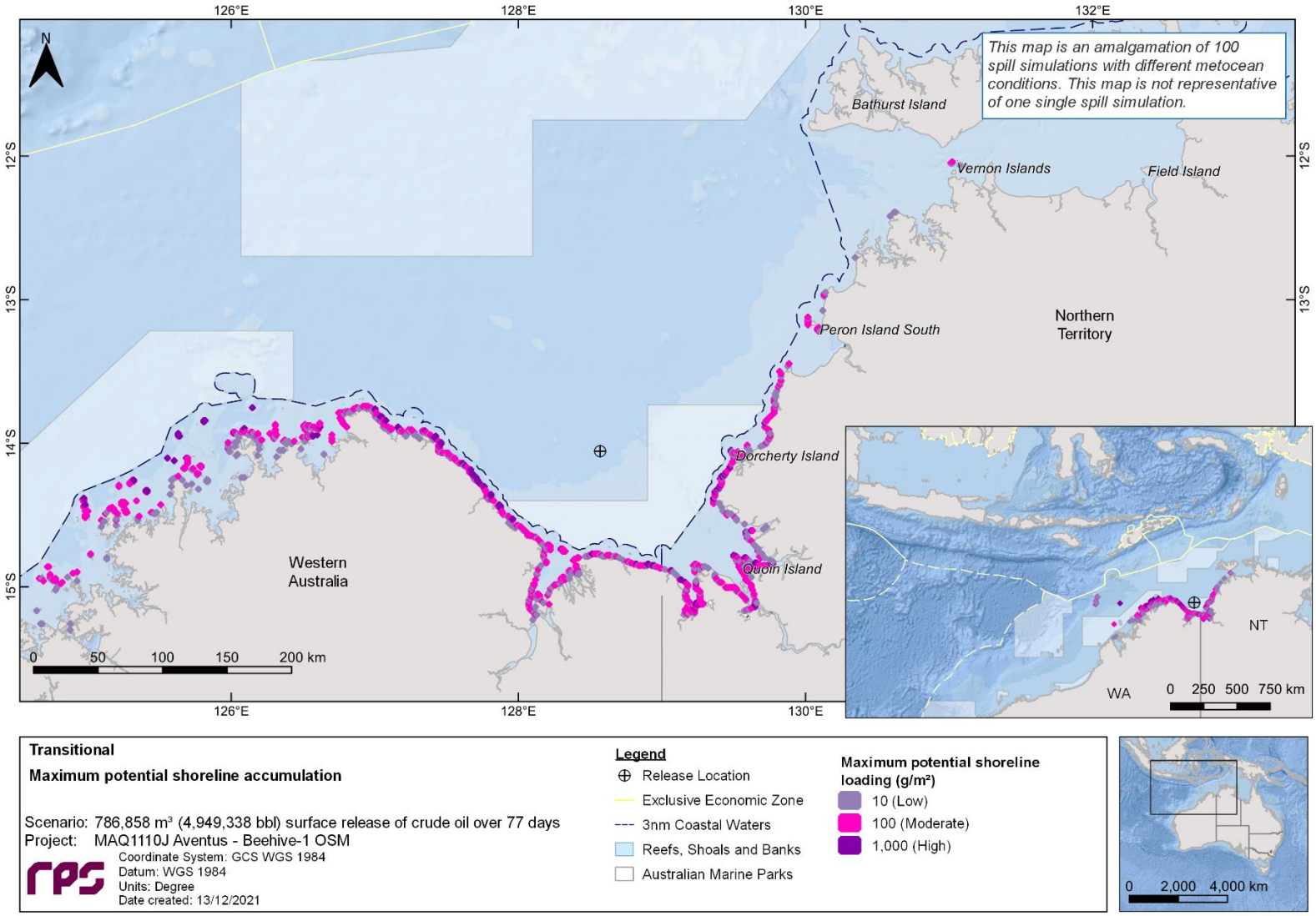

Figure 10.5 Maximum potential shoreline loading, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days during transitional conditions. The results were calculated from 100 spill trajectories.

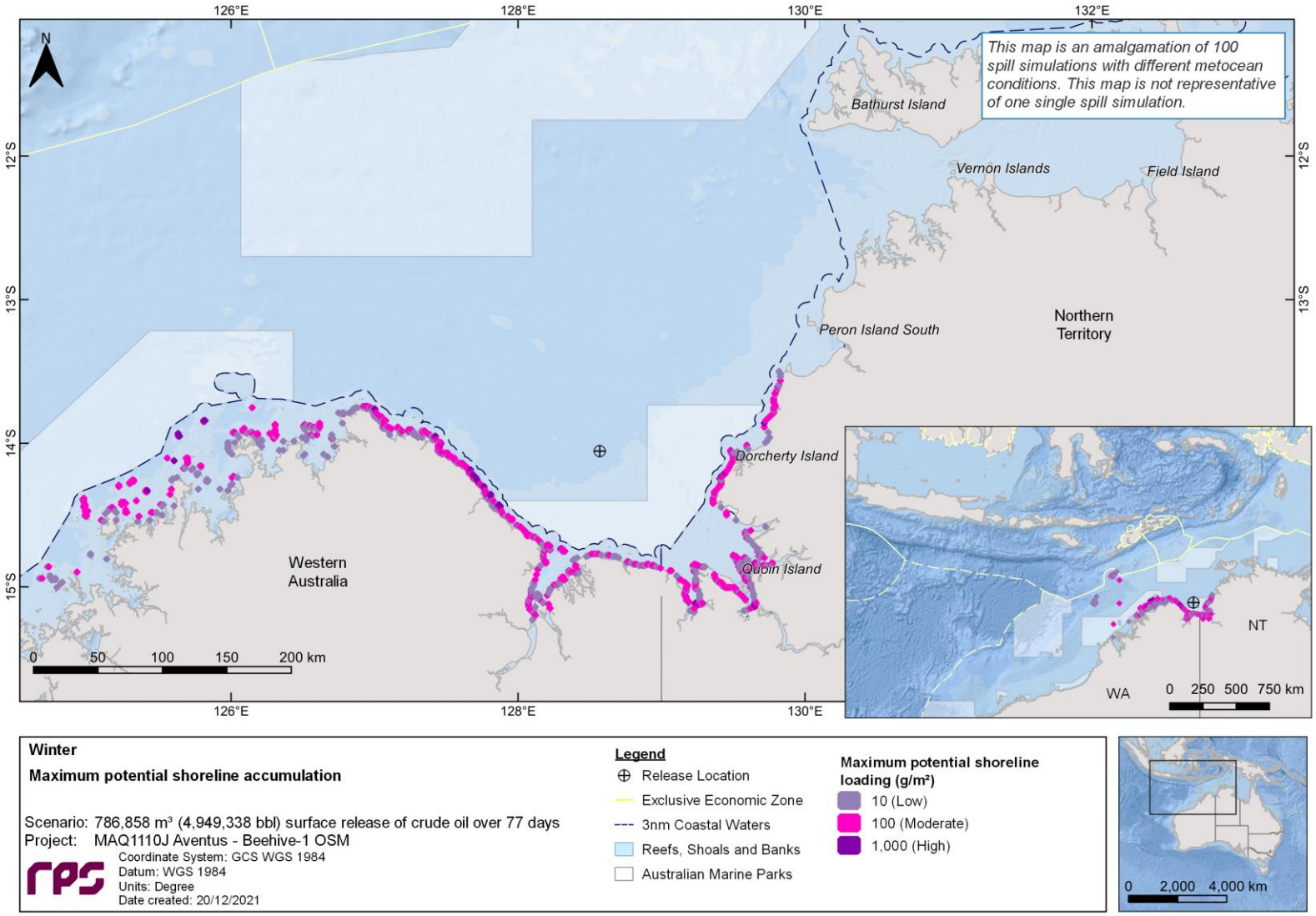

Figure 10.6 Maximum potential shoreline loading, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days during winter conditions. The results were calculated from 100 spill trajectories.

10.1.3 In-water exposure

10.1.3.1 Dissolved Hydrocarbons

Table 10.7 summarises the probability of exposure to individual receptors from dissolved hydrocarbons in the 0-10 m depth layer during seasonal conditions.

In the surface (0-10 m) depth layer, low, moderate and high exposure to dissolved hydrocarbons was recorded for a range of receptors (refer to Table 10.7). The highest dissolved hydrocarbon concentrations were predicted for the Joseph Bonaparte Gulf AMP and the carbonate bank and terrace system of the Sahul Shelf KEF, followed by the North Kimberley MP and Kimberley AMP during all seasonal conditions. In addition, the nearshore waters of the Thamarrurr, Wyndham-East Kimberley, Dorcherty Island, Clump Island Quoin Island, Daly, Victoria Daly shorelines and Ord River floodplain (Ramsar) were some of the receptors with the highest entrained hydrocarbons concentrations for all seasonal conditions.

Figure 10.7 to Figure 10.9 presents the zones of potential dissolved hydrocarbon exposure in the 0-10 m depth layer for the low (10-50 ppb), moderate (50-400 ppb) and high (≥400 ppb) exposure levels (NOPSEMA, 2019) for each season.

Table 10.7 Probability of exposure to individual receptors from dissolved hydrocarbons in the 0–10 m depth layer. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days during seasonal conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Summer				Transitional				Winter			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
AMP	Arafura	19	1	-	-	-	-	-	-	-	-	-	-
	Argo-Rowley Terrace	59	3	1	-	297	7	5	-	66	2	1	-
	Ashmore Reef	-	-	-	-	-	-	-	-	49	5	-	-
	Cartier Island	-	-	-	-	-	-	-	-	37	4	-	-
	Joseph Bonaparte Gulf	9,955	100	97	89	8,712	90	79	66	6,659	98	95	73
	Kimberley	5,086	49	47	24	3,271	62	58	20	1,705	84	67	15
	Mermaid Reef	-	-	-	-	195	3	2	-	46	2	-	-
	Oceanic Shoals	570	15	12	1	34	3	-	-	798	34	21	2
EEZ	East Timorian Exclusive Economic Zone	-	-	-	-	-	-	-	-	28	2	-	-
	Indonesian Exclusive Economic Zone	32	1	-	-	103	7	2	-	141	11	2	-
KEF	Ancient coastline at 125 m depth contour	679	24	16	1	1,479	45	29	2	496	21	9	1
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	-	-	-	-	-	-	-	-	69	5	1	-
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	-	-	-	-	-	-	-	-	14	1	-	-
	Carbonate bank and terrace system of the Sahul Shelf	5,161	92	85	63	7,293	89	86	79	7,462	100	98	95

Receptor		Summer				Transitional				Winter			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
	Carbonate bank and terrace system of the Van Diemen Rise	231	14	6	-	-	-	-	-	23	1	-	-
	Continental Slope Demersal Fish Communities	484	21	8	1	562	28	16	1	237	13	5	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	-	-	-	-	195	3	2	-	56	2	1	-
	Pinnacles of the Bonaparte Basin	524	8	8	1	335	7	5	-	1,187	16	8	3
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	107	3	2	-	18	1	-	-	66	4	1	-
MP	Garig Gunak Barlu	24	1	-	-	-	-	-	-	-	-	-	-
	Lalang-garram / Camden Sound	89	6	1	-	127	9	2	-	67	3	1	-
	North Kimberley	4,874	68	55	33	6,842	85	78	44	6,741	97	96	88
	North Lalang-garram	353	9	6	-	260	18	8	-	129	5	2	-
	Rowley Shoals	-	-	-	-	23	3	-	-	56	2	1	-
NR	Scott Reef	107	3	1	-	8	-	-	-	10	-	-	-
Ramsar	Ashmore Reef National Nature Reserve	-	-	-	-	-	-	-	-	49	5	-	-
	Cobourg Peninsula	13	1	-	-	-	-	-	-	-	-	-	-
	Ord River Floodplain	774	33	18	1	1,000	36	25	5	689	50	27	2
RSB	Abbott Shoal	73	4	1	-	-	-	-	-	-	-	-	-

Receptor	Summer				Transitional				Winter			
	Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
		Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
Afghan Shoal	85	10	1	-	-	-	-	-	-	-	-	-
Albert Reef	144	6	6	-	198	6	4	-	180	5	3	-
Ann Shoals	10	1	-	-	-	-	-	-	-	-	-	-
Baldwin Bank	418	26	15	1	188	10	4	-	496	31	12	1
Barbara Shoal	61	2	1	-	-	-	-	-	-	-	-	-
Barcoo Shoal	10	-	-	-	37	4	-	-	99	2	1	-
Barracouta Shoal	-	-	-	-	-	-	-	-	50	8	-	-
Bass Reef	1,109	15	10	4	809	2	2	1	-	-	-	-
Bassett-Smith Shoal	491	29	18	1	877	34	23	6	568	38	21	1
Beagle Shoals	129	5	2	-	-	-	-	-	-	-	-	-
Beagle and Dingo Reefs	141	7	4	-	325	11	4	-	140	5	3	-
Bill Shoal	225	6	4	-	-	-	-	-	-	-	-	-
Branch Banks	1,947	45	40	20	2,766	60	57	16	1,461	80	59	6
Brue Reef	21	3	-	-	54	4	1	-	95	2	1	-
Calder Shoal	26	2	-	-	-	-	-	-	-	-	-	-
Churchill Reef	101	6	1	-	205	6	4	-	150	5	3	-
Clerke Reef	-	-	-	-	23	3	-	-	54	1	1	-
Cootamundra Shoal	14	2	-	-	-	-	-	-	-	-	-	-
Deep Shoal 1	90	4	4	-	-	-	-	-	170	16	6	-
Deep Shoal 2	72	4	1	-	-	-	-	-	92	8	2	-
Draytons Reef	752	6	5	2	1	-	-	-	-	-	-	-
East Holothuria Reef	1,979	43	38	16	1,882	61	56	15	1,111	74	54	7
Echuca Shoal	564	24	15	1	523	36	23	1	267	16	6	-
Elizabeth Reef	693	6	5	2	1	-	-	-	-	-	-	-

Receptor	Summer				Transitional				Winter			
	Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
		Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
Elphinstone Reef	12	2	-	-	-	-	-	-	-	-	-	-
Emu Reefs	2,932	77	74	35	1,237	26	24	6	1,403	23	19	3
Eugene McDermott Shoal	109	6	1	-	18	3	-	-	140	17	6	-
Fantome Shoal	-	-	-	-	-	-	-	-	28	2	-	-
Favell Bank	247	14	9	-	15	2	-	-	294	18	10	-
Fish Reef	1,458	16	10	5	669	2	2	1	-	-	-	-
Fitzpatrick Shoal	15	1	-	-	-	-	-	-	-	-	-	-
Flat Top Bank	161	14	4	-	62	1	1	-	3	-	-	-
Foelsche Bank	567	18	6	2	111	1	1	-	-	-	-	-
Gale Bank	152	14	7	-	9	-	-	-	214	16	7	-
Giles Shoal	14	1	-	-	-	-	-	-	-	-	-	-
Goeree Shoal	-	-	-	-	2	-	-	-	98	8	2	-
Goodrich Bank	64	3	1	-	-	-	-	-	-	-	-	-
Hancox Shoal	392	15	5	-	52	1	1	-	-	-	-	-
Harris Reef	429	13	4	1	32	1	-	-	-	-	-	-
Heritage Reef	707	27	22	3	532	55	39	2	575	44	15	1
Heywood Shoal	74	9	1	-	69	13	4	-	108	15	2	-
Hinkler Patches	13	2	-	-	-	-	-	-	-	-	-	-
Holothuria Banks	3,206	46	40	19	2,993	60	57	18	1,529	78	55	8
Howland Shoals	2,331	75	72	27	1,306	39	30	9	1,205	24	24	9
Hunt Patch	146	6	3	-	-	-	-	-	-	-	-	-
Imperieuse Reef	-	-	-	-	15	1	-	-	26	1	-	-
Ingram Reef	638	28	22	2	769	56	48	4	383	48	25	-
Jamieson Reef	927	31	25	5	785	57	51	7	804	56	30	3

Receptor		Summer				Transitional				Winter			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
	Johnson Bank	-	-	-	-	-	-	-	-	24	3	-	-
	Jones Bank	1,020	12	9	4	538	2	2	1	-	-	-	-
	Kelleway Reef	467	9	6	3	117	2	2	-	-	-	-	-
	Knight Reef	719	12	5	1	88	1	1	-	-	-	-	-
	Long Reef	1,863	42	33	19	1,337	59	54	16	1,223	72	50	5
	Lowry Shoal	98	13	3	-	14	1	-	-	-	-	-	-
	Lyne Reef	533	14	6	2	90	1	1	-	-	-	-	-
	Marie Shoal	54	3	1	-	-	-	-	-	-	-	-	-
	Marsh Shoal	504	16	7	3	86	1	1	-	-	-	-	-
	Mataram Shoal	13	1	-	-	-	-	-	-	-	-	-	-
	Mavis Reef	108	7	6	-	146	9	3	-	115	5	2	-
	Mermaid Reef	-	-	-	-	73	3	2	-	46	2	-	-
	Mermaid Shoal	136	3	3	-	-	-	-	-	-	-	-	-
	Middle Reef	1,434	12	8	5	309	2	1	-	-	-	-	-
	Moira Reef	343	12	8	-	131	1	1	-	-	-	-	-
	Moresby Shoals	63	11	1	-	4	-	-	-	-	-	-	-
	Moss Shoal	51	3	1	-	-	-	-	-	-	-	-	-
	Newby Shoal	73	5	2	-	-	-	-	-	1	-	-	-
	Oliver Reef	380	16	5	-	43	1	-	-	-	-	-	-
	Oliver Rock	846	34	27	9	784	57	52	10	541	61	43	3
	Ommaney Shoals	12	1	-	-	-	-	-	-	-	-	-	-
	Osborn Reefs	46	7	-	-	65	11	1	-	47	4	-	-
	Otway Bank	1,577	43	38	17	1,758	60	57	16	931	77	53	6
	Parry Shoal	66	4	2	-	-	-	-	-	-	-	-	-

Receptor		Summer				Transitional				Winter			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
	Parsons Bank	17	3	-	-	-	-	-	-	-	-	-	-
	Penguin Shoal	703	31	24	3	809	22	18	4	617	34	16	1
	Rainbow Shoals	16	2	-	-	17	3	-	-	26	2	-	-
	Renard Shoals	84	1	1	-	-	-	-	-	-	-	-	-
	Robroy Reefs	561	24	21	3	415	46	32	1	657	29	10	1
	Rothery Reef	1,323	41	33	11	1,307	59	55	19	901	68	45	6
	Shepparton Shoal	218	15	9	-	-	-	-	-	-	-	-	-
	Skottowe Shoal	219	16	6	-	74	1	1	-	-	-	-	-
	Tait Bank	2,150	42	36	14	1,436	58	47	12	1,355	83	62	8
	Taiyun Shoal	147	8	4	-	-	-	-	-	-	-	-	-
	Taylor Patches	604	6	4	1	-	-	-	-	-	-	-	-
	The Boxers	13	1	-	-	-	-	-	-	2	-	-	-
	Tregenna Reef	297	10	4	-	24	1	-	-	-	-	-	-
	Van Cloon Shoal	196	15	8	-	25	1	-	-	545	26	14	1
	Vee Shoal	-	-	-	-	-	-	-	-	32	3	-	-
	Victoria Shoal	13	1	-	-	-	-	-	-	-	-	-	-
	Vulcan Shoal	-	-	-	-	-	-	-	-	115	9	3	-
	Wells Shoal	17	2	-	-	-	-	-	-	-	-	-	-
	West Holothuria Reef	871	32	29	3	804	57	39	5	1,114	46	24	2
	Wildcat Reefs	19	5	-	-	25	4	-	-	18	3	-	-
	Woodbine Bank	-	-	-	-	-	-	-	-	33	3	-	-
Nearshore Waters	Adele Island	82	6	1	-	159	6	4	-	99	3	2	-
	Ashmore Reef	-	-	-	-	-	-	-	-	38	5	-	-
	Bathurst Island	88	6	2	-	-	-	-	-	-	-	-	-

Receptor	Summer				Transitional				Winter			
	Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
		Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
Browse Island	532	20	11	1	305	30	13	-	311	13	5	-
Burford Island	15	1	-	-	-	-	-	-	-	-	-	-
Cartier Island	-	-	-	-	-	-	-	-	22	3	-	-
Clerke Reef	-	-	-	-	17	3	-	-	27	1	-	-
Clump Island	2,404	54	43	18	2,122	46	42	17	1,656	45	35	13
Cox-Finniss	1,025	38	20	5	727	2	2	1	-	-	-	-
Cunningham Island	-	-	-	-	10	1	-	-	15	1	-	-
Daly	1,186	57	43	5	359	16	9	-	153	9	3	-
Darwin	497	12	5	1	45	1	-	-	-	-	-	-
Dorcherty Island	1,916	74	64	30	2,443	40	33	23	2,207	27	24	20
Hibernia Reef	-	-	-	-	-	-	-	-	24	2	-	-
Imperieuse Reef	-	-	-	-	11	1	-	-	12	1	-	-
Litchfield	685	13	6	2	81	1	1	-	-	-	-	-
Melville Island	124	7	2	-	2	-	-	-	-	-	-	-
Mermaid Reef	-	-	-	-	73	3	2	-	26	1	-	-
Peron Island North	769	41	33	4	205	2	1	-	-	-	-	-
Peron Island South	338	38	16	-	35	2	-	-	-	-	-	-
Quoin Island	2,806	56	42	16	1,598	47	41	16	1,963	46	37	14
Sandy Islet	73	3	1	-	7	-	-	-	14	1	-	-
Scott Reef North	72	3	2	-	9	-	-	-	31	3	-	-
Scott Reef South	107	3	1	-	14	1	-	-	15	1	-	-
Seringapatam Reef	4	-	-	-	5	-	-	-	26	3	-	-
South Alligator	543	6	5	2	5	-	-	-	-	-	-	-
Thamarrurr	2,327	74	63	34	2,934	48	46	28	2,363	49	41	21

Receptor		Summer				Transitional				Winter			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High		Low	Moderate	High
	Turtle Point	1,226	61	50	10	1,115	45	39	8	1,736	52	41	13
	Vernon Islands	844	16	6	3	123	1	1	-	-	-	-	-
	Victoria Daly	2,472	59	49	19	2,274	46	39	18	3,922	50	42	21
	West Arnhem	18	1	-	-	-	-	-	-	-	-	-	-
	Whale Flat	1,003	58	48	8	2,181	46	39	11	893	41	30	6
	Wyndham - East Kimberley	4,819	61	49	27	3,767	79	68	40	4,223	97	95	82
State Waters	Northern Territory Sate Waters	4,113	79	72	38	3,694	58	53	31	3,922	61	56	28
	Western Australia State Waters	4,874	68	55	33	6,842	85	78	44	6,741	97	96	88

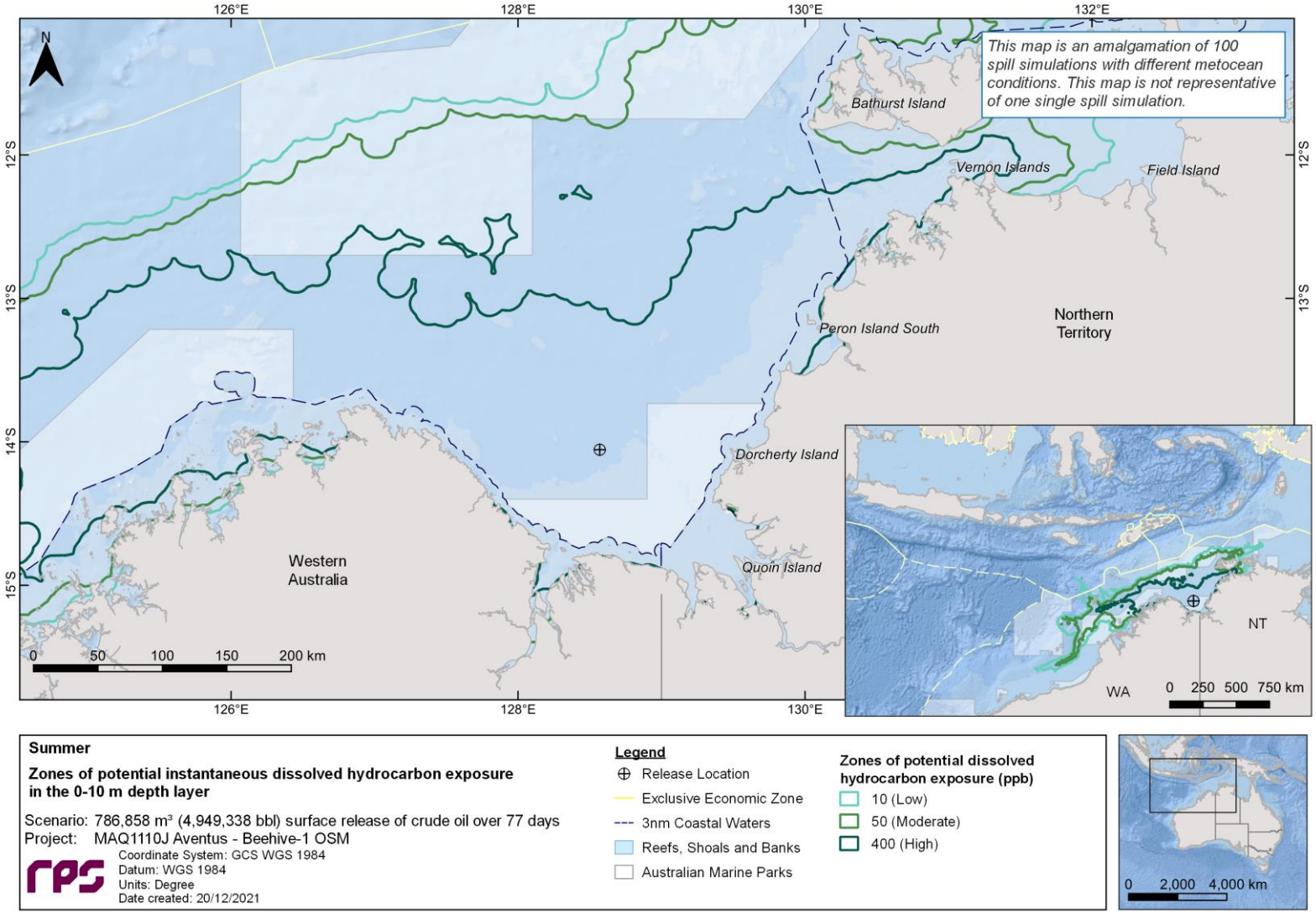

Figure 10.7 Zones of potential dissolved hydrocarbon exposure at 0-10 m below the sea surface, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories.

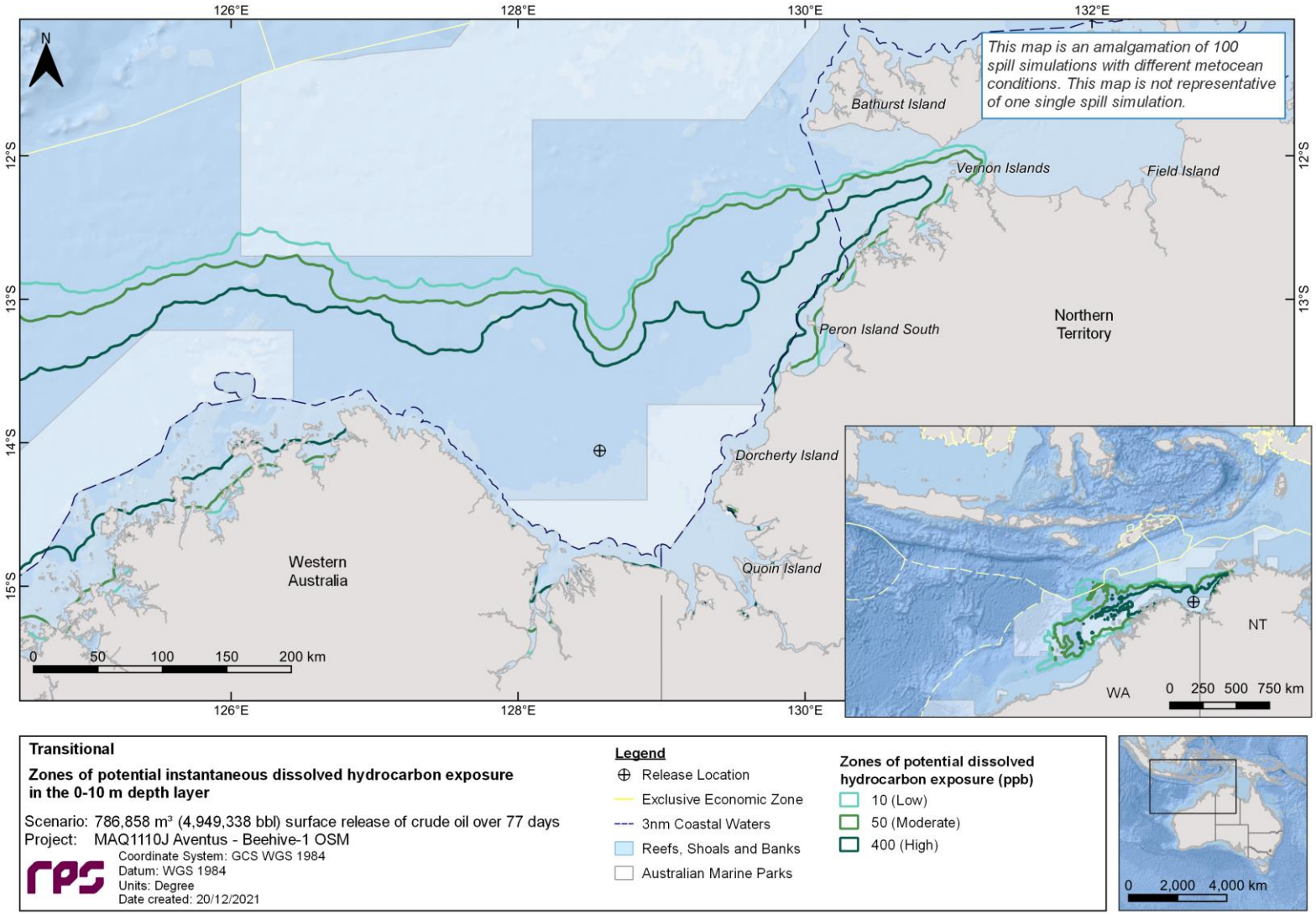

Figure 10.8 Zones of potential dissolved hydrocarbon exposure at 0-10 m below the sea surface, in the event of a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories.

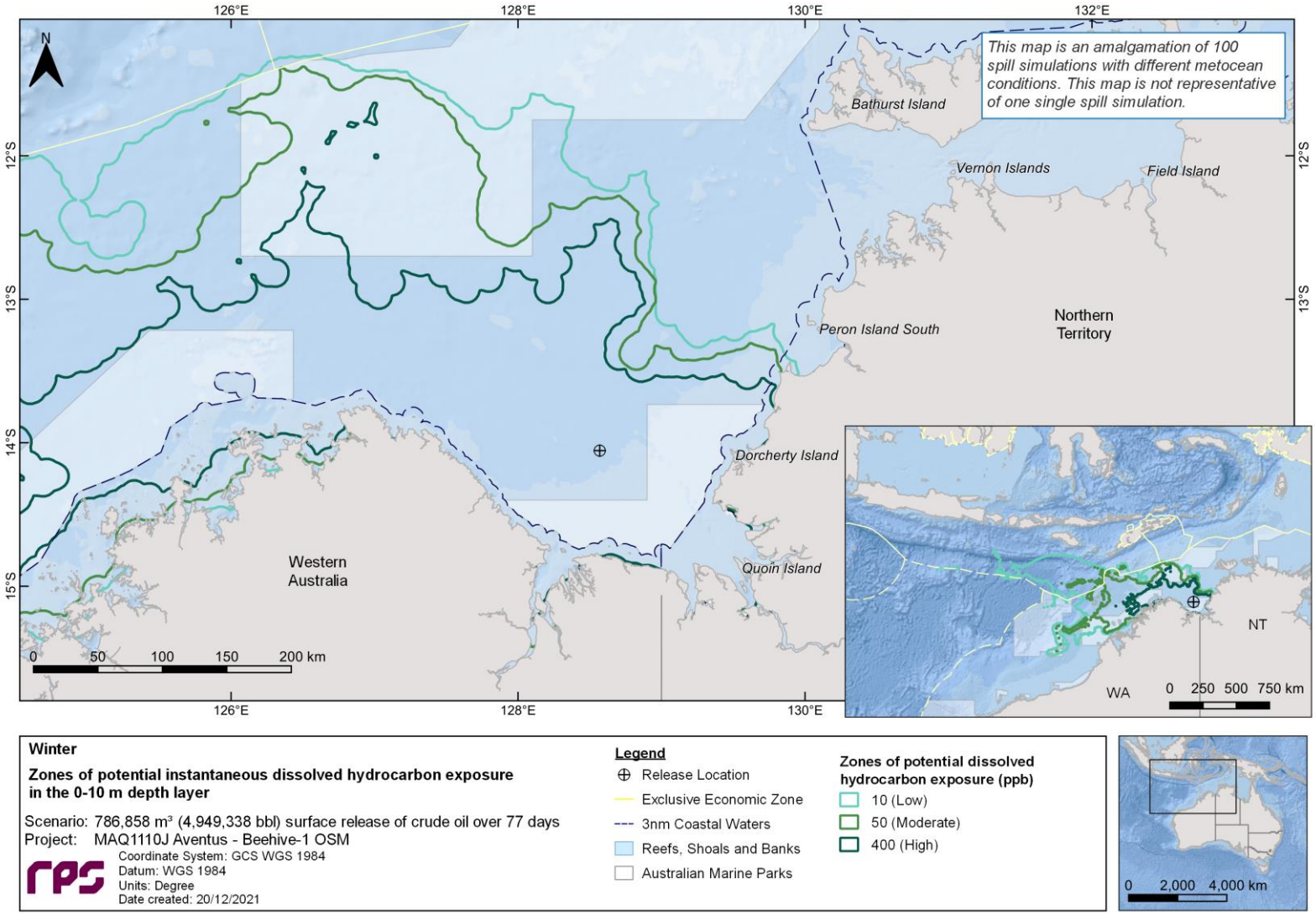

Figure 10.9 Zones of potential dissolved hydrocarbon exposure at 0-10 m below the sea surface, in the event of a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories.

10.1.3.2 Entrained Hydrocarbons

Table 10.8 presents the probability of exposure to individual receptors from entrained hydrocarbons at the low (10-100 ppb) and high (≥ 100 ppb) exposure levels in the 0-10 m depth layers for all seasonal conditions.

In the surface (0-10 m) depth layer, low and high exposure by entrained hydrocarbons was predicted for a large range of receptors (refer to Table 10.8). The carbonate bank and terrace system of the Sahul Shelf KEF, Joseph Bonaparte Gulf AMP, Kimberley AMP, North Kimberley MP and nearshore waters of the Thamarrurr, Wyndham - East Kimberley, Dorcherty Island, Clump Island, Quoin Island, Daly, Victoria Daly shorelines and Ord River floodplain (Ramsar) were some of the receptors predicted with the highest entrained hydrocarbons concentrations for all three seasons.

Figure 10.10 to Figure 10.12 illustrate the zones of potential entrained hydrocarbon exposure for the 0-10 m depth layers at the low (10-100 ppb) and high (≥100 ppb) exposure levels, for each season, respectively.

Table 10.8 Probability of entrained hydrocarbons exposure to marine based receptors in the 0–10 m depth layer. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Summer			Transitional			Winter		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High		Low	High
AMP	Arafura	167	8	3	-	-	-	-	-	-
	Argo-Rowley Terrace	335	10	9	629	17	10	395	12	3
	Arnhem	36	6	-	-	-	-	-	-	-
	Ashmore Reef	-	-	-	4	-	-	643	25	14
	Cartier Island	-	-	-	4	-	-	289	32	15
	Joseph Bonaparte Gulf	19,580	100	100	17,299	94	83	17,429	100	98
	Kimberley	8,810	56	48	9,414	74	62	8,870	93	88
	Mermaid Reef	62	7	-	200	11	5	137	2	2
	Montebello	-	-	-	26	1	-	-	-	-
	Oceanic Shoals	2,144	35	21	969	18	11	2,810	71	49
	Christmas Island Exclusive Economic Zone	-	-	-	-	-	-	61	4	-
	East Timorian Exclusive Economic Zone	8	-	-	-	-	-	132	16	5
EEZ	Indonesian Exclusive Economic Zone	359	6	1	378	15	8	719	39	18
KEF	Ancient coastline at 125 m depth contour	3,866	27	26	3,763	54	47	4,013	61	46
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	1	-	-	4	-	-	643	33	15
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	37	7	-	56	1	-	123	9	1
	Carbonate bank and terrace system of the Sahul Shelf	22,011	99	87	23,413	94	92	22,864	100	100
	Carbonate bank and terrace system of the Van Diemen Rise	1,729	28	20	14	1	-	99	13	-

Receptor		Summer			Transitional			Winter		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High		Low	High
	Continental Slope Demersal Fish Communities	3,341	24	24	1,819	52	44	1,900	48	32
	Glomar Shoals	-	-	-	35	1	-	-	-	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	65	7	-	209	15	5	141	2	2
	Pinnacles of the Bonaparte Basin	4,399	24	14	1,891	18	8	5,563	52	37
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	857	13	4	280	8	3	313	21	8
	Shelf break and slope of the Arafura Shelf	32	7	-	5	-	-	-	-	-
	Tributary Canyons of the Arafura Depression	81	5	-	-	-	-	-	-	-
MP	Garig Gunak Barlu	335	18	9	2	-	-	-	-	-
	Lalang-garram / Camden Sound	454	17	9	653	36	15	626	19	5
	Lalang-garram / Horizontal Falls	56	2	-	19	3	-	9	-	-
	North Kimberley	14,706	86	71	15,425	86	81	17,327	98	97
	North Lalang-garram	923	23	14	1,037	41	19	988	27	7
	Rowley Shoals	26	7	-	180	10	4	135	2	2
NR	Scott Reef	628	13	3	189	5	1	175	15	6
Ramsar	Ashmore Reef National Nature Reserve	-	-	-	4	-	-	643	25	14
	Cobourg Peninsula	278	18	6	1	-	-	-	-	-
	Kakadu National Park	88	6	-	-	-	-	-	-	-
	Ord River Floodplain	2,197	67	37	2,812	45	39	2,570	68	64
RSB	Abbott Shoal	640	23	13	3	-	-	-	-	-
	Afghan Shoal	1,126	28	18	6	-	-	-	-	-

Receptor	Summer			Transitional			Winter		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High		Low	High
Albert Reef	613	9	9	834	34	12	831	11	5
Ann Shoals	246	7	6	1	-	-	-	-	-
Baldwin Bank	2,630	39	33	1,068	32	25	2,453	67	46
Barbara Shoal	531	18	9	3	-	-	-	-	-
Barcoo Shoal	268	11	9	646	27	12	613	9	2
Barracouta Shoal	-	-	-	-	-	-	431	29	19
Bass Reef	3,607	36	30	2,681	3	2	2	-	-
Bassett-Smith Shoal	4,942	35	30	5,043	62	47	3,057	76	59
Beagle Shoals	499	26	20	3	-	-	-	-	-
Beagle and Dingo Reefs	765	13	11	804	41	18	772	14	6
Beatrice Reef	174	7	5	1	-	-	-	-	-
Big Bank Shoals	-	-	-	-	-	-	15	2	-
Bill Shoal	1,110	23	15	9	-	-	-	-	-
Branch Banks	5,863	46	43	6,299	66	60	5,610	90	84
Britomart Shoal	47	8	-	-	-	-	-	-	-
Brue Reef	264	9	9	474	18	9	466	10	2
Calder Shoal	58	9	-	-	-	-	-	-	-
Christine Reef	284	16	7	3	-	-	-	-	-
Churchill Reef	569	10	9	1,129	35	11	1,136	12	5
Clerke Reef	21	7	-	171	10	4	125	2	2
Cockell and Nicolle Reefs	32	9	-	30	11	-	121	4	1
Cootamundra Shoal	38	10	-	-	-	-	-	-	-
Deep Shoal 1	660	18	4	44	1	-	1,045	42	17
Deep Shoal 2	536	6	4	3	-	-	889	23	11

Receptor	Summer			Transitional			Winter		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High		Low	High
Draytons Reef	2,523	24	15	104	1	1	-	-	-
East Holothuria Reef	6,890	44	43	7,620	63	59	5,564	87	77
Echo Shoals	-	-	-	-	-	-	15	1	-
Echuca Shoal	3,814	24	24	2,091	51	47	1,196	50	35
Elizabeth Reef	2,547	27	15	125	1	1	-	-	-
Elphinstone Reef	87	11	-	-	-	-	-	-	-
Emu Reefs	9,285	84	81	6,442	53	35	4,607	34	23
Eugene McDermott Shoal	1,046	21	15	743	21	9	829	56	33
Fantome Shoal	-	-	-	-	-	-	167	8	4
Favell Bank	1,835	32	20	852	18	11	1,119	57	29
Fish Reef	3,144	33	29	2,098	3	2	1	-	-
Fitzpatrick Shoal	231	18	9	1	-	-	-	-	-
Flat Top Bank	1,053	29	14	15	1	-	41	8	-
Foelsche Bank	2,472	28	24	1,098	1	1	-	-	-
Gale Bank	1,105	24	17	250	8	3	1,082	44	24
Giles Shoal	452	19	11	2	-	-	-	-	-
Glomar Shoal	-	-	-	12	1	-	-	-	-
Goeree Shoal	47	13	-	185	4	1	466	43	26
Goodrich Bank	133	13	3	2	-	-	-	-	-
Hancox Shoal	1,743	28	24	646	1	1	-	-	-
Harris Reef	1,442	28	24	481	1	1	-	-	-
Heritage Reef	2,234	36	30	2,223	60	57	1,760	69	59
Heywood Shoal	1,084	23	21	888	30	19	954	49	38
Hinkler Patches	181	21	7	-	-	-	-	-	-

Receptor	Summer			Transitional			Winter		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High		Low	High
Holothuria Banks	8,579	51	45	9,350	68	60	6,061	90	83
Howland Shoals	7,657	83	76	6,081	51	47	5,588	40	27
Hunt Patch	489	26	20	4	-	-	-	-	-
Imperieuse Reef	16	4	-	108	9	1	65	2	-
Ingram Reef	2,165	38	33	2,929	60	59	3,002	71	64
Jabiru Shoals	-	-	-	-	-	-	20	1	-
Jamieson Reef	2,734	38	35	3,804	60	59	3,724	74	67
Johnson Bank	-	-	-	2	-	-	264	27	9
Jones Bank	3,316	33	29	2,339	2	2	1	-	-
Jones Shoal	59	11	-	-	-	-	-	-	-
Kelleway Reef	1,442	29	26	969	2	2	-	-	-
Knight Reef	2,305	28	24	794	1	1	-	-	-
Long Reef	3,767	43	43	3,891	60	60	3,939	87	78
Lowry Shoal	700	29	22	240	1	1	-	-	-
Lyne Reef	2,762	28	24	1,113	1	1	-	-	-
Lynedoch Bank	22	3	-	4	-	-	-	-	-
Mangola Shoal	-	-	-	-	-	-	14	1	-
Margaret Shoal	154	7	2	-	-	-	-	-	-
Marie Shoal	204	14	6	3	-	-	-	-	-
Marsh Shoal	2,445	28	24	1,022	1	1	-	-	-
Mataram Shoal	392	17	9	3	-	-	-	-	-
Mavis Reef	519	11	10	709	35	15	722	11	6
Mermaid Reef	45	6	-	184	10	5	136	2	2
Mermaid Shoal	262	15	9	10	-	-	-	-	-

Receptor		Summer			Transitional			Winter		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High		Low	High
	Middle Reef	1,984	31	27	1,363	2	2	1	-	-
	Moira Reef	1,395	31	26	1,020	2	2	-	-	-
	Money Shoal	118	6	2	-	-	-	-	-	-
	Moresby Shoals	733	29	22	92	1	-	-	-	-
	Moss Shoal	234	16	9	2	-	-	-	-	-
	Newby Shoal	467	12	7	6	-	-	11	1	-
	Oliver Reef	2,213	28	24	765	1	1	-	-	-
	Oliver Rock	2,585	39	37	3,801	60	58	3,758	82	70
	Ommaney Shoals	197	21	10	-	-	-	-	-	-
	Orontes Reef	53	11	-	-	-	-	-	-	-
	Osborn Reefs	537	19	8	659	39	15	708	16	6
	Otway Bank	6,204	43	43	6,715	62	59	5,603	88	82
	Parry Shoal	251	15	8	4	-	-	-	-	-
	Parsons Bank	347	28	16	31	1	-	-	-	-
	Penguin Shoal	4,426	40	29	3,852	55	31	4,060	71	50
	Rainbow Shoals	188	14	7	265	25	15	532	15	4
	Rankin Bank	-	-	-	27	2	-	-	-	-
	Renard Shoals	202	22	11	1	-	-	-	-	-
	Robroy Reefs	2,091	33	27	2,099	60	56	2,163	66	46
	Rothery Reef	3,203	43	43	4,433	60	59	4,377	85	75
	Shepparton Shoal	1,377	30	21	16	1	-	1	-	-
	Skottowe Shoal	908	29	24	393	2	1	-	-	-
	Tait Bank	5,389	50	43	5,573	68	60	6,143	93	88
	Taiyun Shoal	753	25	20	4	-	-	-	-	-

Receptor		Summer			Transitional			Winter		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High		Low	High
	Taylor Patches	1,892	24	18	94	1	-	-	-	-
	The Boxers	123	3	3	-	-	-	14	2	-
	Tregenna Reef	1,286	28	22	342	1	1	-	-	-
	Van Cloon Shoal	1,839	35	18	828	18	3	2,204	63	44
	Vee Shoal	-	-	-	-	-	-	175	9	4
	Victoria Shoal	261	11	6	3	-	-	-	-	-
	Vulcan Shoal	23	13	-	28	2	-	357	40	22
	Wells Shoal	520	20	11	2	-	-	-	-	-
	West Holothuria Reef	2,670	44	34	3,036	63	59	2,860	77	63
	Wildcat Reefs	289	15	8	370	35	15	602	12	5
	Woodbine Bank	-	-	-	-	-	-	178	28	9
Nearshore Waters	Adele Island	431	11	9	997	29	11	975	11	4
	Ashmore Reef	-	-	-	2	-	-	643	25	14
	Bathurst Island	413	20	12	8	-	-	-	-	-
	Broome	35	2	-	65	7	-	30	1	-
	Browse Island	3,042	24	24	1,542	52	46	954	45	32
	Burford Island	290	13	7	2	-	-	-	-	-
	Cartier Island	-	-	-	2	-	-	266	31	13
	Clerke Reef	20	7	-	166	10	4	125	2	2
	Clump Island	9,454	75	70	9,459	48	46	7,823	56	50
	Cox-Finniss	4,105	57	44	2,527	4	3	6	-	-
	Cunningham Island	14	4	-	92	9	-	60	2	-
	Daly	5,442	73	64	3,227	23	18	739	21	8
	Darwin	1,354	28	22	583	1	1	-	-	-

Receptor	Summer			Transitional			Winter		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High		Low	High
Derby - West Kimberley	93	8	-	101	13	1	42	5	-
Dorcherty Island	9,502	82	79	11,379	52	45	11,284	41	31
Field Island	104	7	1	-	-	-	-	-	-
Grant Island	17	4	-	-	-	-	-	-	-
Greenhill Island	311	10	6	1	-	-	-	-	-
Hibernia Reef	-	-	-	-	-	-	196	19	5
Imperieuse Reef	16	4	-	108	7	1	60	2	-
Kingfisher Islands	33	2	-	19	2	-	6	-	-
Lacepede Islands	27	1	-	12	2	-	1	-	-
Lawson Island	30	6	-	-	-	-	-	-	-
Litchfield	2,345	28	24	867	1	1	-	-	-
McCluer Island	28	7	-	-	-	-	-	-	-
Melville Island	308	28	19	101	1	1	-	-	-
Mermaid Reef	41	6	-	184	10	4	125	2	2
Minjilang	53	8	-	-	-	-	-	-	-
Mogogout Island	155	6	1	-	-	-	-	-	-
Morse Island	156	7	2	-	-	-	-	-	-
New Year Island	39	6	-	-	-	-	-	-	-
Oxley Island	49	8	-	-	-	-	-	-	-
Peron Island North	3,934	59	49	1,333	5	4	10	1	-
Peron Island South	2,769	58	45	1,261	4	3	6	-	-
Quoin Island	9,021	75	70	8,841	49	47	8,554	58	51
Sandy Islet	279	10	3	103	5	1	181	13	6
Scott Reef North	428	13	3	151	6	1	206	12	6

Receptor		Summer			Transitional			Winter		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High		Low	High
	Scott Reef South	688	13	3	238	6	1	196	17	6
	Seringapatam Reef	72	12	-	145	8	3	313	20	7
	South Alligator	2,496	28	19	243	1	1	-	-	-
	Thamarrurr	13,795	82	77	16,021	57	51	15,790	59	52
	Turtle Point	3,687	77	66	3,766	51	41	4,962	60	59
	Vernon Islands	3,139	28	24	1,074	2	1	-	-	-
	Victoria Daly	9,021	80	70	9,459	53	46	9,153	60	59
	West Arnhem	234	18	7	1	-	-	-	-	-
	Whale Flat	4,419	74	70	4,431	47	46	4,196	52	49
	Wunmiyi Island	103	7	1	-	-	-	-	-	-
	Wyndham - East Kimberley	13,432	82	62	13,506	86	72	16,868	97	97
State Waters	Northern Territory Sate Waters	13,975	85	81	16,670	62	57	16,710	65	61
	Western Australia State Waters	14,706	86	71	15,425	86	81	17,327	98	97
MNP - Timor	KKPN Laut Sawu	1	-	-	-	-	-	34	2	-

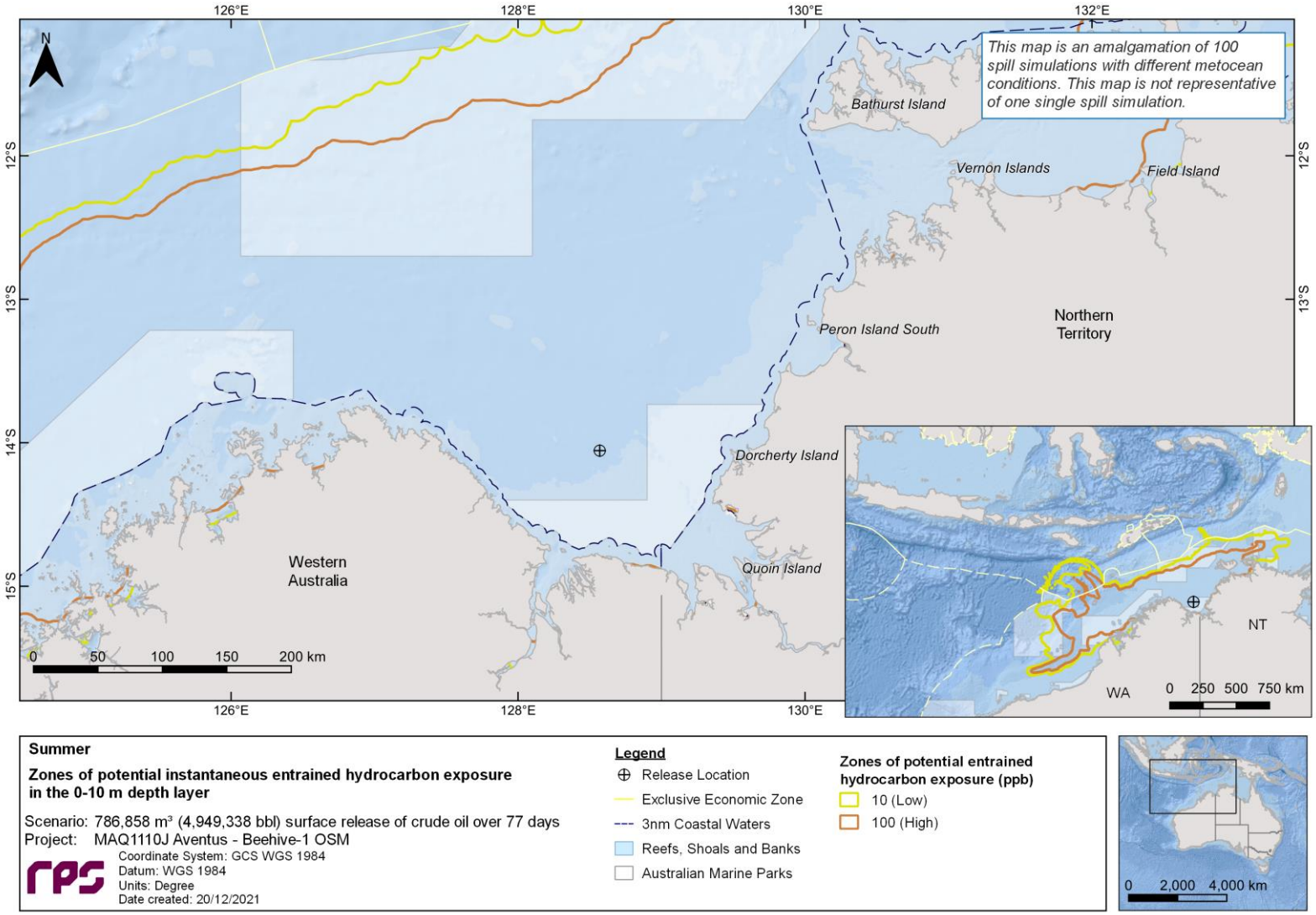

Figure 10.10 Zones of potential entrained hydrocarbon exposure at 0-10 m below the sea surface, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories.

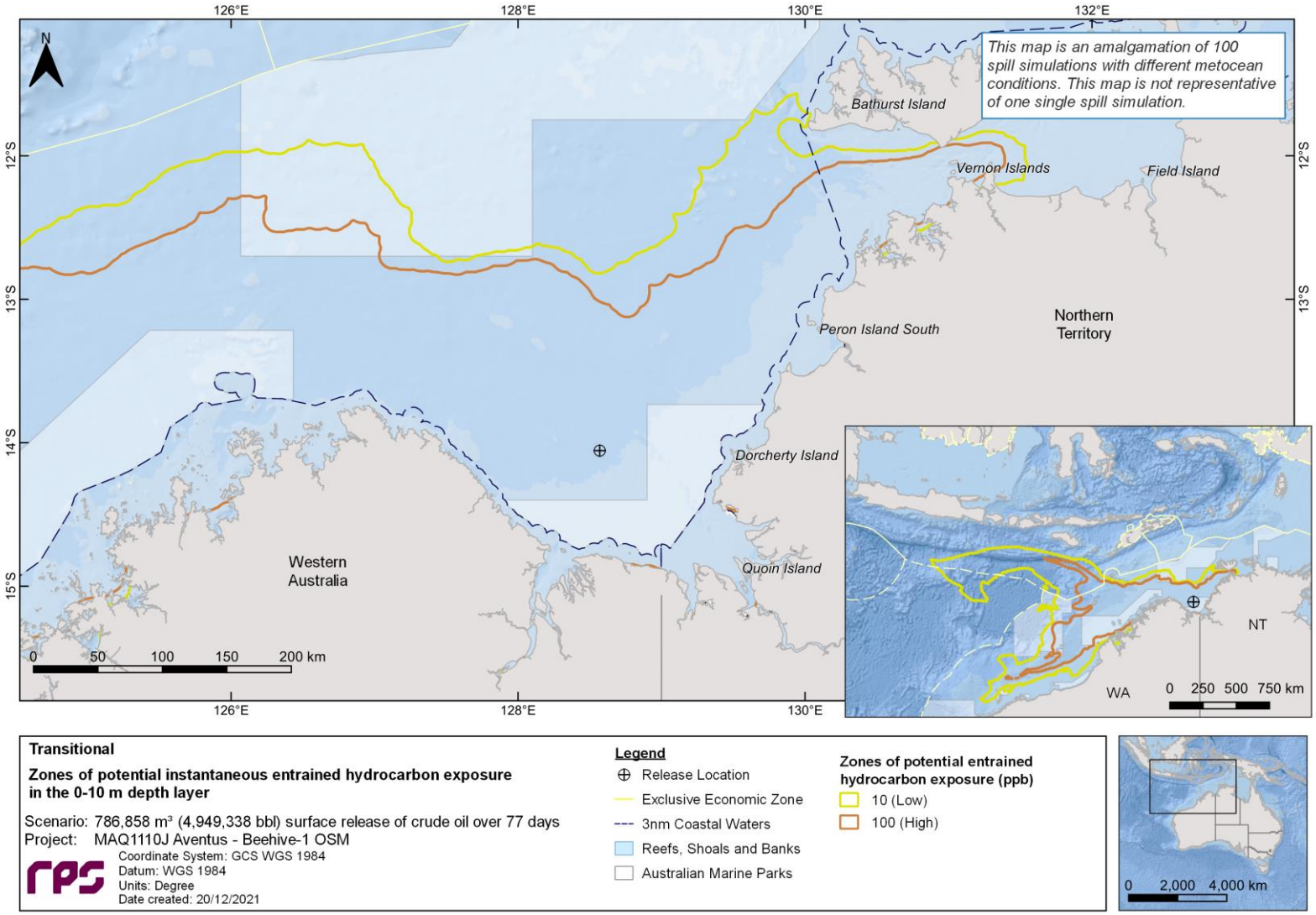

Figure 10.11 Zones of potential entrained hydrocarbon exposure at 0-10 m below the sea surface, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories.

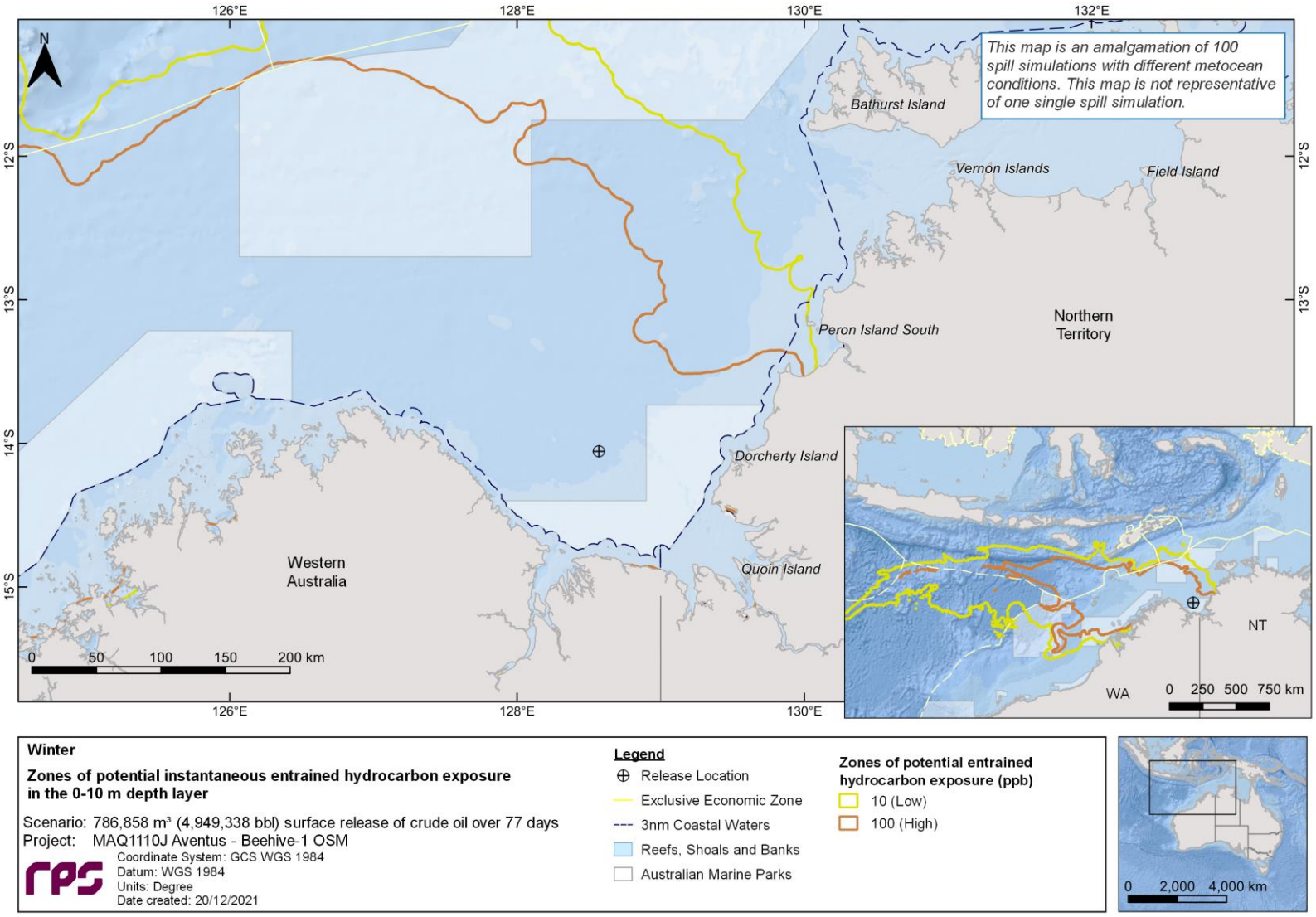

Figure 10.12 Zones of potential entrained hydrocarbon exposure at 0-10 m below the sea surface, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories.

10.2 Deterministic Analysis

The stochastic modelling results were assessed, and the “worst case” deterministic runs were identified and presented below. The deterministic analysis assessed the largest swept area of floating oil above 1 g/m^2 (see Section 10.2.1), the minimum time before shoreline accumulation above 10 g/m^2 (see Section 10.2.2), the largest volume of oil ashore (see Section 1.1.1), the longest length of shoreline accumulation above 10 g/m^2 (see Section 1.1.1), the largest area of entrained hydrocarbons above 10 ppb (see Section 10.2.5), and the largest area of dissolved hydrocarbons above 10 ppb (see Section 1.1.1).

Table 10.9 presents a summary of all deterministic analysis criteria and the corresponding floating oil, shoreline accumulation, entrained hydrocarbon and dissolved hydrocarbon values at the assessed thresholds.

Table 10.9 Summary of the deterministic analysis. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions.

Variable	Threshold	Deterministic Analysis Criteria: Largest swept area of floating oil above 1 g/m^2	Minimum time before shoreline accumulation above 10 g/m^2	Largest volume of oil ashore	Longest length of shoreline accumulation above 10 g/m^2	Largest area of entrained hydrocarbons above 10 ppb	Largest area of dissolved hydrocarbons above 10 ppb
Season		Summer	Transitional	Summer	Summer	Winter	Summer
Run Number		79	88	17	33	1	7
Floating Oil Coverage (km^2)	1 g/m^2	**32,881**	26,229	13,839	16,086	6,331	16,851
	10 g/m^2	1,524	1,740	1,879	1,514	734	1,480
	50 g/m^2	886	1,047	883	855	446	890
Shoreline Length (km)	10 g/m^2	90	212	186	**225**	37	198
	100 g/m^2	48	124	115	86	17	72
	1,000 g/m^2	1	16	10	0	0	0
Minimum Time (hours)	10 g/m^2	835	**603**	476	644	855	732
	100 g/m^2	1,300	605	644	806	1,217	752
	1,000 g/m^2	2,203	1,107	1,085			
Maximum Volume (m^3)		168	261	**705**	232	54	212
Entrained Area (km^2)	10 ppb	141,066	83,846	30,291	235,748	**497,484**	238,868
	100 ppb	110,929	59,978	24,455	150,742	132,528	152,077
Dissolved Area (km^2)	10 ppb	96,182	56,884	21,430	132,870	57,316	**134,488**
	50 ppb	61,042	46,082	19,147	73,065	25,871	70,991
	400 ppb	16,893	16,397	9,980	15,731	9,955	14,580
Start Date		16th January 2011	23rd September 2016	19th December 2011	25th November 2013	8th June 2011	27th November 2013

NC = No contact at, or above the specified shoreline accumulation threshold.

10.2.1 Deterministic Case: Largest swept area of floating oil above 1 g/m^2

The deterministic trajectory that resulted in the largest swept area of floating oil above 1 g/m^2 (low threshold and visible floating oil) was identified during summer conditions as run number 79 which started on 16th January 2011 (map illustrated in Figure 10.13).

Figure 10.14 displays the time series of the swept area of low (1 g/m^2), moderate (10 g/m^2) and high (50 g/m^2) floating oil over the 98-day simulation.

Figure 10.15 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.10 summarises the mass balance at the end of the simulation.

Table 10.10 Summary of the mass balance at day 98, for the trajectory that resulted in the largest swept area of floating oil above 1 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)
Surface/Floating Oil (m^3)	0
Entrained (m^3)	140,659
Dissolved (m^3)	419
Evaporated (m^3)	296,775
Decay (m^3)	348,045
Ashore/Shoreline (m^3)	166
Sediment (m^3)	794

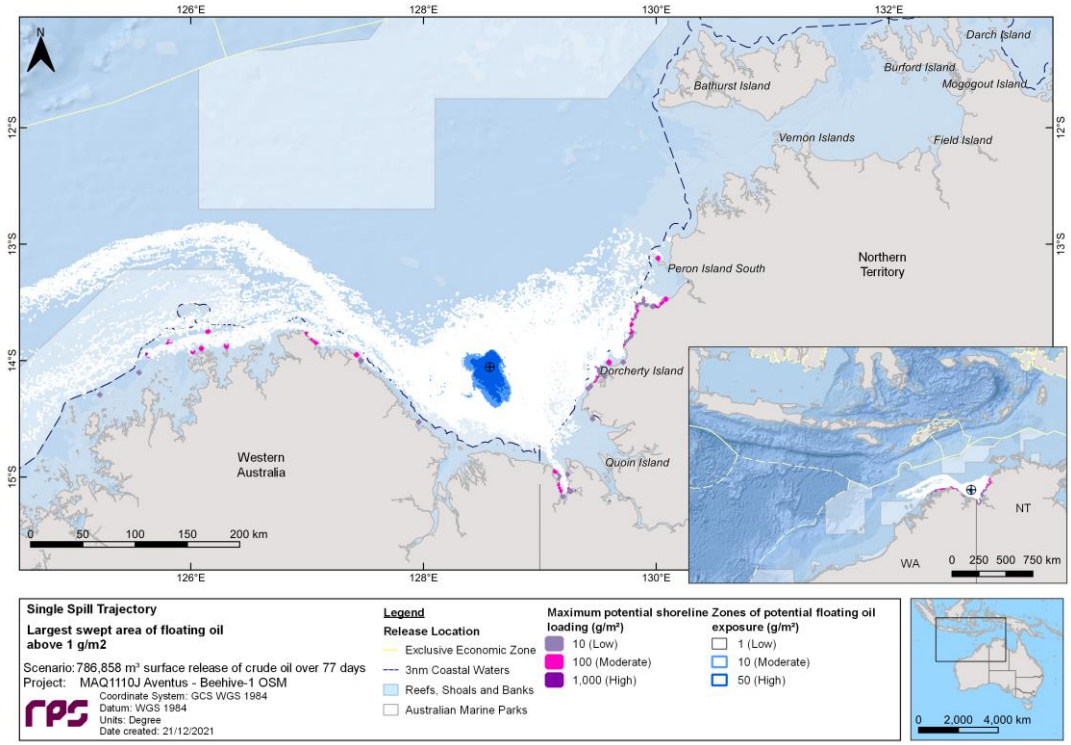

Figure 10.13 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the largest swept area of floating oil above 1 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

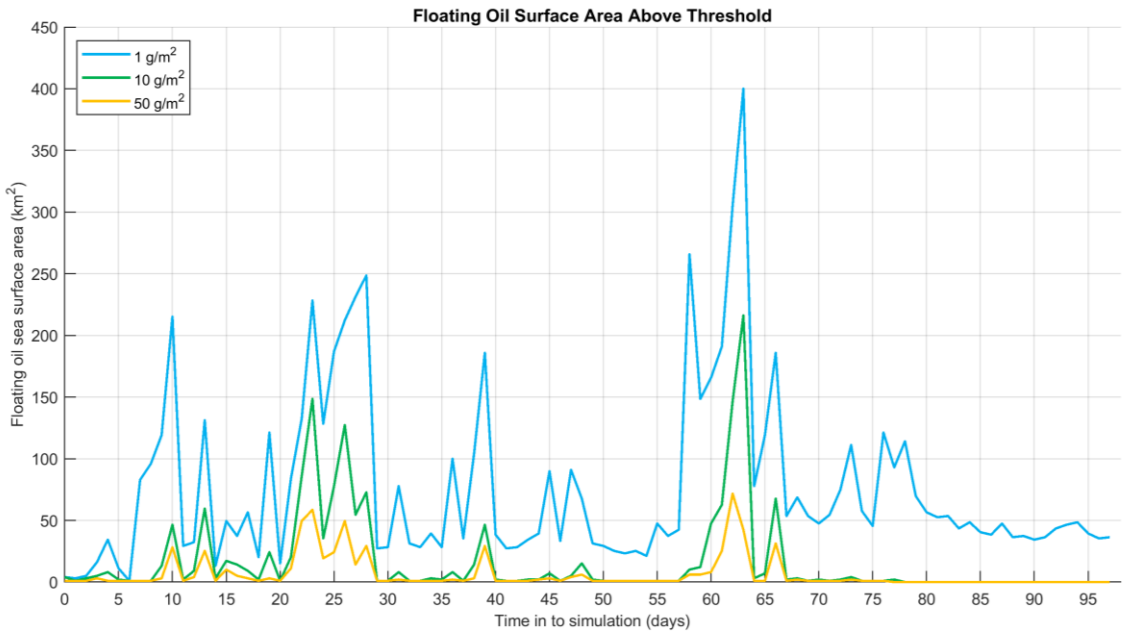

Figure 10.14 Time series of the area of low (1 g/m^2), moderate (10 g/m^2) and high (50 g/m^2) floating oil for the trajectory with the largest swept area of floating oil above 1 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

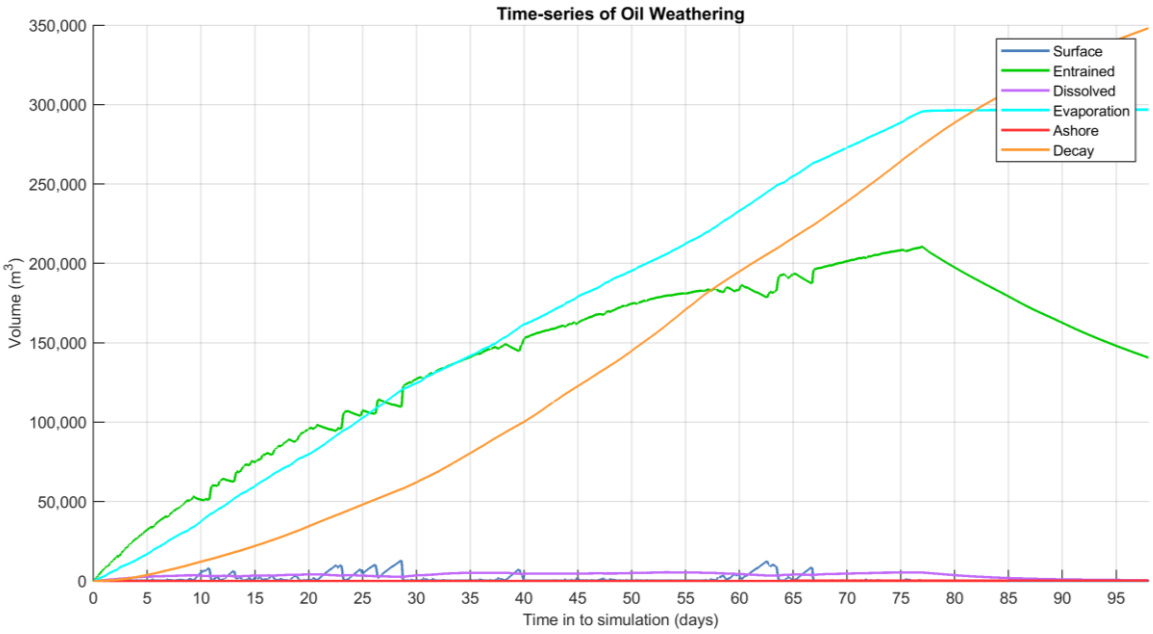

Figure 10.15 Predicted weathering and fates graph for the trajectory with the largest swept area of floating oil above 1 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.2 Deterministic Case: Minimum time before shoreline accumulation above 10 g/m^2

The deterministic trajectory that resulted in the minimum time before shoreline accumulation above the low threshold (10 g/m^2) was identified during transitional conditions as run number 88 which started on the 23rd September 2016 (map illustrated in Figure 10.16

Figure 10.17 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.11 summarises the mass balance at the end of the 98-day simulation.

Table 10.11 Summary of the mass balance at day 98, for the trajectory that resulted in the minimum time before shoreline accumulation above the low threshold (10 g/m^2). Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)
Surface/Floating Oil (m^3)	0
Entrained (m^3)	144,203
Dissolved (m^3)	401
Evaporated (m^3)	317,482
Decay (m^3)	323,707
Ashore/Shoreline (m^3)	271
Sediment (m^3)	794

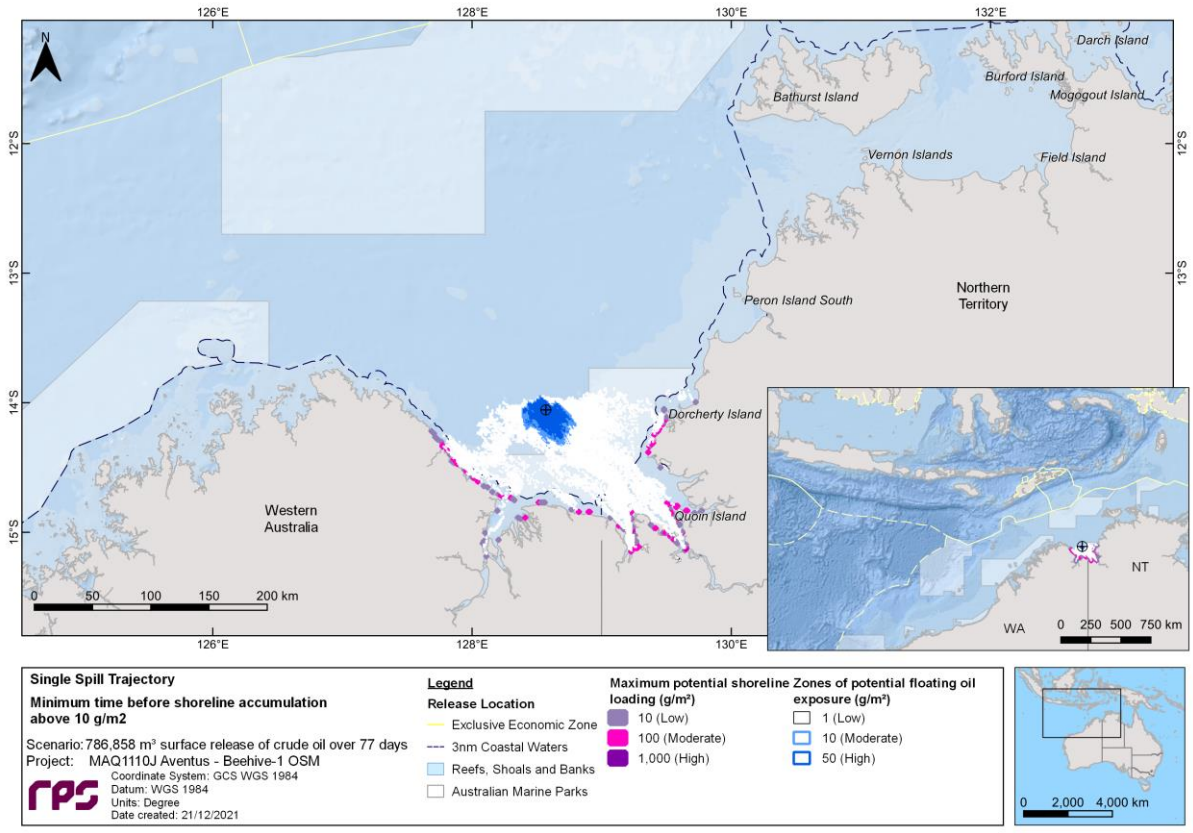

Figure 10.16 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the minimum time before shoreline accumulation above 10 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

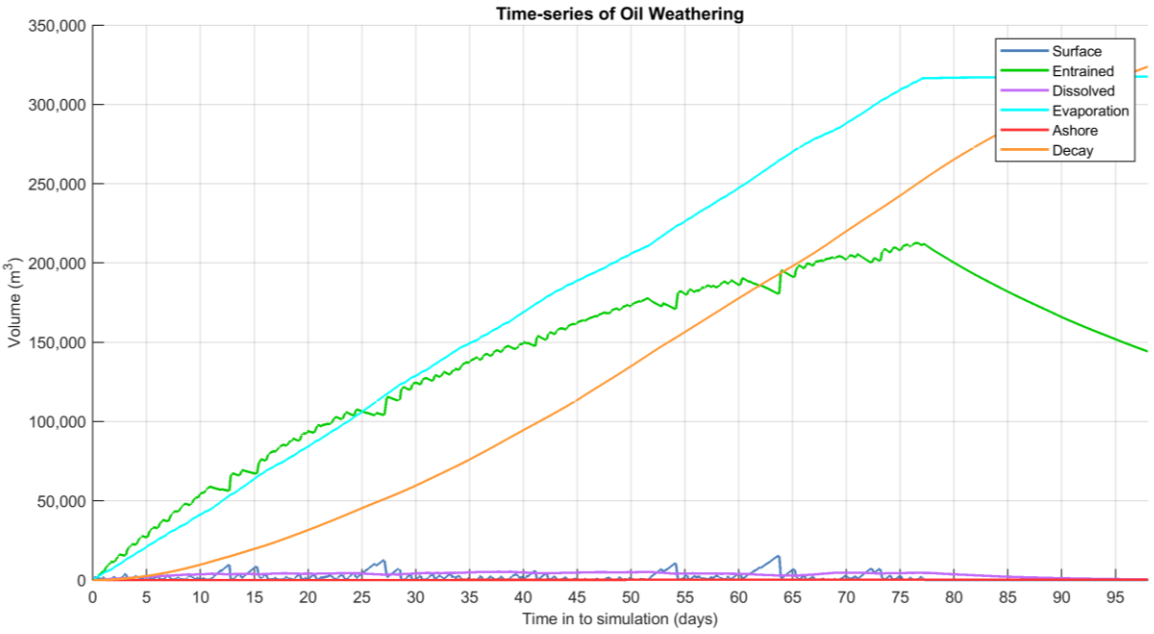

Figure 10.17 Predicted weathering and fates graph for the trajectory with the minimum time before shoreline accumulation above 10 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.3 Deterministic Case: Largest volume of oil ashore

The deterministic trajectory that resulted in the largest volume of oil ashore was identified during summer conditions as run number 84 which started on the 19th December 2011 (map illustrated in Figure 10.18).

Figure 10.19 displays the time series of the volume of oil accumulating on shorelines at the low (10 g/m^2), moderate (100 g/m^2) and high (1,000 g/m^2) thresholds over the 98-day simulation.

Figure 10.20 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.12 summarises the mass balance at the end of the simulation.

Table 10.12 Summary of the mass balance at day 98, for the trajectory that resulted in the largest volume of oil ashore. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)
Surface/Floating Oil (m^3)	0
Entrained (m^3)	141,875
Dissolved (m^3)	830
Evaporated (m^3)	325,596
Decay (m^3)	317,102
Ashore/Shoreline (m^3)	659
Sediment (m^3)	794

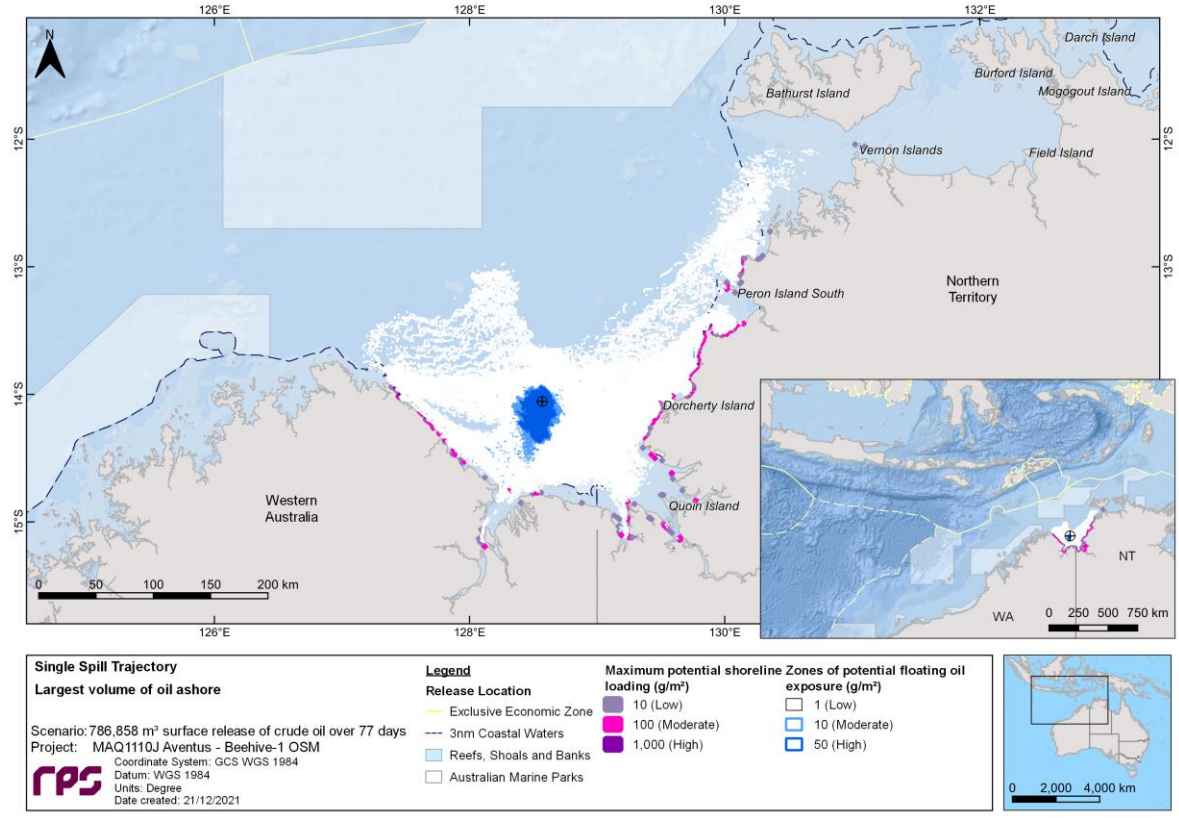

Figure 10.18 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the largest volume of oil ashore. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

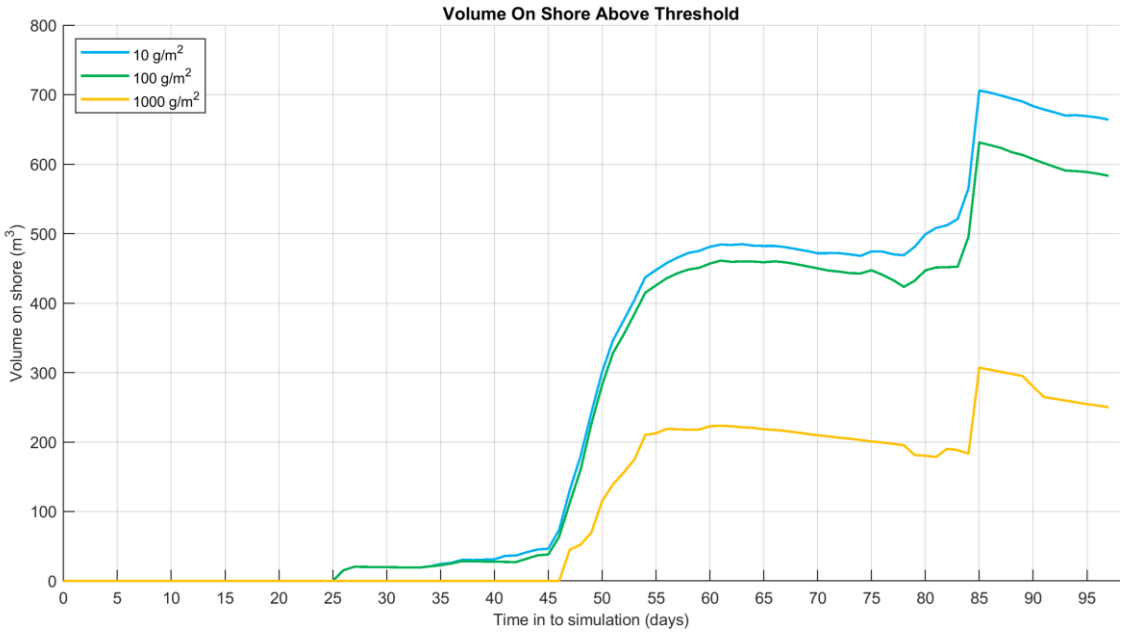

Figure 10.19 Time series of the volume of oil accumulating on shorelines at the low (10 g/m2), moderate (100 g/m2) and high (1,000 g/m2) thresholds for the trajectory with the largest volume of oil ashore. Results are based on a 786,858 m3 surface release of crude oil over 77 days, tracked for 98 days.

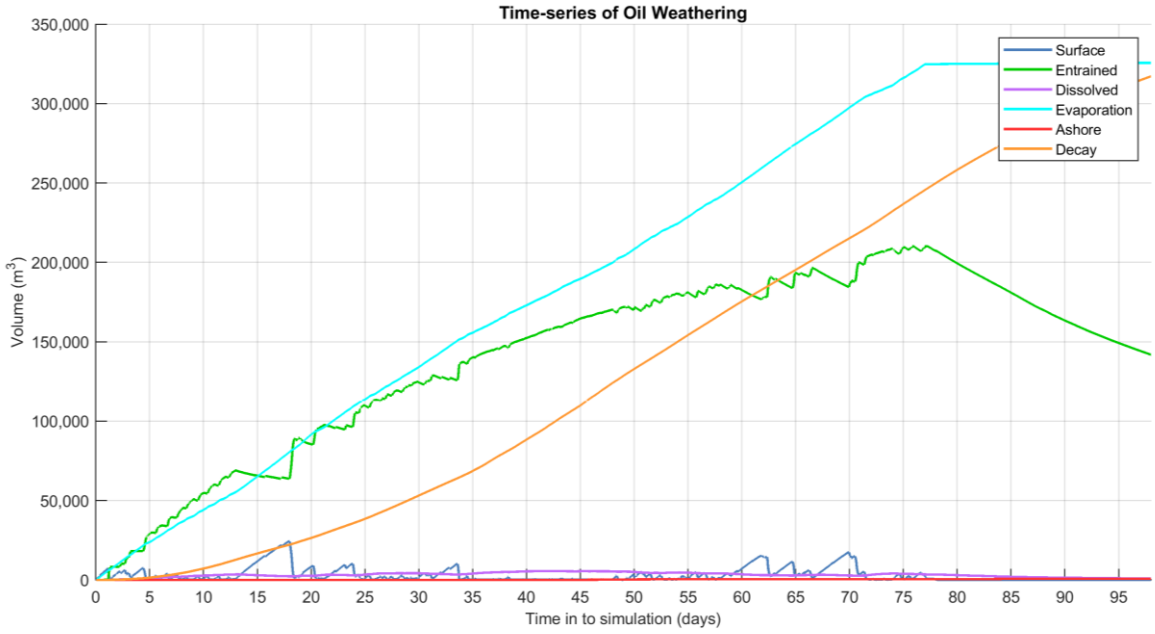

Figure 10.20 Predicted weathering and fates graph for the trajectory with the largest volume of oil ashore. Results are based on a 786,858 m3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.4 Deterministic Case: Longest length of shoreline accumulation above 10 g/m^2

The deterministic trajectory that resulted in the longest length of shoreline accumulation above 100 g/m^2 was identified during summer conditions as run number 33 which started on the 25th November 2013 (map illustrated in Figure 10.21).

Figure 10.22 displays the time series of the length of oil accumulation on shorelines at the low (10 g/m^2), moderate (100 g/m^2) and high (1,000 g/m^2) thresholds over the 98-day simulation.

Figure 10.23 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.13 summarises the mass balance at the end of the simulation.

Table 10.13 Summary of the mass balance at day 98, for the trajectory that resulted in the longest length of shoreline accumulation above 10 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)
Surface/Floating Oil (m^3)	0
Entrained (m^3)	140,158
Dissolved (m^3)	491
Evaporated (m^3)	315,572
Decay (m^3)	329,599
Ashore/Shoreline (m^3)	245
Sediment (m^3)	794

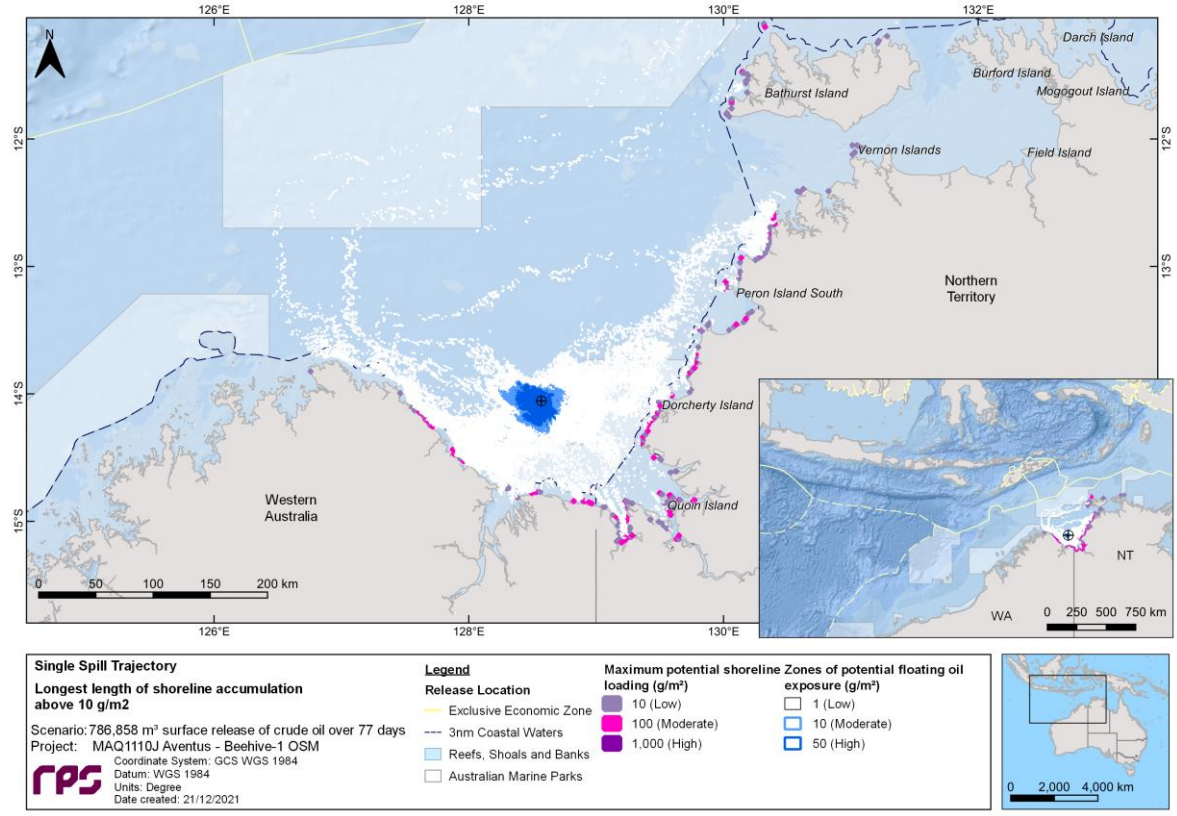

Figure 10.21 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the longest length of shoreline accumulation above 10 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

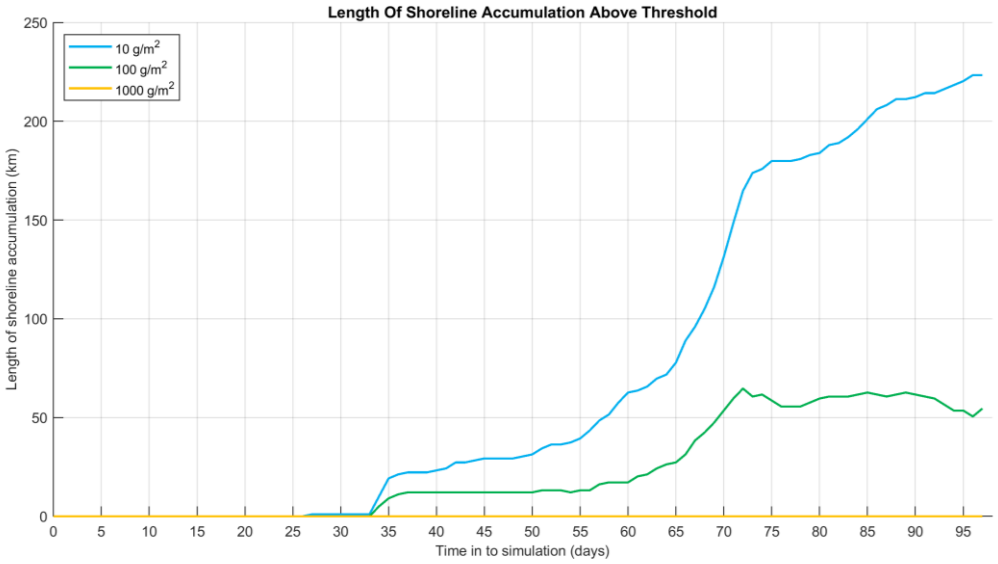

Figure 10.22 Time series of the length of shoreline at the low (10 g/m^2), moderate (100 g/m^2) and high (1,000 g/m2) thresholds for the trajectory with the longest length of shoreline accumulation above 10 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

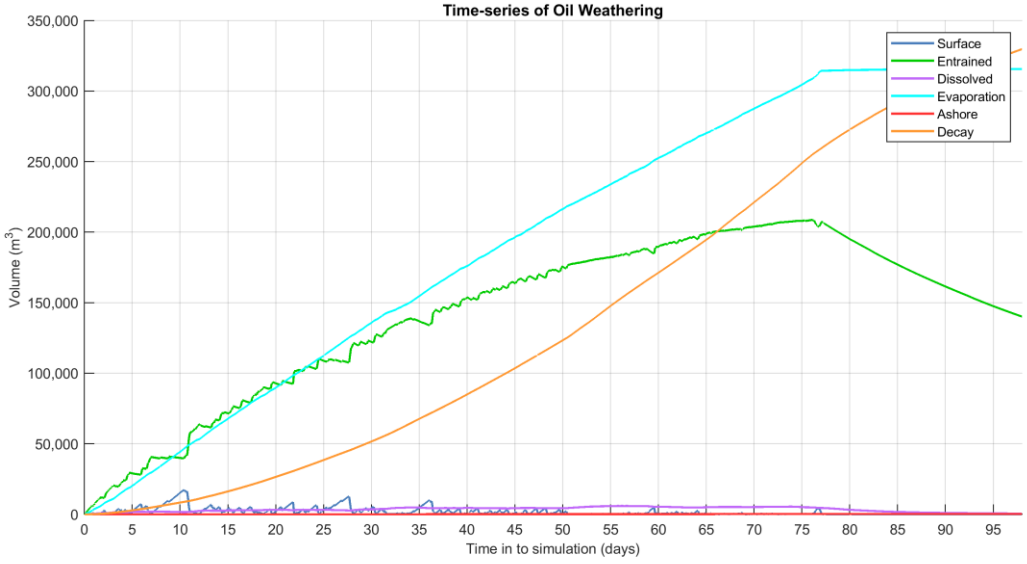

Figure 10.23 Predicted weathering and fates graph for the trajectory with the longest length of shoreline accumulation above 10 g/m^2. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.5 Deterministic Case: Largest area of entrained hydrocarbons above 10 ppb

The deterministic trajectory that resulted in the largest area of entrained hydrocarbons above 10 ppb (low threshold) was identified during winter conditions as run number 1 which started on the 8th June 2011 (map illustrated in Figure 10.24).

Figure 10.25 displays the time series of the area of entrained hydrocarbons at the low (10 ppb) and moderate (100 ppb) thresholds over the 98-day simulation.

Figure 10.26 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.14 summarises the mass balance at the end of the simulation.

Table 10.14 Summary of the mass balance at day 98, for the trajectory that resulted in the largest area of entrained hydrocarbons above 10 ppb. Results are based on 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)
Surface/Floating Oil (m³)	0
Entrained (m³)	142,358
Dissolved (m³)	562
Evaporated (m³)	291,765
Decay (m³)	351,324
Ashore/Shoreline (m³)	55
Sediment (m³)	794

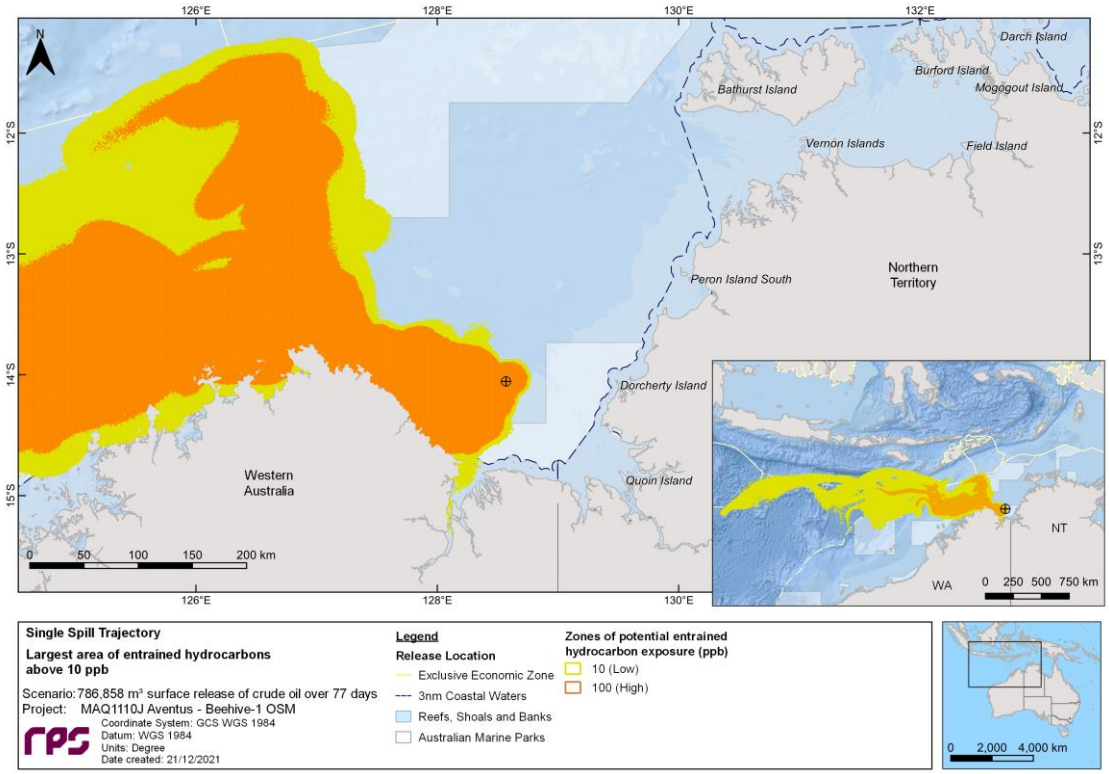

Figure 10.24 Zones of potential entrained hydrocarbon exposure, for the trajectory with the largest area of entrained hydrocarbons above 10 ppb. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days.

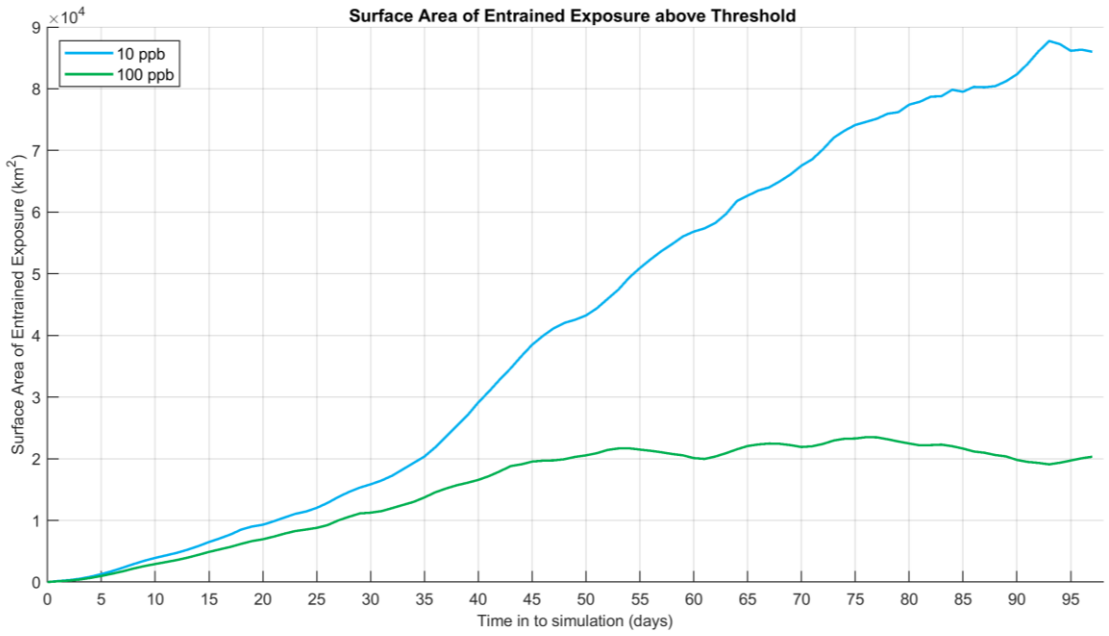

Figure 10.25 Time series of the area of low (10 ppb) and moderate (100 ppb) entrained hydrocarbons for the trajectory with the largest area of entrained hydrocarbons above 10 ppb. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

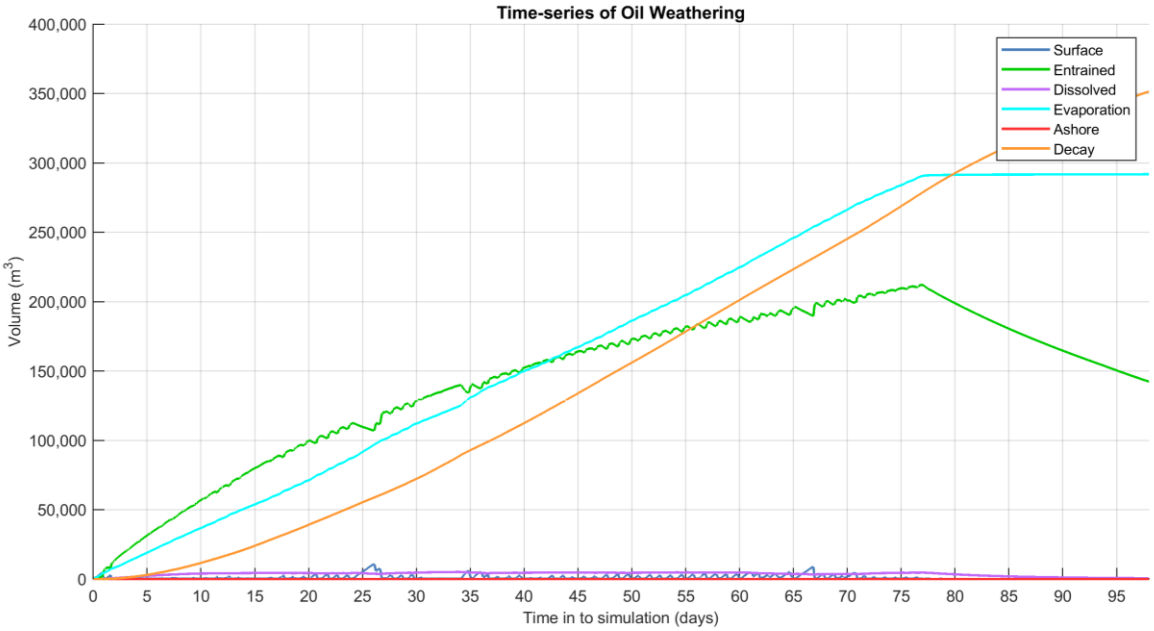

Figure 10.26 Predicted weathering and fates graph for the trajectory with the largest area of entrained hydrocarbons above 10 ppb. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.6 Deterministic Case: Largest area of dissolved hydrocarbons above 10 ppb

The deterministic trajectory that resulted in the largest area of dissolved hydrocarbons above 10 ppb (low threshold) was identified during summer conditions as run number 7 which started on the 27th November 2013 (map illustrated in Figure 10.27).

Figure 10.28 displays the time series of the area of dissolved hydrocarbons at the low (10 ppb), moderate (50 ppb) and high (400 g/m^2) thresholds over the 98-day simulation.

Figure 10.29 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.15 summarises the mass balance at the end of the simulation.

Table 10.15 Summary of the mass balance at day 98, for the trajectory that resulted in the largest area of dissolved hydrocarbons above 10 ppb. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)
Surface/Floating Oil (m^3)	0
Entrained (m^3)	140,338
Dissolved (m^3)	505
Evaporated (m^3)	315,546
Decay (m^3)	329,456
Ashore/Shoreline (m^3)	219
Sediment (m^3)	794

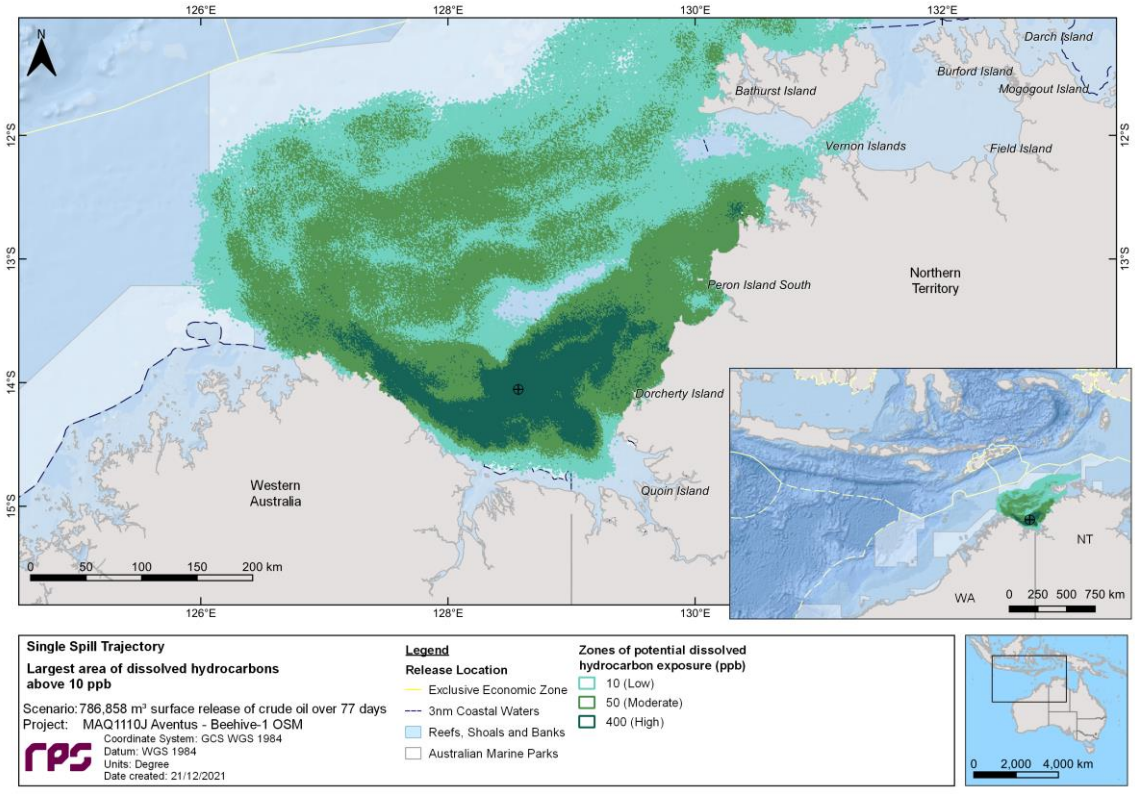

Figure 10.27 Zones of potential dissolved hydrocarbon exposure, for the trajectory with the largest area of dissolved hydrocarbons above 10 ppb. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

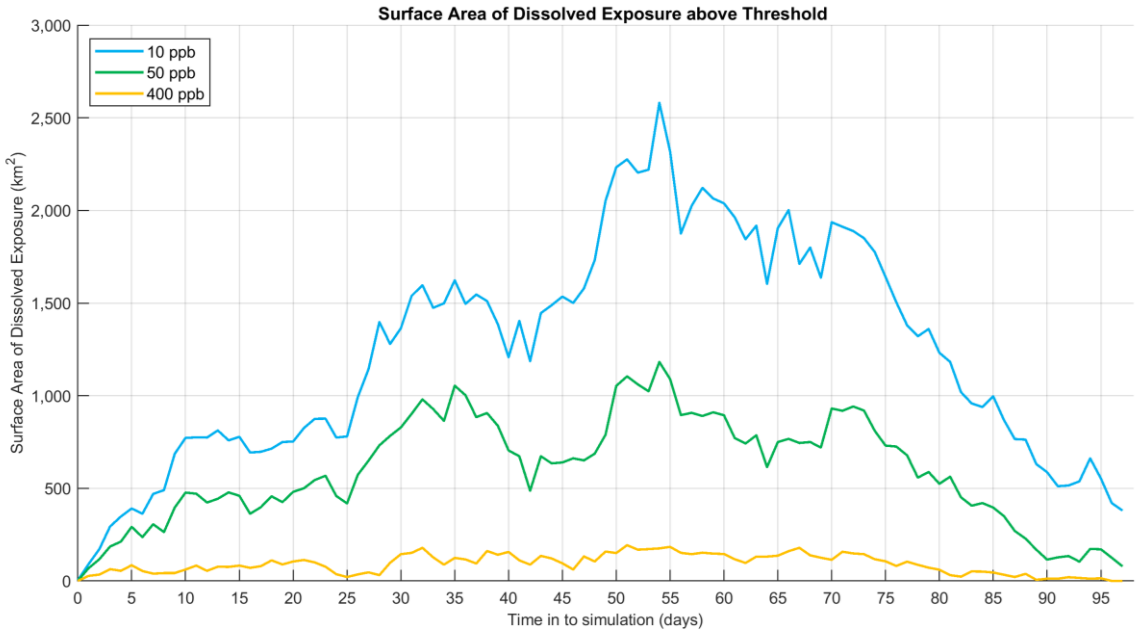

Figure 10.28 Time series of the area of low (10 ppb), moderate (50 ppb) and high (400 ppb) dissolved hydrocarbons for the trajectory with the largest area of dissolved hydrocarbons above 10 ppb. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

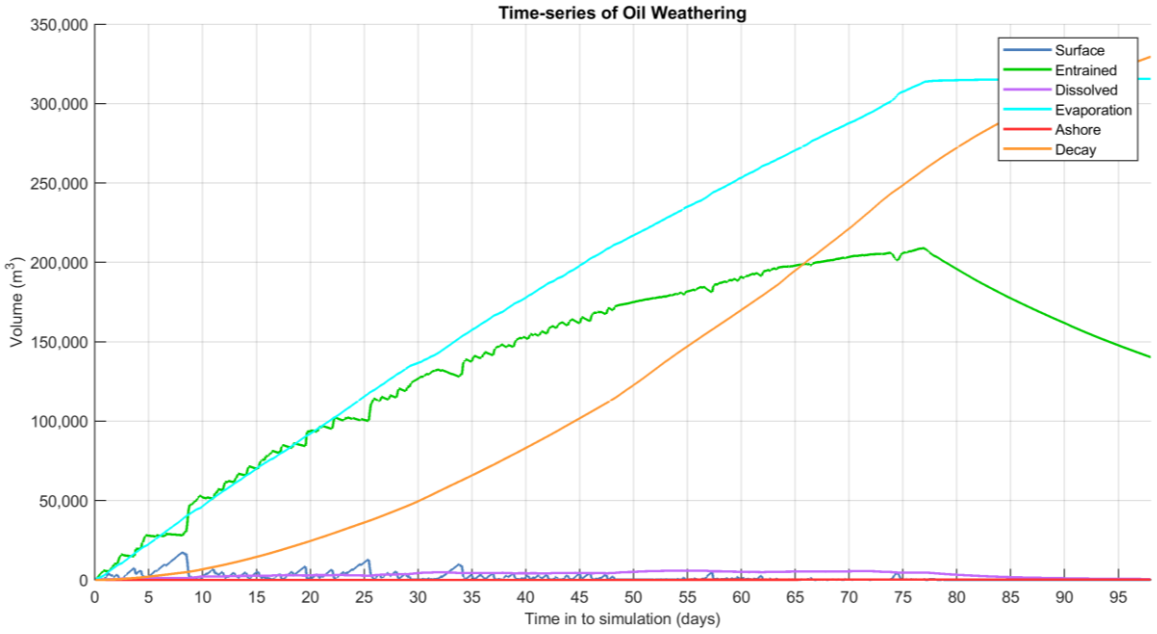

Figure 10.29 Predicted weathering and fates graph for the trajectory with the largest area of dissolved hydrocarbons above 10 ppb. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

11 REFERENCES

American Society for Testing and Materials (ASTM) 2013. F2067-13 Standard Practice for Development and Use of Oil-Spill Trajectory Models, ASTM International, West Conshohocken (PA).

Applied Science Associates 2011, 'OILMAP-DEEP: Blowout Plume Model Technical Manual', Applied Science Associates Inc., South Kingstown, USA.

Asia-Pacific ASA, 2010. Montara well release monitoring study S7.2. Oil fate and effects assessment: modelling of chemical dispersant operation. Prepared for PTTEP Australasia.

Australian Maritime Safety Authority (AMSA) 2014, 'Identification of oil on water: Aerial observations and identification guide', viewed 4 June 2020, https://www.amsa.gov.au/sites/default/files/2014-01-mp-amsa22-identification-oil-on-water.pdf

Australian Maritime Safety Authority (AMSA) 2015, 'Australian Maritime Safety Authority Technical Guideline for the Preparation of Marine Pollution Contingency Plans for Marine and Coastal Facilities Australian Maritime Safety Authority', viewed 20 June 2017, https://www.amsa.gov.au/forms-and-publications/Publications/AMSA413_Contingency_Planning_Guidelines.pdf

Andersen, OB 1995, 'Global ocean tides from ERS 1 and TOPEX/POSEIDON altimetry', Journal of Geophysical Research: Oceans, vol. 100, no. C12, pp. 25249–25259.

Anderson JW, Neff JM, Cox BA, Tatem HE & Hightower GM 1974, 'Characteristics of dispersions and water-soluble extracts of crude and refined oils and their toxicity to estuarine crustaceans and fish', Marine Biology, vol. 27, no. 1, pp. 75–88.

Anderson JW, Riley R, Kiesser S & Gurtisen J 1987, 'Toxicity of dispersed and undispersed Prudhoe Bay crude oil fractions to shrimp and fish', Proceedings of the 1987 International Oil Spill Conference, American Petroleum Institute, pp. 235–240.

Australian and New Zealand Environment and Conservation Council (ANZECC) 2000, 'Australian and New Zealand guidelines for fresh and marine water quality Volume 1, The guidelines (National water quality management strategy; no.4)', Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand.

Becker, JJ, Sandwell, DT, Smith, WHF, Braud, J, Binder, B, Depner, J, Fabre, D, Factor, J, Ingalls, S, Kim, S-H, Ladner, R, Marks, K, Nelson, S, Pharaoh, A, Trimmer, R, Von Rosenberg, J, Wallace, G & Weatherall, P 2009, 'Global bathymetry and evaluation data at 30 arc seconds resolution: SRTM30_PLUS', Marine Geodesy, vol. 32, no. 4, pp. 355–371.

Blum DJ & Speece RE 1990, 'Determining chemical toxicity to aquatic species', Environmental Science & Technology, vol. 24, no. 3, pp. 284–293.

Bonn Agreement 2009, 'Bonn Agreement aerial operations handbook, 2009 - Publication of the Bonn Agreement', viewed 13 January 2015, http://www.bonnagreement.org/site/assets/files/3947/ba-aoh_revision_2_april_2012.pdf

Chassignet, EP, Hurlburt, HE, Smedstad, OM, Halliwell, GR, Hogan, PJ, Wallcraft, AJ, Baraille, R & Bleck, R 2007, 'The HYCOM (hybrid coordinate ocean model) data assimilative system', Journal of Marine Systems, vol. 65, no. 1, pp. 60–83.

Carls, M.G., Holland, L., Larsen, M., Collier, T.K., Scholz, N.L. and Incardona, J.P., 2008. Fish embryos are damaged by dissolved PAHs, not oil particles. Aquatic toxicology, 88(2), pp.121–127.

Chassignet, E, Hurlburt, H, Metzger, E, Smedstad, O, Cummings, J & Halliwell, G 2009, 'U.S. GODAE: Global Ocean Prediction with the HYbrid Coordinate Ocean Model (HYCOM)', Oceanography, vol. 22, no. 2, pp. 64–75.

Davies, AM 1977a, 'The numerical solutions of the three-dimensional hydrodynamic equations using a B-spline representation of the vertical current profile', in JC Nihoul (ed), Bottom Turbulence: Proceedings of the 8th Liège Colloquium on Ocean Hydrodynamics, Elsevier Scientific, Amsterdam, pp. 1–25.

Davies, AM 1977b, 'Three-dimensional model with depth-varying eddy viscosity', in JC Nihoul (ed), Bottom Turbulence: Proceedings of the 8th Liège Colloquium on Ocean Hydrodynamics, Elsevier Scientific, Amsterdam, pp. 27–48.

French, D, Reed, M, Jayko, K, Feng, S, Rines, H, Pavignano, S, Isaji, T, Puckett, S, Keller, A, French III, FW, Gifford, D, McCue, J, Brown, G, MacDonald, E, Quirk, J, Natzke, S, Bishop, R, Welsh, M, Phillips, M & Ingram, BS 1996, 'The CERCLA Type A natural resource damage assessment model for coastal and marine environments (NRDAM/CME), Technical Documentation, Volume I - Model Description, Final Report,' Office of Environmental Policy and Compliance, U.S. Department of the Interior, Washington DC.

French, D, Schuttenberg, H & Isaji, T 1999, 'Probabilities of oil exceeding thresholds of concern: examples from an evaluation for Florida Power and Light', Proceedings of the 22nd Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Alberta, pp. 243–270.

French-McCay, DP 2002, 'Development and application of an oil toxicity and exposure model, OilToxEx', Environmental Toxicology and Chemistry, vol. 21, no. 10, pp. 2080-2094.

French-McCay, DP 2003, 'Development and application of damage assessment modelling: example assessment for the North Cape oil spill', Marine Pollution Bulletin, vol. 47, no. 9, pp. 9–12.

French-McCay, DP 2004, 'Spill impact modelling: development and validation', Environmental Toxicology and Chemistry, vol. 23, no.10, pp. 2441–2456.

French-McCay, DP 2009, 'State-of-the-art and research needs for oil spill impact assessment modelling', Proceedings of the 32nd Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Ottawa, pp. 601–653.

French-McCay, D, Rowe, JJ, Whittier, N, Sankaranarayanan, S, & Etkin, DS 2004, 'Estimate of potential impacts and natural resource damages of oil', Journal of Hazardous Materials, vol. 107, no. 1, pp. 11–25.

French-McCay, D, Whittier, N, Dalton, C, Rowe, J, Sankaranarayanan, S & Aurand, D 2005a, 'Modeling the fates of hypothetical oil spills in Delaware, Florida, Texas, California, and Alaska waters, varying response options including use of dispersants', Proceedings of the International Oil Spill Conference 2005, American Petroleum Institute, Washington DC, paper 399.

French-McCay, D, Whittier, N, Rowe, J, Sankaranarayanan, S, Kim, H-S & Aurand, D 2005b, 'Use of probabilistic trajectory and impact modeling to assess consequences of oil spills with various response strategies,' Proceedings of the 28th Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Ottawa, pp. 253–271.

French-McCay, D, Reich, D, Rowe, J, Schroeder, M & Graham, E 2011, 'Oil spill modeling input to the offshore environmental cost model (OECM) for US-BOEMRE's spill risk and costs evaluations', Proceedings of the 34th Arctic and Marine Oil Spill Program (AMOP) Technical Siminar, Environment Canada, Ottawa.

French-McCay, D, Reich, D, Michel, J, Etkin, DS, Symons, L, Helton, D, & Wagner J 2012, 'Oil spill consequence analysis of potentially-polluting shipwrecks', Proceedings of the 35th Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Ottawa.

French-McCay, D, Jayko, K, Li, Z, Horn, M, Kim, Y, Isaji, T, Crowley, D, Spaulding, M, Decker, L, Turner, C, Zamorski, S, Fontenault, J, Schmmkler, R & Rowe, J 2015, 'Technical Reports for Deepwater Horizon Water Column Injury Assessment: WC_TR.14: Modeling Oil Fate and Exposure Concentrations in the Deepwater Plume and Rising Oil Resulting from the Deepwater Horizon Oil Spill' RPS ASA, South Kingston, Rhode Island.

Gordon, R 1982, 'Wind driven circulation in Narragansett Bay' PhD thesis, Department of Ocean Engineering, University of Rhode Island.

Grant, DL, Clarke, PJ & Allaway, WG 1993, 'The response of grey mangrove (Avicennia marina (Forsk.) Vierh) seedlings to spills of crude oil,' The Journal of Experimental Marine Biological Ecology, vol. 171, no. 2, pp. 273–295.

Isaji, T & Spaulding, M 1984, 'A model of the tidally induced residual circulation in the Gulf of Maine and Georges Bank', Journal of Physical Oceanography, vol. 14, no. 6, pp. 1119–1126.

Isaji, T, Howlett, E, Dalton C, & Anderson, E 2001, 'Stepwise-continuous-variable-rectangular grid hydrodynamics model', Proceedings of the 24th Arctic and Marine Oil spill Program (AMOP) Technical Seminar (including 18th TSOCS and 3rd PHYTO), Environment Canada, Edmonton, pp. 597–610.

International Tankers Owners Pollution Federation (ITOPF) 2014, 'Technical Information Paper 2 - Fate of Marine Oil Spills', International Tankers Owners Pollution Federation td, UK.

Koops, W, Jak, RG & van der Veen, DPC 2004, 'Use of dispersants in oil spill response to minimise environmental damage to birds and aquatic organisms', Proceedings of the Interspill 2004: Conference and Exhibition on Oil Spill Technology, Trondheim, presentation 429.

Kostianoy, AG, Ginzburg, AI, Lebedev, SA, Frankignoulle, M & Delille, B 2003, 'Fronts and mesoscale variability in the southern Indian Ocean as inferred from the TOPEX/POSEIDON and ERS-2 Altimetry data', Oceanology, vol. 43, no. 5, pp. 632–642.

Levitus, S, Antonov, JI, Baranova, OK, Boyer, TP, Coleman, CL, Garcia, HE, Grodsky, AI, Johnson, DR, Locarnini, RA, Mishonov, AV, Reagan, JR, Sazama, CL, Seidov, D, Smolyar, I, Yarosh, ES & Zweng, MM 2013, 'The World Ocean Database', Data Science Journal, vol.12, no. 0, pp. WDS229–WDS234.

Lin, Q & Mendelssohn, IA 1996, 'A comparative investigation of the effects of south Louisiana crude oil on the vegetation of fresh, brackish and Salt Marshes', Marine Pollution Bulletin, vol. 32, no. 2, pp. 202–209.

Ludicone, D, Santoleri, R, Marullo, S & Gerosa, P 1998, 'Sea level variability and surface eddy statistics in the Mediterranean Sea from TOPEX/POSEIDON data. Journal of Geophysical ResearchI, vol. 103, no. C2, pp. 2995–3011.

Malins DC & Hodgins HO 1981, 'Petroleum and marine fishes: a review of uptake, disposition, and effects', Environmental Science & Technology, vol. 15, no. 11, pp.1272–1280.

Matsumoto, K, Takanezawa, T & Ooe, M 2000, 'Ocean tide models developed by assimilating TOPEX/POSEIDON altimeter data into hydrodynamical model: A global model and a regional model around Japan', Journal of Oceanography, vol. 56, no.5, pp. 567–581.

McAuliffe CD 1987, 'Organism exposure to volatile/soluble hydrocarbons from crude oil spills – a field and laboratory comparison', Proceedings of the 1987 International Oil Spill Conference, American Petroleum Institute, pp. 275–288.

McCarty LS 1986, 'The relationship between aquatic toxicity QSARs and bioconcentration for some organic chemicals', Environmental Toxicology and Chemistry, vol. 5, no. 12, pp. 1071–1080.

McCarty LS, Dixon DG, MacKay D, Smith AD & Ozburn GW 1992a, 'Residue-based interpretation of toxicity and bioconcentration QSARs from aquatic bioassays: Neutral narcotic organics', Environmental Toxicology and Chemistry: An International Journal, vol. 11, no. 7, pp.917–930.

McCarty LP, Flannagan DC, Randall SA & Johnson KA 1992b, 'Acute toxicity in rats of chlorinated hydrocarbons given via the intratracheal route', Human & Experimental Toxicology, vol. 11, no. 3, pp.173–117.

McCarty LS & Mackay D 1993, 'Enhancing ecotoxicological modelling and assessment. Body residues and modes of toxic action', Environmental Science & Technology, vol. 27, no. 9, pp. 1718–1728.

McGrath JA, & Di Toro DM 2009, 'Validation of the target lipid model for toxicity assessment of residual petroleum constituents: monocyclic and polycyclic aromatic hydrocarbons', Environmental Toxicology and Chemistry, vol. 28, no. 6, pp. 1130–1148.

National Centers for Environmental Information (NCEI) 2021, 'World Ocean Atlas' viewed 20 July 2021, https://www.ncei.noaa.gov/products/world-ocean-atlas

National Oceanic and Atmospheric Administration (NOAA) 2013, Screening level risk assessment package Gulf state, Office of National Marine Sanctuaries & Office of Response and Restoration, Washington DC.

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) 2018, 'At a glance: Oil spill modelling', viewed 15 November 2018, https://www.nopsema.gov.au/assets/Publications/A626200.pdf

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) 2019, 'Environment bulletin: Oil spill modelling', viewed 4 February 2020, https://www.nopsema.gov.au/assets/Bulletins/A652993.pdf

National Research Council (NRC) 2003, 'Oil in the sea III: Inputs, fates and effects', National Research Council, The National Academic Press, Washington DC.

National Research Council (NRC) 2005, 'Oil Spill Dispersants Efficacy and Effects. Committee on Oil Spill Dispersants: Efficacy and Effects', National Research Council, The National Academies Press, Washington DC.

Neff JM & Anderson JW 1981, 'Response of marine animals to petroleum and specific petroleum hydrocarbons' United States Department of Energy, United States.

Nirmalakhandan N & Speece RE 1988, 'ES&T Critical Review: Structure-activity relationships. Quantitative techniques for predicting the behaviour of chemicals in the ecosystem', Environmental Science & Technology, vol. 22, no. 6, pp. 606–615.

Nordtug, T., Olsen, A.J., Altin, D., Overrein, I., Storøy, W., Hansen, B.H. and De Laender, F., 2011. Oil droplets do not affect assimilation and survival probability of first feeding larvae of North-East Arctic cod. Science of the Total Environment, 412, pp.148–153.

Oil Spill Solutions 2015, 'Evaluation - The Theory of Oil Slick Appearances', viewed 6 January 2015, http://www.oilspillsolutions.org/evaluation.htm

Owen, A 1980, 'A three-dimensional model of the Bristol Channel', Journal of Physical Oceanography, vol. 10, pp. 1290–1302.

Qiu, B & Chen, S 2010, 'Eddy-mean flow interaction in the decadally modulating Kuroshio Extension system', Deep-Sea Research II, vol. 57, no. 13, pp. 1098–1110.

Redman AD 2015, 'Role of entrained droplet oil on the bioavailability of petroleum substances in aqueous exposures', Marine Pollution Bulletin, vol. 97, no. (1–2), pp. 342–348.

Saha, S, Moorthi, S, Pan, H-L, Wu, X, Wang, J & Nadiga, S 2010, 'The NCEP Climate Forecast System Reanalysis', Bulletin of the American Meteorological Society, vol. 91, no. 8, pp. 1015–1057.

Scholten, MCTh, Kaag, NHBM, Dokkum, HP van, Jak, R.G., Schobben, HPM & Slob, W 1996, Toxische effecten van olie in het aquatische milieu, TNO report TNO-MEP – R96/230, Den Helder.

Spaulding, MS, Mendelsohn, D, Crowley, D, Li, Z, & Bird A 2015, 'Technical Reports for Deepwater Horizon Water Column Injury Assessment- WC_TR.13: Application of OILMAP DEEP to the Deepwater Horizon Blowout', RPS APASA, 55 Village Square Drive, South Kingstown, RE 02879.

Suprayogi, B & Murray, F 1999, 'A field experiment of the physical and chemical effects of two oils on mangroves', Environmental and Experimental Botany, vol. 42, no. 3, pp. 221–229.

Swartz RC, Schults DW, Ozretich RJ, Lamberson JO, Cole FA, Ferraro SP, Dewitt TH & Redmond MS 1995, 'ΣPAH: A Model to predict the toxicity of polynuclear aromatic hydrocarbon mixtures in field-collected sediments', Environmental Toxicology and Chemistry, vol. 14, no. 11, pp. 1977–1187.

Verhaar, HJ, Van Leeuwen, CJ & Hermens, JL 1992, 'Classifying environmental pollutants', Chemosphere, vol. 25, no. 4, pp. 471-491.

Verhaar, HJ, de Wolf, W, Dyer, S, Legierse, KC, Seinen, W & Hermens, JL 1999, 'An LC50 vs time model for the aquatic toxicity of reactive and receptor-mediated compounds. Consequences for bioconcentration kinetics and risk assessment', Environmental science & technology, vol. 33, no. 5, pp.758-763.

Willmott, CJ 1981, 'On the validation of models', Physical Geography, vol. 2, no. 2, pp.184–194.

Willmott, CJ 1982, 'Some comments on the evaluation of model performance', Bulletin of the American Meteorological Society, vol. 63, no. 11, pp.1309–1313.

Willmott CJ, Ackleson SG, Davis RE, Feddema JJ, Klink, KM, Legates, DR, O'Donnell, J & Rowe, CM 1985, 'Statistics for the evaluation of model performance', Journal of Geophysical Research, vol. I 90, no. C5, pp. 8995–9005.

Willmott, CJ & Matsuura, K 2005, 'Advantages of the mean absolute error (MAE) over the root mean square error (RMSE) in assessing average model performance', Journal of Climate Research, vol. 30, no. 1, pp. 79–82.

Yaremchuk, M & Tangdong, Q 2004, 'Seasonal variability of the large-scale currents near the coast of the Philippines', Journal of Physical Oceanography, vol. 34, no., 4, pp. 844–855.

Zigic, S, Zapata, M, Isaji, T, King, B, & Lemckert, C 2003, 'Modelling of Moreton Bay using an ocean/coastal circulation model', Proceedings of the 16th Australasian Coastal and Ocean Engineering Conference, the 9th Australasian Port and Harbour Conference and the Annual

New Zealand Coastal Society Conference, Institution of Engineers Australia, Auckland, paper 170.

BEEHIVE-1 – EXPLORATION DRILLING

Crude Oil Spill Modelling with Surface Dispersant Application

MAQ1208J

Beehive-1 – Exploration Drilling

Rev0

27 October 2022

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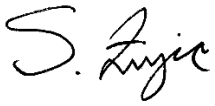
Dr. Sasha Zigic		27/10/202

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Contents

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TERMS AND ABBREVIATIONS

°	Degrees
‘	Minutes
“	Seconds
µm	Micrometre (unit of length; 1 µm = 0.001 mm)
Actionable oil	Oil which is thick enough for the effective use of mitigation strategies
AIS	Automatic identification system
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
ANZECC	Australian and New Zealand Environment and Conservation Council
API	American Petroleum Institute gravity. A measure of how heavy or light a petroleum liquid is compared to water.
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ASTM	American Society for Testing and Materials
Aventus	Aventus Consulting Pty Ltd
bbl	Barrel (unit of volume; 1 bbl = 0.159 m3)
bbl/d	Barrels per day
Bonn Agreement	An agreement for cooperation in dealing with pollution of the North Sea by oil and other harmful substances, 1983, includes: Governments of the Kingdom of Belgium, the Kingdom of Denmark, the French Republic, the Federal Republic of Germany, the Republic of Ireland, the Kingdom of the Netherlands, the Kingdom of Norway, the Kingdom of Sweden, the United Kingdom of Great Britain and Northern Ireland and the European Union.
BP	Boiling point. The temperature at which the vapor pressure of the liquid is equal to the pressure exerted on it by the surrounding atmosphere
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
°C	degree Celsius (unit of temperature)
CFSR	Climate Forecast System Reanalysis
cm	Centimetre (unit of length)
cP	Centipoise (unit of dynamic viscosity)
Decay	The process where oil components are changed either chemically or biologically (biodegradation) to another compound. It includes breakdown to simpler organic carbon compounds by bacteria and other organisms, photo-oxidation by solar energy, and other chemical reactions.
Dynamic viscosity	The dynamic viscosity of a fluid expresses its resistance to shearing flows, where adjacent layers move parallel to each other with different speeds.
EOG	EOG Resources, Inc.
EP	Environment Plan
Floating oil exposure	Contact by floating oil on the sea surface at concentrations equal to or exceeding defined threshold concentrations. The consequence will vary depending on the threshold and the receptors
g/m^2	Grams per square meter (unit of surface area density)

GODAE	Global Ocean Data Assimilation Experiment
HYCOM	Hybrid Coordinate Ocean Model. A data-assimilative, three-dimensional ocean model
HYDROMAP	Advanced ocean/coastal tidal model used to predict tidal water levels, current speed and current direction.
IBRA	Interim Biogeographic Regionalisation for Australia
IMCRA	Integrated Marine and Coastal Regionalisation of Australia
IOA	Index of Agreement
ITOPF	International Tanker Owners Pollution Federation Limited
KEF	Key Ecological Feature
km	Kilometre (unit of length)
km^2	Square Kilometres (unit of area)
Knots	unit of speed (1 knot = 0.514 m/s)
LOWC	Loss of well control
m	Meter (unit of length)
m^3	Cubic meter (unit of volume)
m/s	Meter per Second (unit of speed)
MAE	Mean Absolute Error
MAHs	Monoaromatic Hydrocarbons
MNP	Marine National Park
MP	Marine Park
N	Number of observations
NASA	National Aeronautics and Space Administration (USA)
NCEP	National Centres for Environmental Prediction (USA)
nm	Nautical mile
NOAA	National Oceanic and Atmospheric Administration (USA)
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NP	National Park
NR	Nature Reserve
O	Observed variable
Oi	Observed surface elevation
OPEP	Oil Pollution Emergency Plan
P	Model-predicted variable
Pi	Model predicted surface elevation
PAH	Polynuclear Aromatic Hydrocarbons
PDSA	Pre-drilling seabed assessment
Pour Point	The pour point of a liquid is the temperature below which the liquid loses its flow characteristics

ppb	Parts per billion (concentration)
psu	Practical salinity nits
RSB	Reefs, Shoals and Banks
scf	Standard cubic feet (defined as one cubic foot of gas at 15.56 °C and at normal sea level air pressure)
Shoreline contact	Arrival of oil at or near shorelines at on-water concentrations equal to or exceeding defined threshold concentrations. Shoreline contact is judged for floating oil arriving within a 2 km buffer zone from any shoreline as a conservative measure
SIMAP	Spill Impact Model Application Package. SIMAP is designed to simulate the fate and effects of spilled hydrocarbons for surface or subsea releases
Single Oil spill modelling	Oil spill modelling involving a computer simulation of a single hypothetical oil spill event subject to a single sequence of wind, current and other sea conditions over time. Single oil spill modelling, also referred to as “deterministic modelling” provides a simulation of one possible outcome of a given spill scenario, subject to the metocean conditions that are imposed. Single oil spill modelling is commonly used to consider the fate and effects of ‘worst-case’ oil spill scenarios that are carefully selected in consideration of the nature and scale of the offshore petroleum activity and the local environment (NOPSEMA, 2017). Because the outcomes of a single oil spill simulation can only represent the outcome of that scenario under one sequence of metocean conditions, worst-case conditions are often identified from stochastic modelling. It is impossible to calculate the likelihood of any outcome from a single oil spill simulation. Single oil spill modelling is generally used for response planning, preparedness planning and for supporting oil spill response operations in the event of an actual spill
SRTM	Shuttle Radar Topography Mission
Stochastic oil spill modelling	Stochastic oil spill modelling is created by overlaying and statistically analysing the outcomes of many single oil-spill simulations of a defined spill scenario, where each simulation was subject to a different sequence of metocean conditions, selected objectively (typically by random selection) from a long sequence of historic conditions for the study area. Analysis of this larger set of simulations provides a more accurate indication of the environment that maybe affected (EMBA) and indicates which locations are more likely to be affected (as well as other statistics). Stochastic oil spill modelling avoids biases that affect single oil spill modelling (due to the reliance on only one possible sequence of conditions). However, when interpreting stochastic modelling, which is based on a wide range of potential conditions that might happen to occur, it is essential to understand that calculations will encompass a much larger area than could be affected in any single spill event, where a more limited set of conditions will occur. Consequently, it is misleading to imply that the region derived from stochastic modelling indicate the outcomes expected from a single spill event (NOPSEMA, 2017) Stochastic modelling is generally used for risk assessment and preparedness planning by indicating locations that could be exposed and may require response or subsequent impact assessment
TOPEX/Poseidon	A joint satellite mission between NASA and CNES to map ocean surface topography using an array of satellites equipped with detailed altimeters
USA	United States of America
US CG	United States Coast Guard
US EPA	United States Environmental Protection Agency
World Ocean Atlas	A collection of objectively analysed, quality controlled physicochemical parameters (e.g. temperature, salinity, oxygen, phosphate, silicate, and nitrate) based on profile data from the World Ocean Database (NCEI, 2021) established by NOAA’s National Centers for Environmental Information (NCEI)
WGS 1984	World Geodetic System 1984 (WGS84); reference coordinate system
Xmodel	Model predicted surface elevation
Xobs	Observed surface elevation

EXECUTIVE SUMMARY

Background

EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to undertake the Beehive-1 drilling campaign within permit area WA-488-P located in the Bonaparte Basin in the Joseph Bonaparte Gulf, Western Australia.

Aventus Consulting Pty Ltd (Aventus) has been contracted by EOG to prepare the Environment Plan (EP) and Oil Pollution Emergency Plan (OPEP) for the planned activity.

To inform the potential environmental impact and risk assessments for the proposed drilling campaign, Aventus commissioned RPS to undertake a detailed crude oil spill modelling study assessing the following hypothetical scenario:

- **Scenario**: A 786,858 m^3 (or 4,949,338 bbl) surface release of crude oil over 77 days to represent a loss of well control (unmitigated case).

In addition, the study examined the potential benefit of applying surface dispersant as a mitigation measure (referred to as the mitigated case).

The spill modelling was performed using an advanced three-dimensional trajectory and fates model; Spill Impact Model Application Program (SIMAP). The SIMAP model calculates the transport, spreading, entrainment and evaporation of spilled hydrocarbons over time, based on the prevailing wind and current conditions and the physical and chemical properties.

Methodology

The modelling study was carried out in several stages. Firstly, a ten-year CFSR wind and HYCOM current dataset (2010–2019) was generated and the currents included the combined influence of three-dimensional large-scale ocean currents and tidal currents. Secondly, the currents, winds and detailed hydrocarbon characteristics were used as inputs in the three-dimensional oil spill model (SIMAP) to simulate the drift, spread, weathering and fate of the spilled oil.

As spills can occur during any set of wind and current conditions, modelling was conducted using a stochastic (random or non-deterministic) approach, which involved running 100 spill simulations initiated at random start times, using the same release information (spill volume, duration and composition of the oil). This ensured that each simulation was subject to different wind and current conditions and, in turn, movement and weathering of the oil for an annual based assessment.

The 100 simulations per season were remodelled under identical conditions, with surface dispersant applied to oil within an area where the age of the oil ranged between 12 hours and 72 hours. A dispersant to oil ratio of 1:20 and effectiveness of 65% was assumed for 10 hours during daylight, starting from 24 hours after the initial release.

The SIMAP system, the methods and analysis presented herein, use modelling algorithms which have been anonymously peer reviewed and published in international journals. Further, RPS warrants that this work meets and exceeds the ASTM Standard F2067-13 "*Standard Practice for Development and Use of Oil Spill Models*".

Oil Properties

An analogue crude oil was used to represent the LOWC scenario. The analogue crude oil was carefully selected based on EOG recommendations to represent the crude oil likely to be found within permit area WA-488-P. The crude oil has an API of 42.3 and a density of 813.9 kg/m^3 (at 15ºC) with a viscosity value (3.0 cP) classifying it as a Group II (light-persistent) oil according to the International Tankers Owners Pollution Federation (ITOPF, 2014) and US EPA/USCG classifications.

The crude is a mixture of volatile (79%) and persistent hydrocarbons (21%). In favourable evaporation conditions, about 24.2% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 20.8% should evaporate within the first 24 hours (180°C < BP < 160°C); and a further 33.9% should evaporate over several days (160°C < BP < 380°C). Approximately 21.0% of the oil is shown to be persistent.

Results

Scenario: LOWC – 786,858 m^3 Surface Release of Crude Oil over 77 Days

- The maximum distance from the release location to the low (1–10 g/m^2), moderate (10–50 g/m^2) and high (> 50 g/m^2) exposure levels was 1,517 km (winter), 153 km (summer) and 61 km (winter) respectively, for the unmitigated case. In comparison for the mitigated case (i.e. application of surface dispersant) the maximum distance from the release location to the low, moderate and high exposure levels was 1,257 km west (winter), 134 km east-northeast (summer) and 125 km south-southeast (summer), respectively.

- For spills commencing during summer conditions, the following receptors recorded surface oil exposure greater than 70% for both the unmitigated and mitigated cases: Joseph Bonaparte Gulf AMP, Carbonate bank and terrace system of the Sahul Shelf KEF, North Kimberley MP, Wyndham - East Kimberley nearshore waters, and Northern Territory and Western Australia State Waters

- The probability of accumulation to any shoreline at, or above, the low threshold (10 g/m^2) was 100% for all seasons for both the unmitigated and mitigated cases and the minimum time before shoreline accumulation at, or above, the low threshold ranged between 10.29 days (transitional) to 11.58 days (summer) for the unmitigated case and 10.71 days (winter) to 13.17 days (summer) for the mitigated case.

- The greatest volume of oil on shore from a single spill trajectory was predicted to reduce from 705 m^3 (summer) to 421 m^3 (summer) when the mitigation option was considered. This represented a reduction of 40.3%.

- For all seasonal conditions assessed, the modelling demonstrated a reduction in the length of shoreline contact above the low (39%), moderate (27%) and high (21%) thresholds, when the surface dispersant was applied.

- In the surface (0-10 m) depth layer, low, moderate and high exposure to dissolved hydrocarbons was recorded for a range of receptors for both the unmitigated and mitigated cases. The highest dissolved hydrocarbon concentrations predicted for both cases were the Joseph Bonaparte Gulf AMP and the Carbonate bank and terrace system of the Sahul Shelf KEF, the North Kimberley MP and the Kimberley AMP during the seasonal conditions. As well, the nearshore waters of the Thamarrurr, Wyndham-East Kimberley, Dorcherty Island, Clump Island Quoin, Island, Victoria Daly shorelines and were some of the receptors with the highest entrained hydrocarbons concentrations for all seasonal conditions.

- Predicted low and high entrained hydrocarbons exposure in the surface (0-10 m) depth layer was recorded for a range of receptors. Furthermore, the identified receptors with the highest predicted entrained hydrocarbons concentrations for the unmitigated and mitigated cases for all three seasons, included: Carbonate bank and terrace system of the Sahul Shelf KEF, Joseph Bonaparte Gulf AMP, Kimberley AMP, North Kimberley MP and nearshore waters of the Thamarrurr, Wyndham - East Kimberley, Dorcherty Island, Clump Island, Quoin Island, Victoria Daly shorelines and RSB receptors, Bassett-Smith Shoal, Branch Banks, East Holothuria Reef, Emu Reefs, Holothuria Banks, Howland Shoals, Otway Bank and Tait Bank).

1 INTRODUCTION

1.1 Background

EOG Resources Australia Block WA-488 Pty Ltd (EOG) is planning to undertake a drilling campaign within permit area WA-488-P located in the Bonaparte Basin in the Joseph Bonaparte Gulf, Western Australia.

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In addition, the study examined the potential benefit of applying surface dispersant as a mitigation measure (referred to as the mitigated case).

Table 1.1 presents the Beehive-1 exploration well location used for Scenario 1. Figure 1.1 illustrates the exploration well location.

The potential risk of exposure to the surrounding waters and contact to shorelines was assessed for three distinct seasons defined by prevailing wind conditions.

i. summer (October to February),

ii. the transitional periods (March and September), and

iii. winter (April to August).

This approach assists with identifying the environmental values and sensitivities that would be at risk of exposure on a seasonal basis, given the dominant winds and water currents vary significantly among the seasons.

The spill modelling was performed using an advanced three-dimensional trajectory and fates model; Spill Impact Model Application Program (SIMAP). The SIMAP model calculates the transport, spreading, entrainment and evaporation of spilled hydrocarbons over time, based on the prevailing wind and current conditions and the physical and chemical properties.

Note that the oil spill model, the method and analysis presented herein uses modelling algorithms which have been anonymously peer reviewed and published in international journals. Furthermore, RPS warrants that this work meets and exceeds the American Society for Testing and Materials (ASTM) Standard F2067-13 "*Standard Practice for Development and Use of Oil Spill Models*".

Table 1.1 Coordinates for the Beehive-1 exploration well (GDA2020).

Location	Latitude	Longitude
Beehive-1	14° 03' 14.4" S	128° 34' 35.76" E

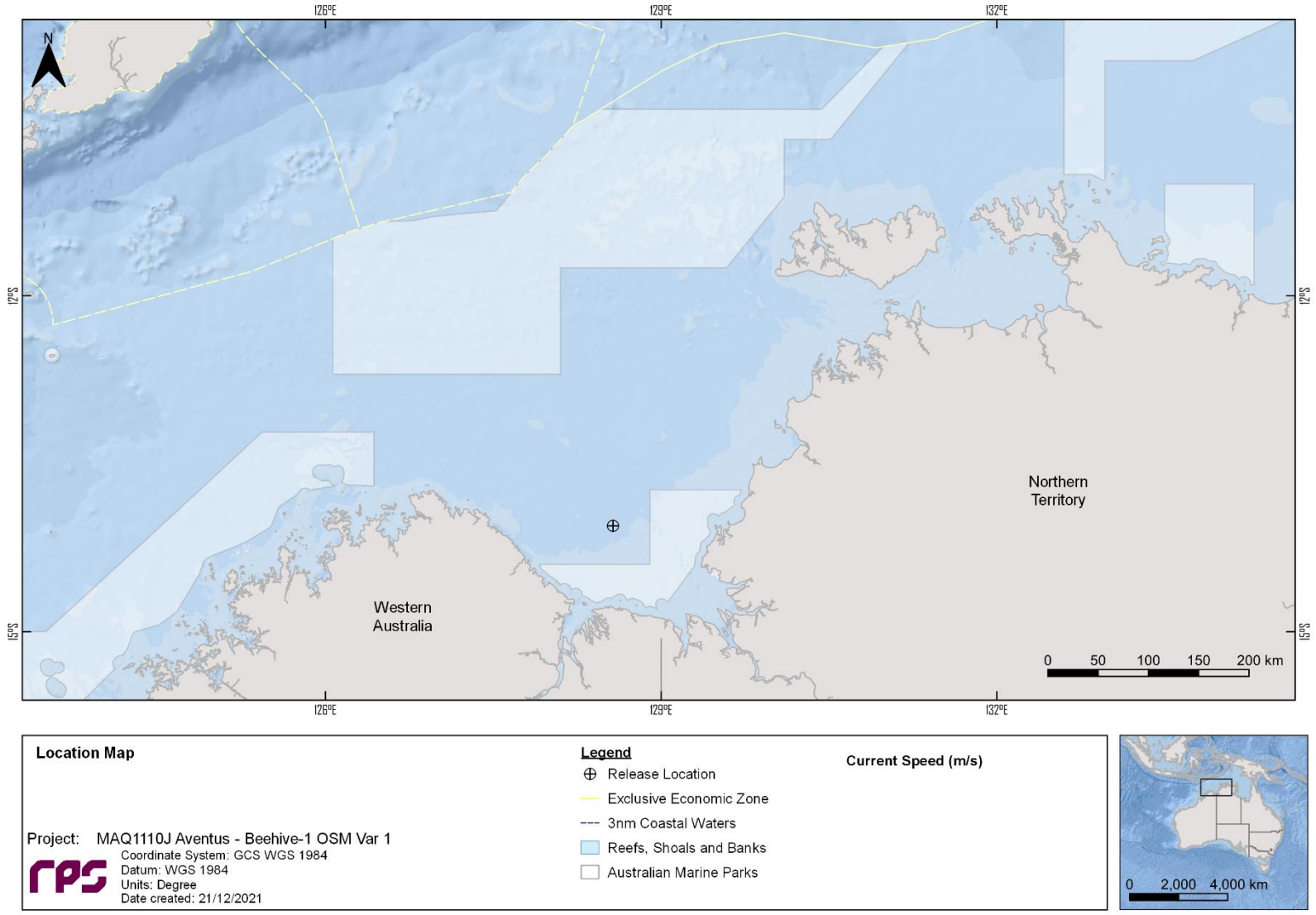


Figure 1.1 Map of the Beehive-1 exploration well.

1.2 What is Oil Spill Modelling?

Oil spill modelling is a valuable tool widely used for risk assessment, emergency response and contingency planning where it can be particularly helpful to proponents and decision makers. By modelling a series of the most likely oil spill scenarios, decisions concerning suitable response measures and strategic locations for deploying equipment and materials can be made, and the locations at most risk can be identified. The two types of oil spill modelling often used are stochastic (Section 1.2.1) and deterministic (Section 1.2.2) modelling.

1.2.1 Stochastic Modelling (Multiple Spill Simulations)

Stochastic oil spill modelling is created by overlaying a great number (often hundreds) of individual, computer-simulated hypothetical spills (NOPSEMA, 2018; Figure 1.2).

Stochastic modelling is a common means of assessing the potential risks from oil spills related to new projects and facilities. Stochastic modelling typically utilises hydrodynamic data for the location in combination with historic wind data. Typically, 100 iterations of the model will be run utilising the data that is most relevant to the season or timing of the project.

The outcomes are often presented as a probability of exposure and is primarily used for risk assessment purposes in view to understand the range of environments that may be affected or impacted by a spill. Elements of the stochastic modelling can also be used in oil spill preparedness and planning.

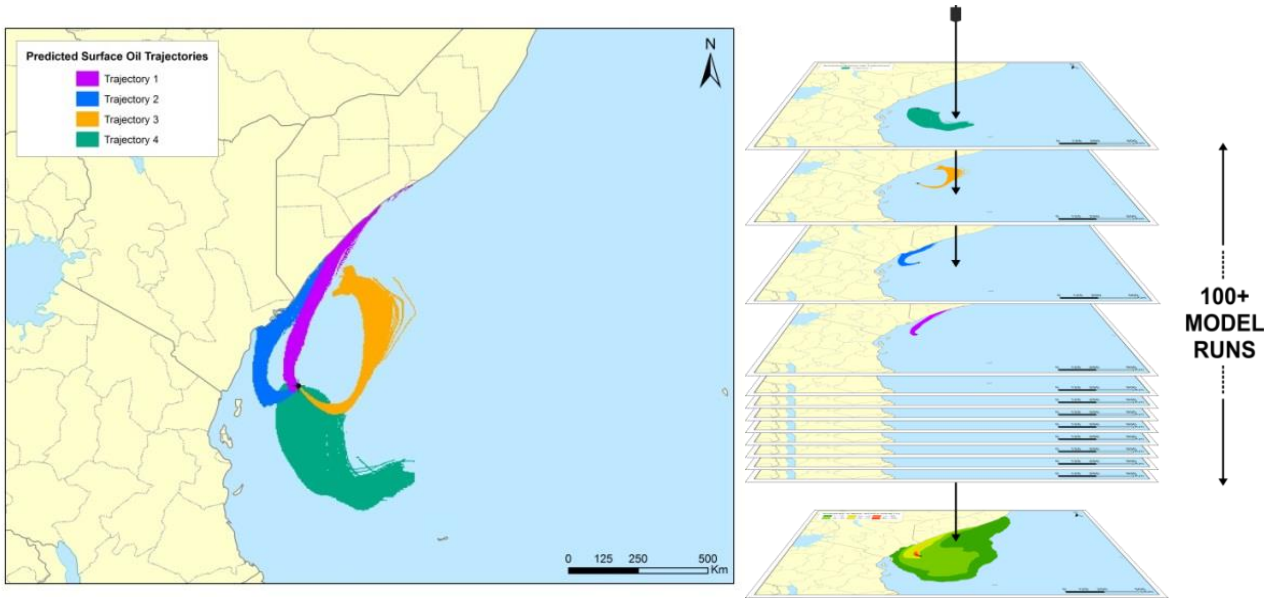


Figure 1.2 Examples of four individual spill trajectories (four replicate simulations) predicted by SIMAP for a spill scenario. The frequency of contact with given locations is used to calculate the probability of impacts during a spill. Essentially, all model runs are overlain (shown as the stacked runs on the right) and the number of times that trajectories contact a given location at a concentration is used to calculate the probability.

1.2.2 Deterministic Modelling (Single Spill Simulation)

Deterministic modelling is the predictive modelling of a single incident subject to a single sample of wind and weather conditions over time (NOPSEMA, 2018; Figure 1.3).

Deterministic modelling is often paired with stochastic modelling to place the large stochastic footprint into perspective. This deterministic analysis is generally a single run selected from the stochastic analysis and serves as the basis for developing the plans and equipment needs for a realistic spill response. Deterministic spills can be selected on several basis such as minimum time to shoreline, largest swept area, maximum volume ashore and longest length of shoreline contacted by oil.

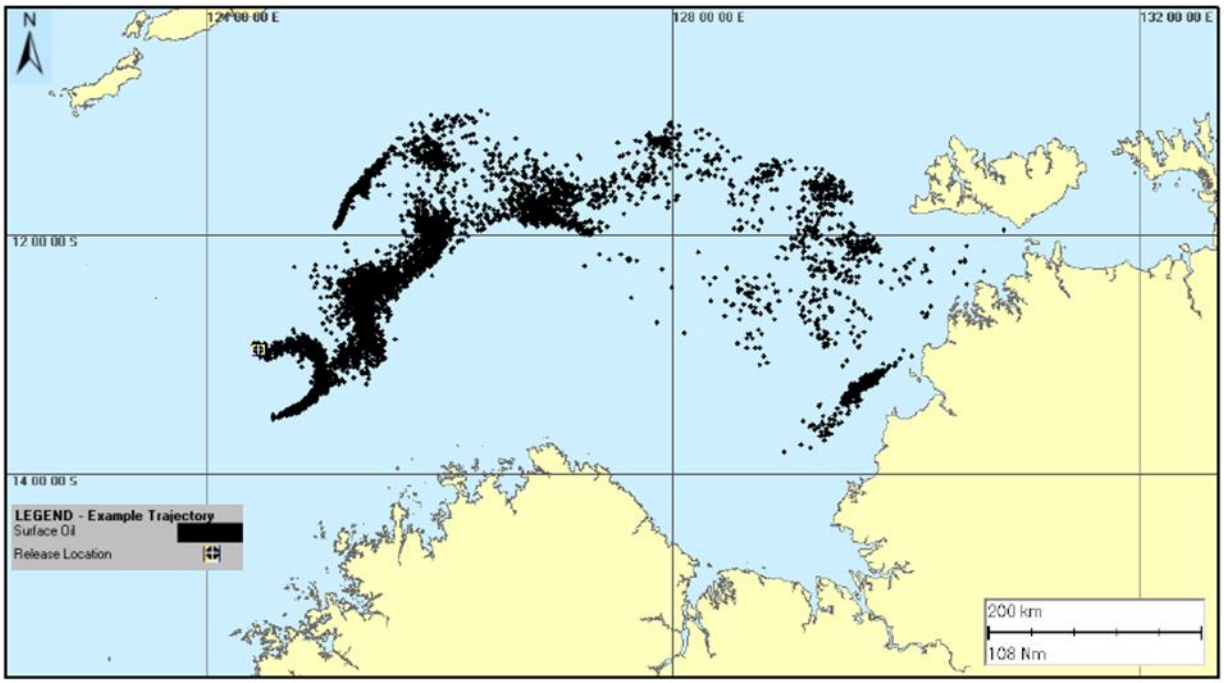


Figure 1.3 Example of an individual spill trajectory predicted by SIMAP for a spill scenario. Note, this image represents surface oil as spillets and do not take any thresholds into consideration.

2 SCOPE OF WORK

The scope of work included the following components:

- Generate 10 years of CFSR winds and three-dimensional hindcast HYCOM currents from 2010 to 2019 (inclusive). The currents include the combined influence of HYDROMAP tidal and HYCOM ocean currents;
- Include the wind and current data and hydrocarbon characteristics of the crude oil as input into the three-dimensional oil spill model SIMAP, to model the movement, spreading, weathering and shoreline accumulation by hydrocarbons over time;
- Use SIMAP's stochastic model (also known as a probability model) to calculate exposure to surrounding waters and shorelines. This involved running 100 randomly selected single trajectory simulations (per season), with each simulation having the same spill information (spill volume, location, duration and composition of hydrocarbons) but with varying start times. This ensured that each spill trajectory was subject to a unique set of wind and current conditions;
- Rerun SIMAP's stochastic model with the application of surface dispersant as a mitigation measure to calculate the reduced exposure to surrounding waters and shorelines;
- Review the unmitigated stochastic model results and present the worst-case deterministic runs identified case based on the following criteria:
    a. Largest swept area of floating oil above 1 g/m^2 (visible floating oil);
    b. Minimum time before shoreline accumulation above 10 g/m^2;
    c. Largest volume of oil ashore;
    d. Longest length of shoreline accumulation above 10 g/m^2;
    e. Largest area of entrained hydrocarbons above 10 ppb; and
    f. Largest area of dissolved hydrocarbons above 10 ppb.
- Present a comparison between the unmitigated and mitigated cases for the above worst-case deterministic runs to demonstrate the potential benefit of surface dispersant application.

3 REGIONAL CURRENTS

The Operational Area is located within the Joseph Bonaparte Gulf, a shallow (generally <100 m) waterbody bordered by the Indian Ocean and Timor Sea. The gulf is characterised by complex geomorphology (i.e. shoals, valleys and terraces) and is dominated by tidal (ranges > 4 m) and wind driven currents which are dependent on season (DEWHA, 2007).

The Indonesian Throughflow brings southwest flowing, less saline, warm waters from the tropics, however the internal gyres generate local currents in any direction. As these gyres migrate through the area, large spatial variations in the speed and direction of currents will occur at a given location over time. The Holloway current, which flows southwest and close to the coastline, intensifies during April to July due to increased wind forcing.

A comprehensive description of the circulation patterns of the Northwest Shelf and Timor Sea is provided in a review by Condie and Andrewartha (2008). A schematic of the ocean currents along the Northwest Australian continental shelf is shown in Figure 3.1.

While, the tidal currents are generally weaker in the deeper waters (beyond the Gulf), its influence is greatest along the near shore, within the Gulf, coastal passage regions and, in and around the islands. Therefore, to accurately account for the movement of an oil spill, which can move between the offshore and near shore region, ocean and tidal currents were combined as part of the study.

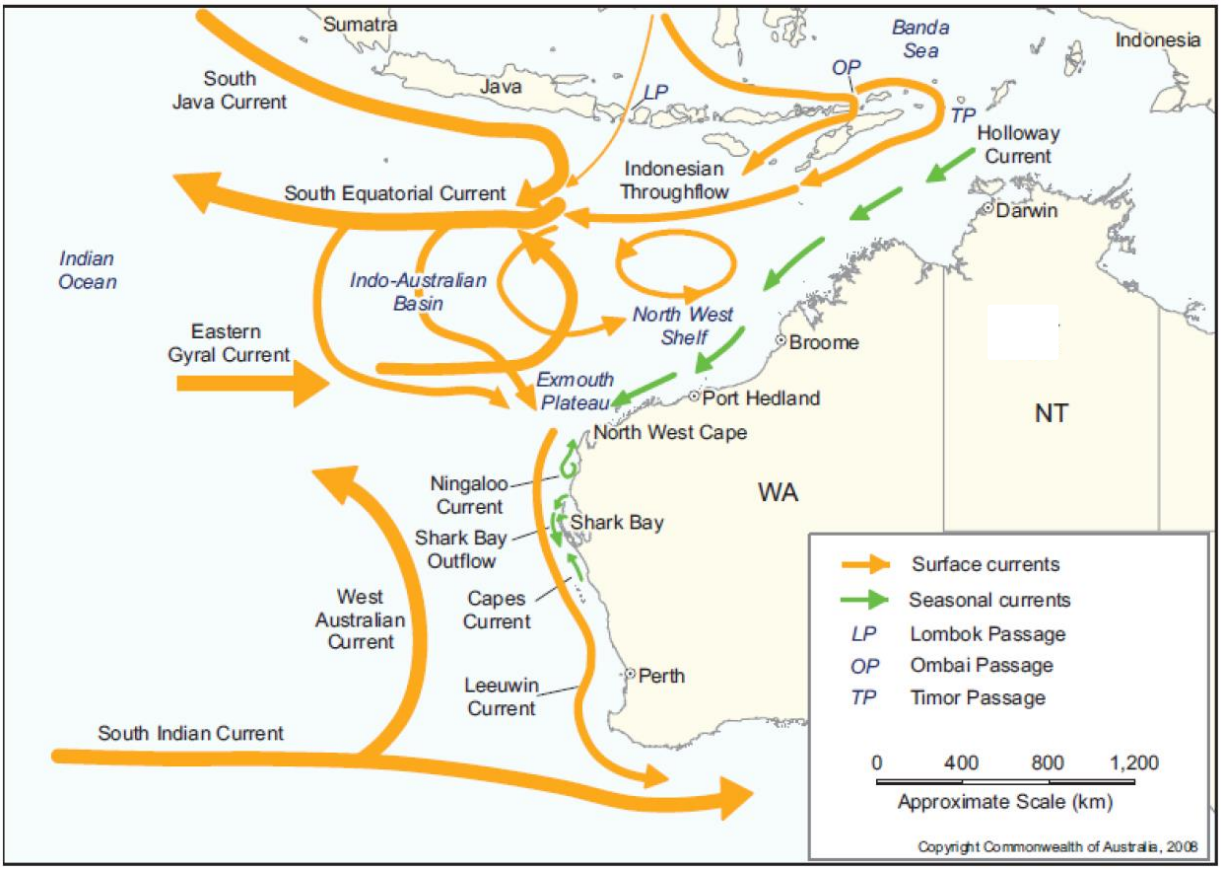


Figure 3.1 Schematic of ocean currents along the Northwest Australian continental shelf. Image adapted from DEWHA (2008).

3.1 Tidal currents

Tidal current data was generated using RPS's advanced ocean/coastal model, HYDROMAP. The HYDROMAP model has been thoroughly tested and verified through field measurements throughout the world for more than 30 years (Isaji & Spaulding, 1984; Isaji, et al., 2001; Zigic, et al., 2003). HYDROMAP tidal current data has been used as input to forecast (in the future) and hindcast (in the past) pollutant spills in Australian waters and forms part of the Australian National Oil Spill Emergency Response System operated by AMSA (Australian Maritime Safety Authority).

HYDROMAP employs a sophisticated sub-gridding strategy, which supports up to six levels of spatial resolution, halving the grid cell size as each level of resolution is employed. The sub-gridding allows for higher resolution of currents within areas of greater bathymetric and coastline complexity, and/or of interest to a study.

The numerical solution methodology follows that of Davies (1977a and 1977b) with further developments for model efficiency by Owen (1980) and Gordon (1982). A more detailed presentation of the model can be found in Isaji and Spaulding (1984) and Isaji et al. (2001).

3.1.1 Grid Setup

RPS has a global tidal model with global coverage. The model is sub-gridded to a resolution of 500 m for shallow and coastal regions, starting from an offshore (or deep water) resolution of 8 km. The finer grids are progressively allocated in a step-wise fashion to more accurately resolve flows along the coastline, around islands and over regions with more complex bathymetry. Figure 3.2 shows the tidal model grid covering the study domain.

A combination of datasets was used and merged to describe the shape of the seabed within the grid domain (Figure 3.3). These included spot depths and contours which were digitised from nautical charts released by the hydrographic offices as well as Geoscience Australia database and depths extracted from the Shuttle Radar Topography Mission (SRTM30_PLUS) Plus dataset (see Becker et al., 2009).

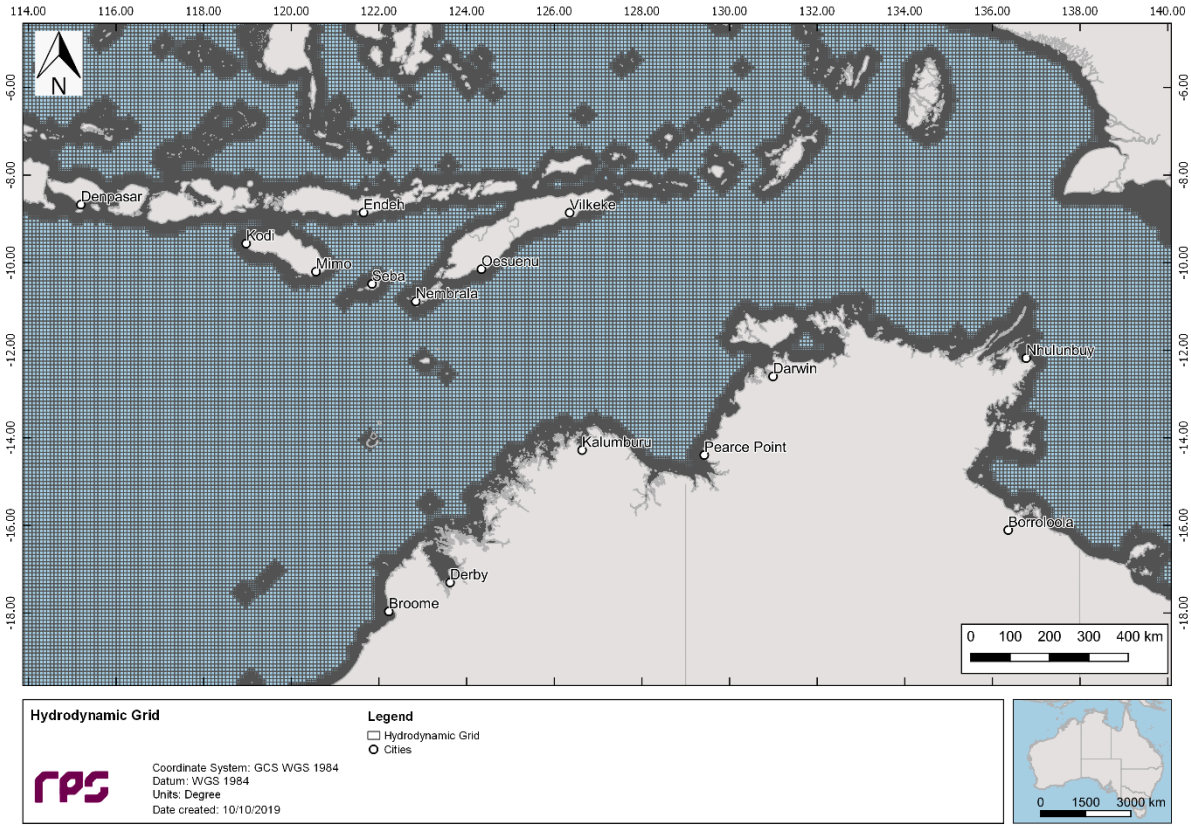


Figure 3.2 Sample of the model grid used to generate the tidal currents for the study region. Higher resolution areas are shown by the denser mesh.

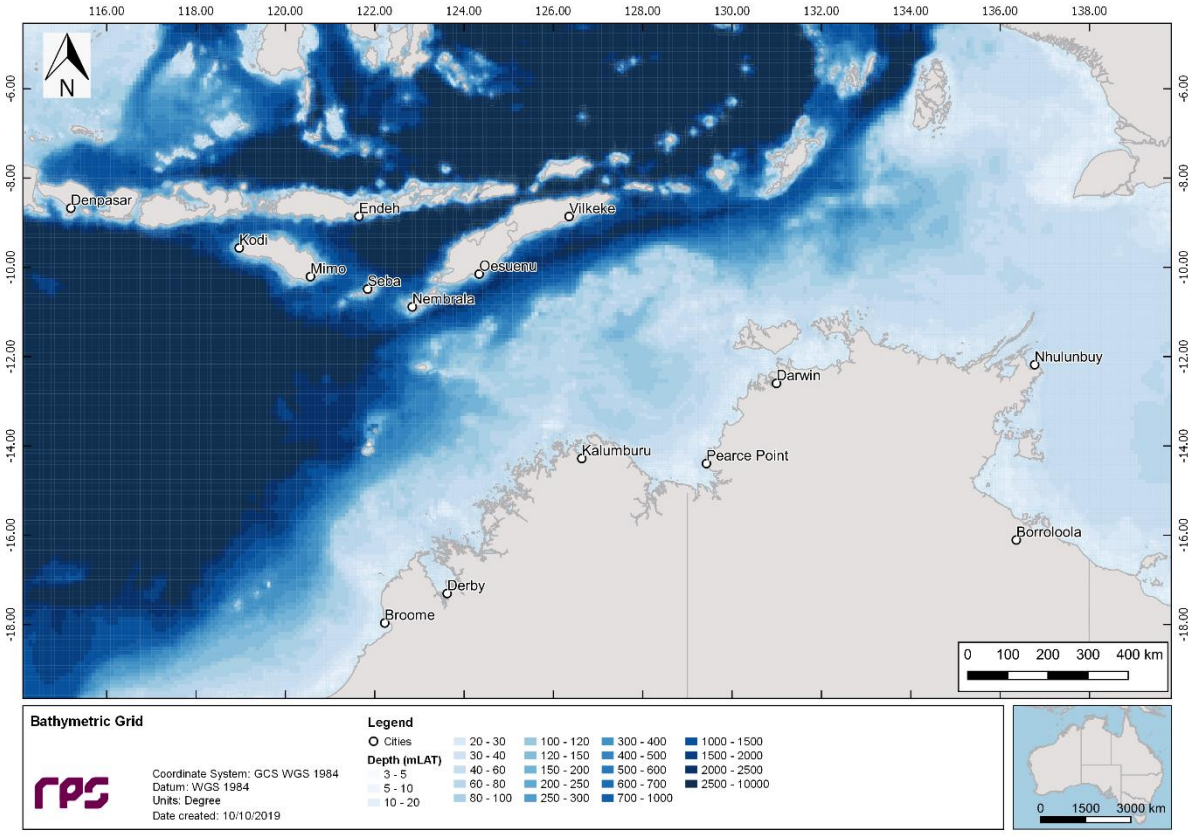


Figure 3.3 Bathymetry defined throughout the tidal model domain.

3.1.2 Tidal Conditions

The ocean boundary data for the regional model was obtained from satellite measured altimetry data (TOPEX/Poseidon 8.0) which provided estimates of the eight dominant tidal constituents at a horizontal scale of approximately 0.25 degrees. The eight major tidal constituents used were K_2, S_2, M_2, N_2, K_1, P_1, O_1 and Q_1. Using the tidal data, time series surface heights were calculated along the open boundaries for the simulation period.

The Topex/Poseidon satellite data has a resolution of 0.25 degrees globally, with higher resolution in coastal regions, and is produced and quality controlled by NASA (National Aeronautics and Space Administration). The data capturing satellites, equipped with two altimeters capable of taking sea level measurements accurate to less than ± 5 cm, measured oceanic surface elevations (and the resultant tides) for the period 1992–2005. In total these satellites carried out 62,000 orbits of the planet. The Topex-Poseidon tidal data has been widely used amongst the oceanographic community, being referenced in more than 2,100 research publications (e.g. Andersen, 1995; Ludicone et al., 1998; Matsumoto et al., 2000; Kostianoy et al., 2003; Yaremchuk & Tangdong, 2004; Qiu & Chen 2010). The Topex/Poseidon tidal data is considered suitably accurate for this study.

3.1.3 Surface Elevation Validation

To ensure that tidal predictions were accurate, predicted surface elevations were compared to data observed at a location situated within the study area (Figure 3.4).

To provide a statistical measure of the model performance, the Index of Agreement (IOA – Willmott, 1981) and the Mean Absolute Error (MAE – Willmott, 1982; Willmott & Matsuura, 2005) were used.

The MAE (Eq.1) is simply the average of the absolute values of the difference between the model-predicted (P) and observed (O) variables. It is a more natural measure of the average error (Willmott and Matsuura, 2005) and more readily understood. The MAE is determined by:

$$MAE = N^{-1} \sum_{i=1}^{N} |P_i - O_i| \qquad \text{Eq.1}$$

Where: N = Number of observations

Pi = Model predicted surface elevation

Oi = Observed surface elevation

The Index of Agreement (IOA; Eq. 2) in contrast, gives a non-dimensional measure of model accuracy or performance. A perfect agreement between the model predicted and observed surface elevations exists if the index gives an agreement value of 1, and complete disagreement between model and observed surface elevations will produce an index measure of 0 (Wilmott, 1981). Willmott et al. (1985) also suggests that values larger than 0.5 may represent good model performance. The IOA is determined by:

$$IOA = 1 - \frac{\sum |X_{model} - X_{obs}|^2}{\sum (|X_{model} - \overline{X_{obs}}| + |X_{obs} - \overline{X_{obs}}|)^2} \qquad \text{Eq.2}$$

Where: Xmodel = Model predicted surface elevation

Xobs = Observed surface elevation

Clearly, a greater IOA and lower MAE represent a better model performance.

Figure 3.5 and Figure 3.6illustrate a comparison of the predicted and observed surface elevations in January 2014. As shown on the graph, the model accurately reproduced the phase and amplitudes throughout the spring and neap tidal cycles.

Table 3.1 shows the IOA and MAE values for the selected tide station locations indicating that the model is performing well.

Table 3.1 Statistical comparison between the observed and HYDROMAP predicted surface elevations.

Tide Station	IOA	MAE (m)
Calder Shoal	0.95	0.21
Evans Shoal	0.97	0.14
Lacrosse Island	0.97	0.44
Snake Bay	0.98	0.16
The Boxers	0.94	0.23

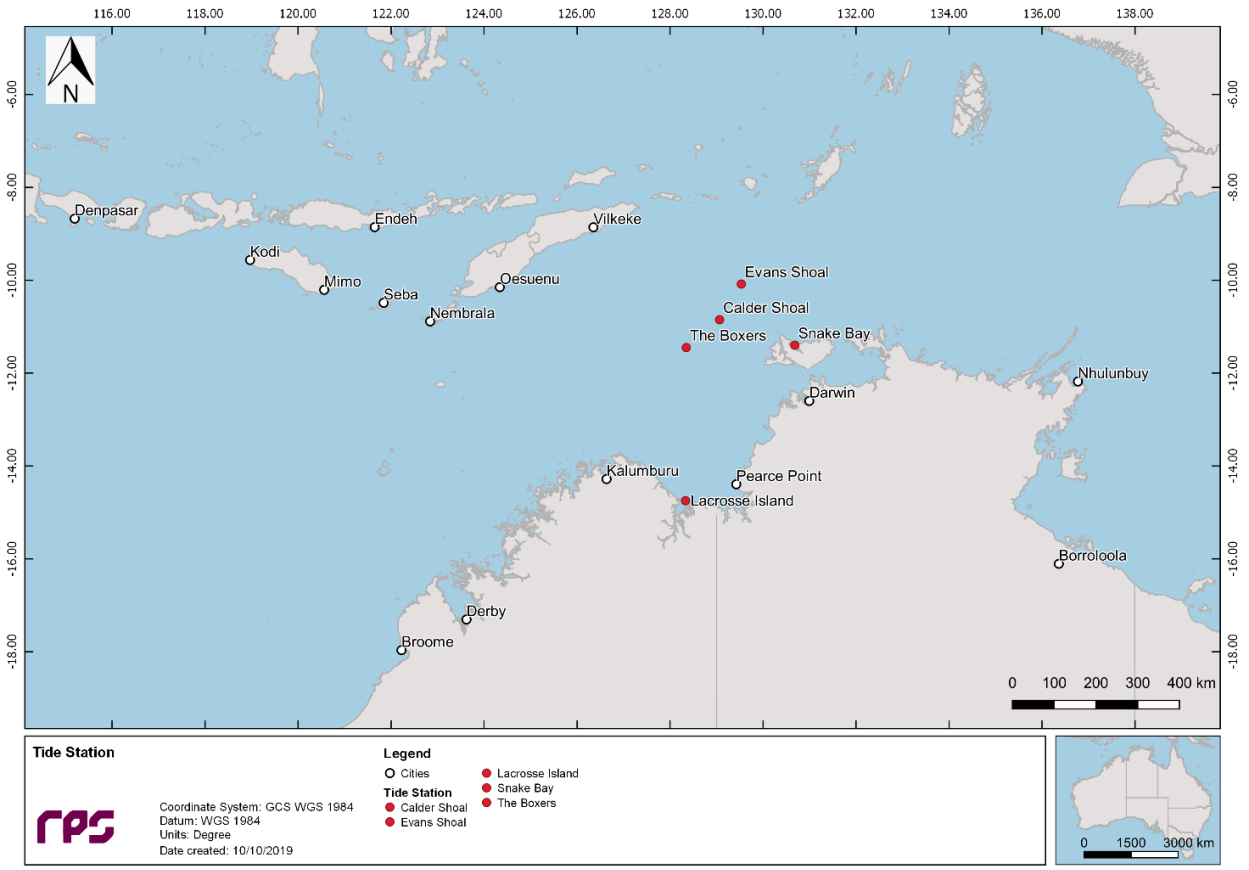


Figure 3.4 Location of the tide stations used in the surface elevation validation.

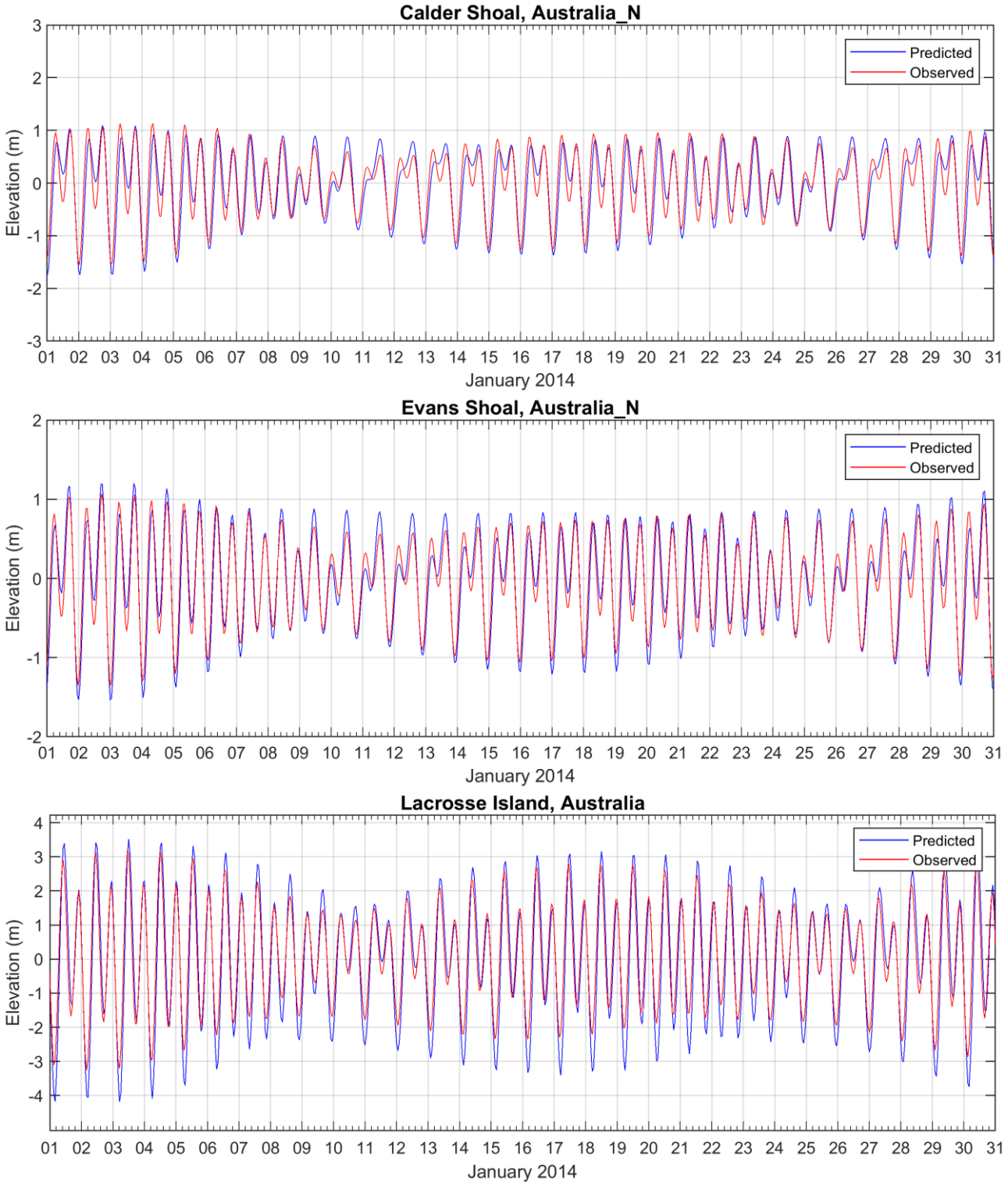


Figure 3.5 Comparison between HYDROMAP predicted (blue line) and observed (red line) surface elevation at tidal stations Calder Shoal (upper image), Evans Shoal (middle image) and Lacrosse Island (lower image).

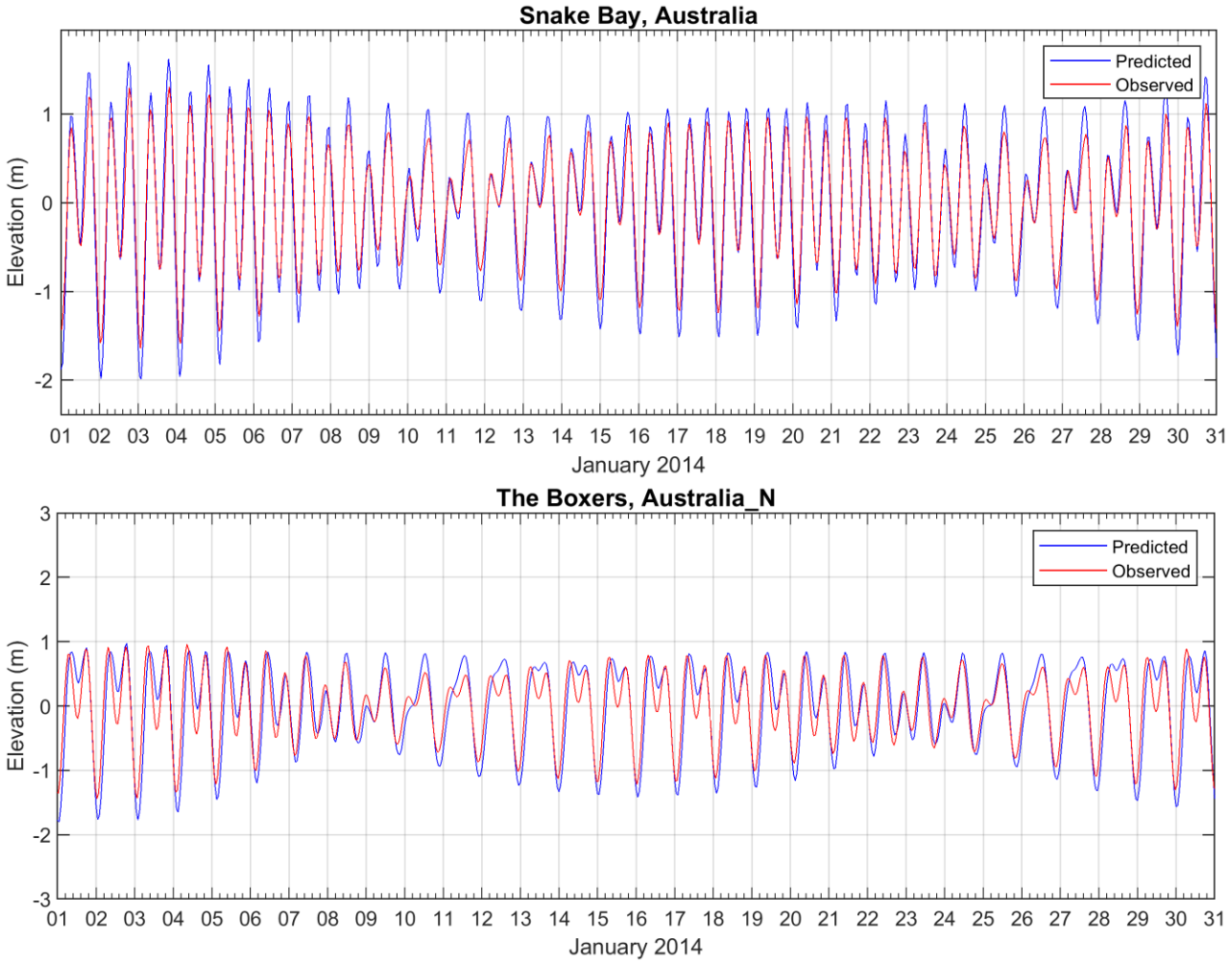


Figure 3.6 Comparison between HYDROMAP predicted (blue line) and observed (red line) surface elevation at tidal stations Snake Bay (upper image) and The Boxers (lower image).

3.2 Ocean Currents

Data describing the flow of ocean currents was obtained from HYCOM (Hybrid Coordinate Ocean Model, (Chassignet et al., 2007), which is operated by the HYCOM Consortium, sponsored by the Global Ocean Data Assimilation Experiment (GODAE). HYCOM is a data-assimilative, three-dimensional ocean model that is run as a hindcast (for a past period), assimilating time-varying observations of sea surface height, sea surface temperature and in-situ temperature and salinity measurements (Chassignet et al., 2009). The HYCOM predictions for drift currents are produced at a horizontal spatial resolution of approximately 8.25 km (1/12th of a degree) over the region, at a frequency of once per day. HYCOM uses isopycnal layers in the open, stratified ocean, but uses the layered continuity equation to make a dynamically smooth transition to a terrain-following coordinate in shallow coastal regions, and to z-level coordinates in the mixed layer and/or unstratified seas.

For this study, the HYCOM hindcast currents were obtained for the years 2010 to 2019 (inclusive). Figure 3.7 illustrates the spatial resolution of HYCOM currents.

Table 3.2 presents the average and maximum net current speeds from combined HYCOM and tidal currents nearby the Beehive-1 release location. Current speed and direction in the study area were shown to be dominated by the tides, flowing predominantly along the northwest to southeast axis. The monthly current speeds averaged between 0.33 to 0.40 m/s and reached a peak of 0.96 to 1.17 m/s.

Figure 3.8 and Figure 3.9 show the monthly and total current rose distributions resulting from the combination of HYCOM ocean current data and HYDROMAP tidal data nearby the release location.

Note the convention for defining current direction is the direction the current flows towards, which is used to reference current direction throughout this report. Each branch of the rose represents the currents flowing to that direction, with north to the top of the diagram. Sixteen directions are used. The branches are divided into segments of different colour, which represent the current speed ranges for each direction. Speed intervals of 0.1 m/s are predominantly used in these current roses. The length of each coloured segment is relative to the proportion of currents flowing within the corresponding speed and direction.

Table 3.2 Predicted monthly average and maximum surface current speeds nearby the Beehive-1 release location. The data was derived by combining the HYCOM ocean data and HYDROMAP tidal data from 2010–2019 (inclusive).

Season	Month	Average current speed (m/s)	Maximum current speed (m/s)	General direction (Towards)
Summer	January	0.35	1.10	Northwest and Southeast
	February	0.37	1.12	
Transitional	March	0.40	1.05	
Winter	April	0.39	1.06	
	May	0.35	1.17	
	June	0.34	1.07	
	July	0.35	0.96	
	August	0.37	1.15	
Transitional	September	0.39	1.10	
Summer	October	0.37	1.09	
	November	0.34	1.06	
	December	0.33	0.98	
Minimum		0.33	0.96	
Maximum		0.40	1.17	

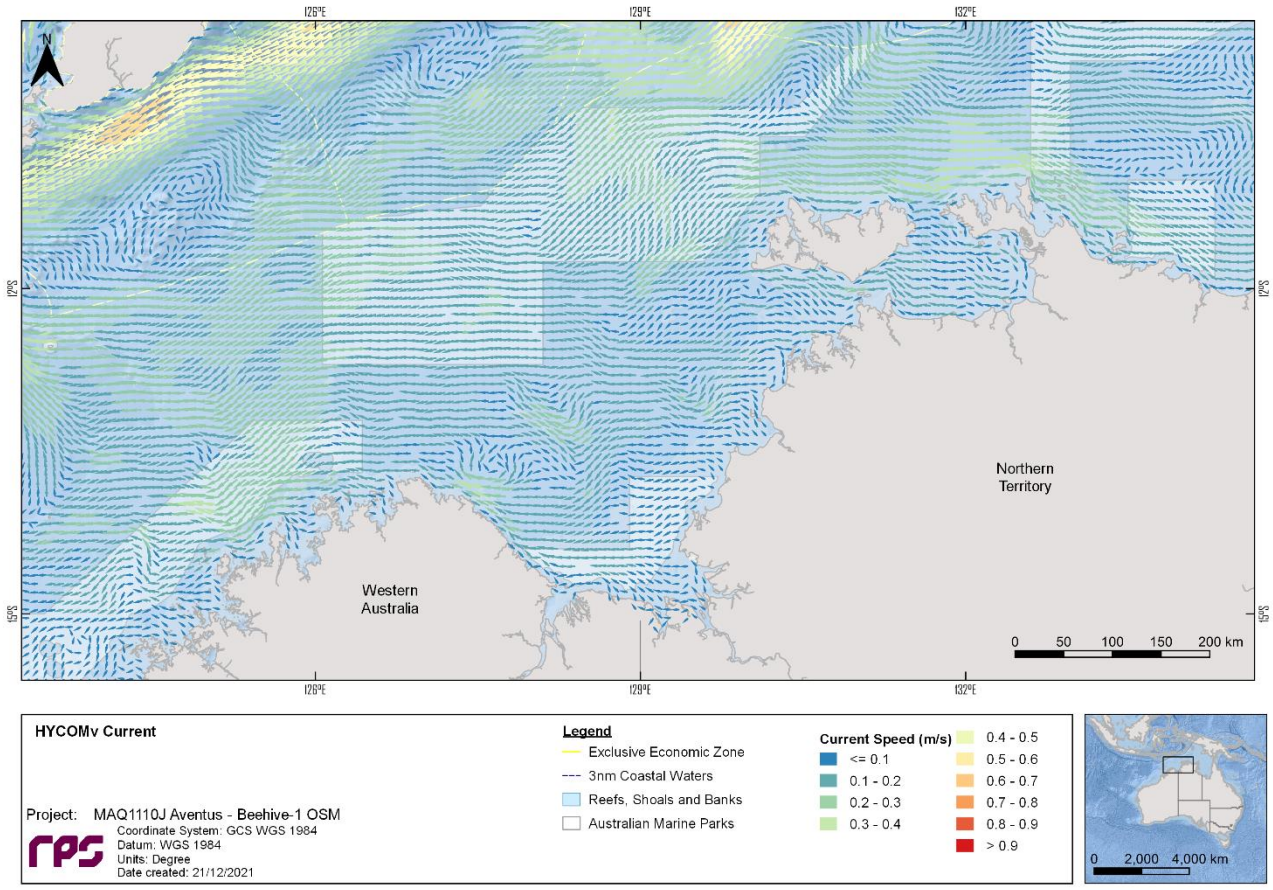


Figure 3.7 Map illustrating the spatial resolution of HYCOM currents.

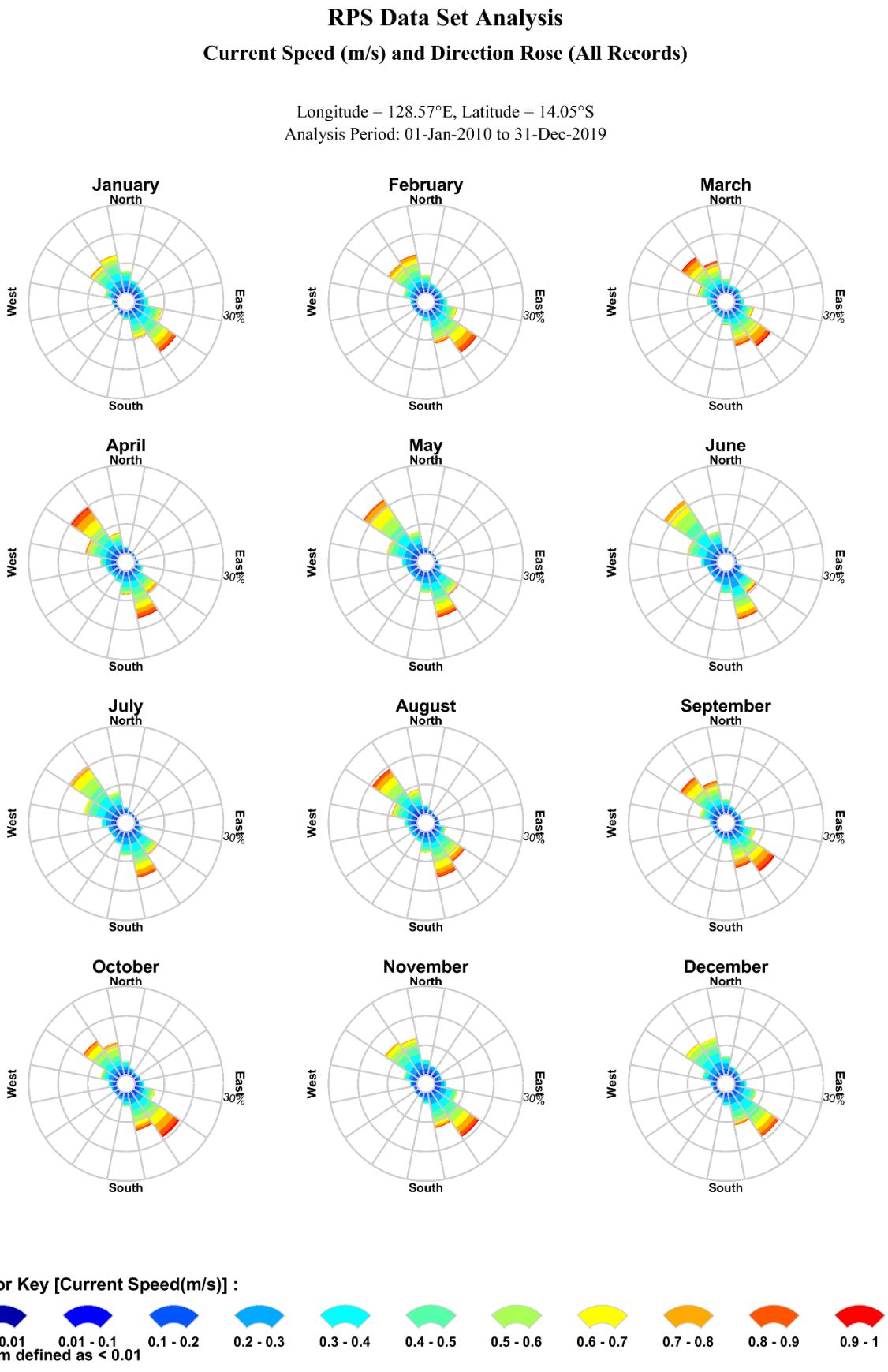


Figure 3.8 Monthly surface current rose plots nearby the Beehive-1 release location (derived by combining the HYDROMAP tidal currents and HYCOM ocean currents for 2010–2019 (inclusive).

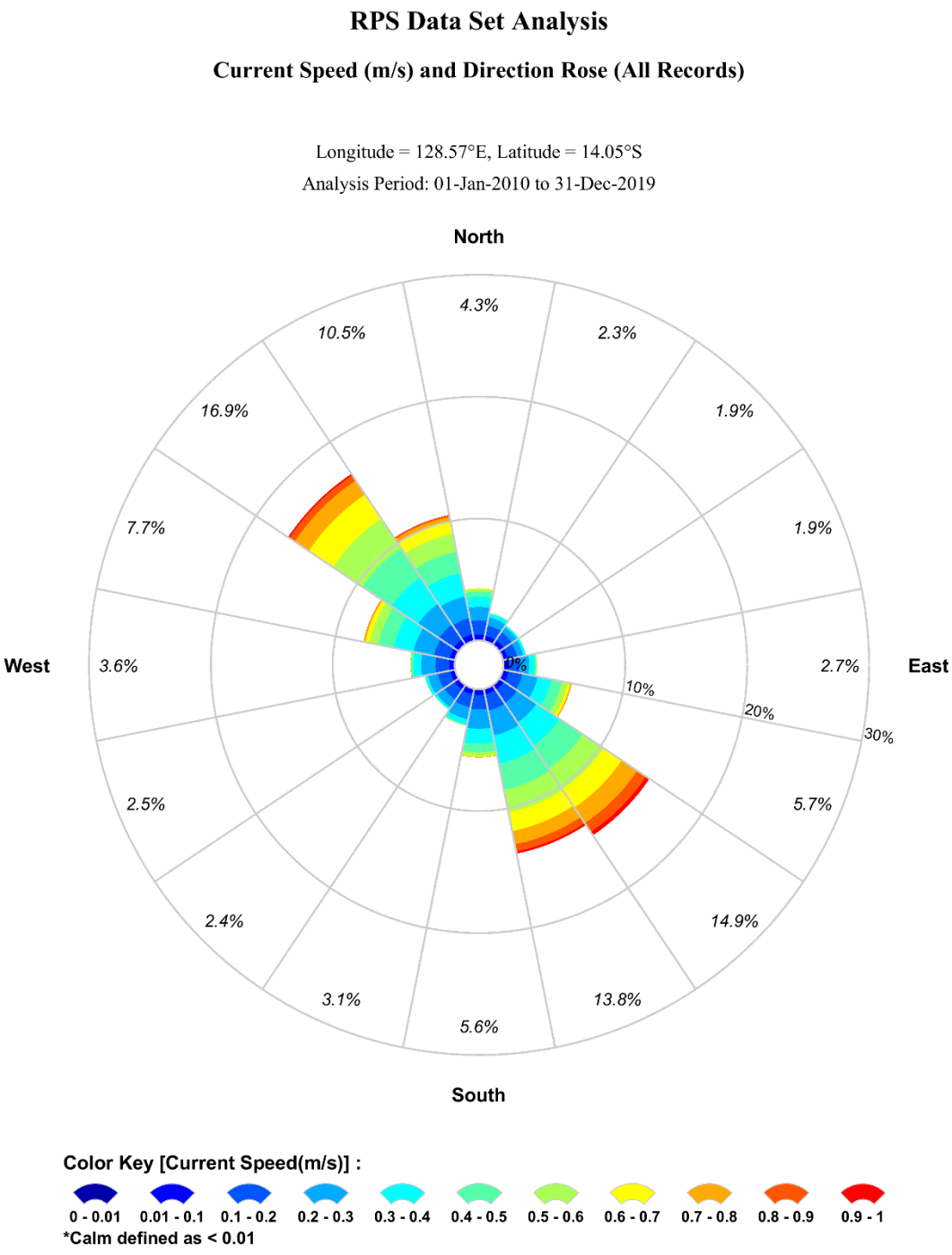


Figure 3.9 Modelled total surface current rose plot nearby the Beehive-1 release location (derived by combining the HYDROMAP tidal currents and HYCOM ocean currents for 2010–2019 (inclusive).

4 WIND DATA

High resolution wind data was sourced from the National Centre for Environmental Prediction (NCEP) Climate Forecast System Reanalysis dataset (CFSR; see Saha et al., 2010). The CFSR wind model is a fully coupled, data-assimilative hindcast model representing the interaction between the earth's oceans, land and atmosphere. The gridded wind data output is available at ¼ of a degree resolution (~33 km) and 1-hourly time intervals.

The CFSR wind data for the years 2010–2019 (inclusive) was extracted across the entire current model domain for input into the oil spill model. Figure 4.1 shows the spatial resolution of the wind field used as input into the oil spill model. Table 4.1 presents the monthly average and maximum winds derived from a CFSR wind node nearby the release location.

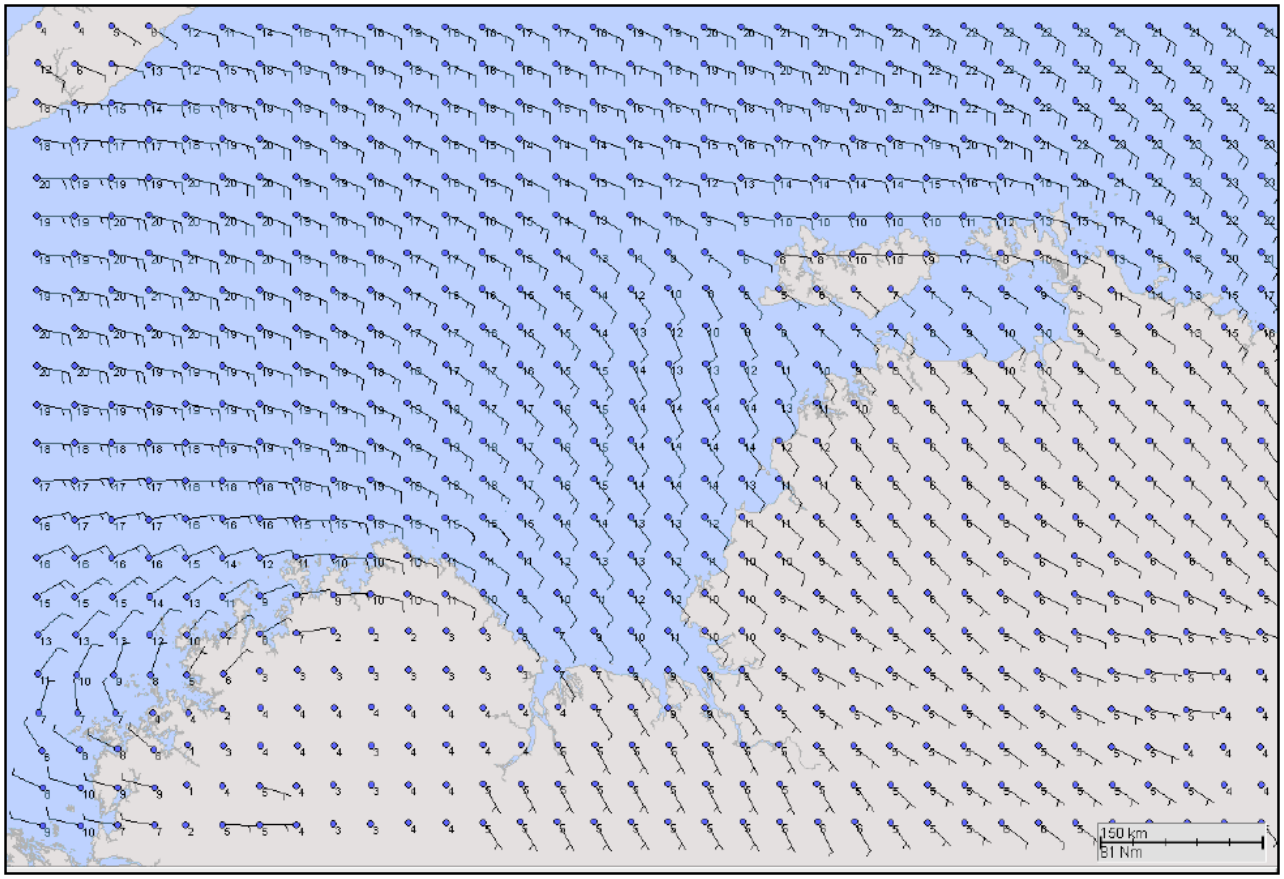


Figure 4.1 Spatial resolution of the CFSR modelled wind data used as input into the oil spill model.

Figure 4.2 and Figure 4.3 show the monthly and total wind rose distributions derived from the CFSR data for the nearest CFSR wind node to the release location. The wind data demonstrated a clear seasonality throughout the year with winds from the west-northwest in summer and southeast during the winter months. Monthly average wind speeds ranged between 8.7 and 14.1 knots whilst monthly maximums oscillated between 24.1 and 46.2 knots.

Note that the atmospheric convention for defining wind direction, that is, the direction the wind blows from, is used to reference wind direction throughout this report. Each branch of the rose represents wind coming from that direction, with north to the top of the diagram. Sixteen directions are used. The branches are divided into segments of different colour, which represent wind speed ranges from that direction. Speed ranges of 3 knots are predominantly used in these wind roses. The length of each segment within a branch

is proportional to the frequency of winds blowing within the corresponding range of speeds from that direction.

Table 4.1 Predicted average and maximum winds for the nearest CFSR wind node to the Beehive-1 release location. Data derived from CFSR hindcast model from 2010–2019 (inclusive).

Season	Month	Average wind speed (knots)	Maximum wind speed (knots)	General direction (from)
Summer	January	13.2	44.9	West-Northwest
	February	11.4	35.2	
Transitional	March	9.7	46.2	Variable
Winter	April	9.3	32.7	Southeast
	May	11.7	28.8	
	June	14.1	27.4	
	July	12.3	30.9	
	August	10.4	29.5	
Transitional	September	8.7	29.3	Variable
Summer	October	8.8	24.7	West-Northwest
	November	8.8	24.1	
	December	9.9	35.9	
Minimum		8.7	24.1	
Maximum		14.1	46.2	

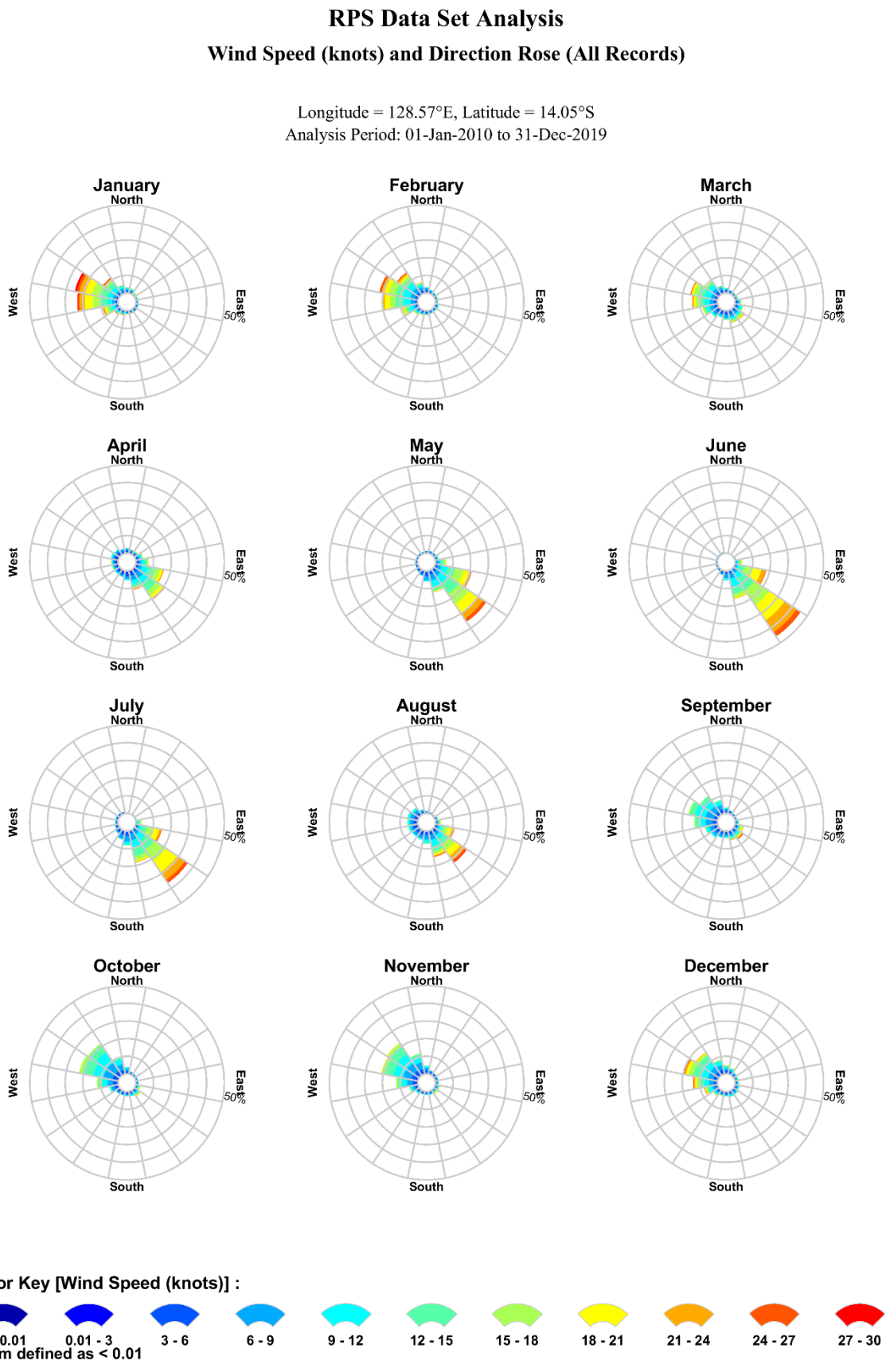


Figure 4.2 Modelled monthly wind rose distributions from 2010–2019 (inclusive), for the closest wind node to the Beehive-1 release location.

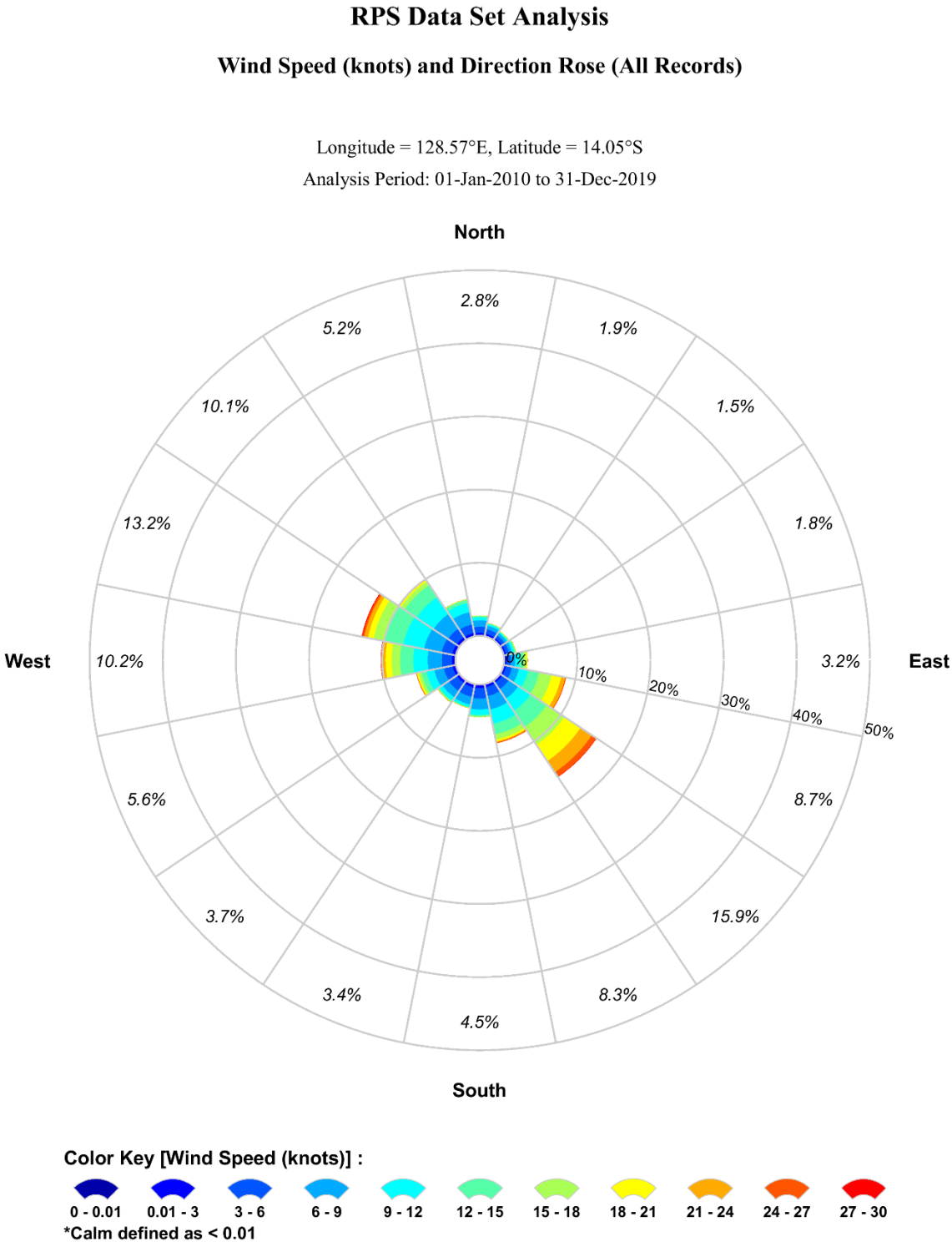


Figure 4.3 Modelled total wind rose distributions from 2010–2019 (inclusive), for the closest wind node to the Beehive-1 release location.

5 WATER TEMPERATURE AND SALINITY

The monthly sea temperature and salinity profiles of the water column within the study was obtained from the World Ocean Atlas 2013 database produced by the National Oceanographic Data Centre (National Oceanic and Atmospheric Administration) and its co-located World Data Center for Oceanography (see Levitus et al., 2013).

To account for depth-varying sea temperature and salinity the modelling used monthly average sea temperature and salinity profiles. Table 5.1 presents the sea temperature and salinity of the surface layer nearby the release sites.

The monthly average sea surface temperatures ranged between 25.9°C (July) and 30.9°C (March). The monthly average salinity values remain relatively consistent ranging between 33.4 psu and 35.2 psu, observed during April and October, respectively.

These parameters were used as factors to inform the weathering, movement and evaporative loss of hydrocarbon spills in the surface and sub-surface layers.

Figure 5.1 illustrates the vertical profile of sea temperature and salinity nearby the release location.

Table 5.1 Monthly average sea surface temperature and salinity in the study area.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (ºC)	29.5	30.1	30.9	29.6	28.0	26.8	25.9	26.4	26.8	28.6	30.1	30.0
Salinity (psu)	34.1	34.5	34.9	33.4	33.6	34.8	34.3	34.8	34.2	35.2	34.8	34.8

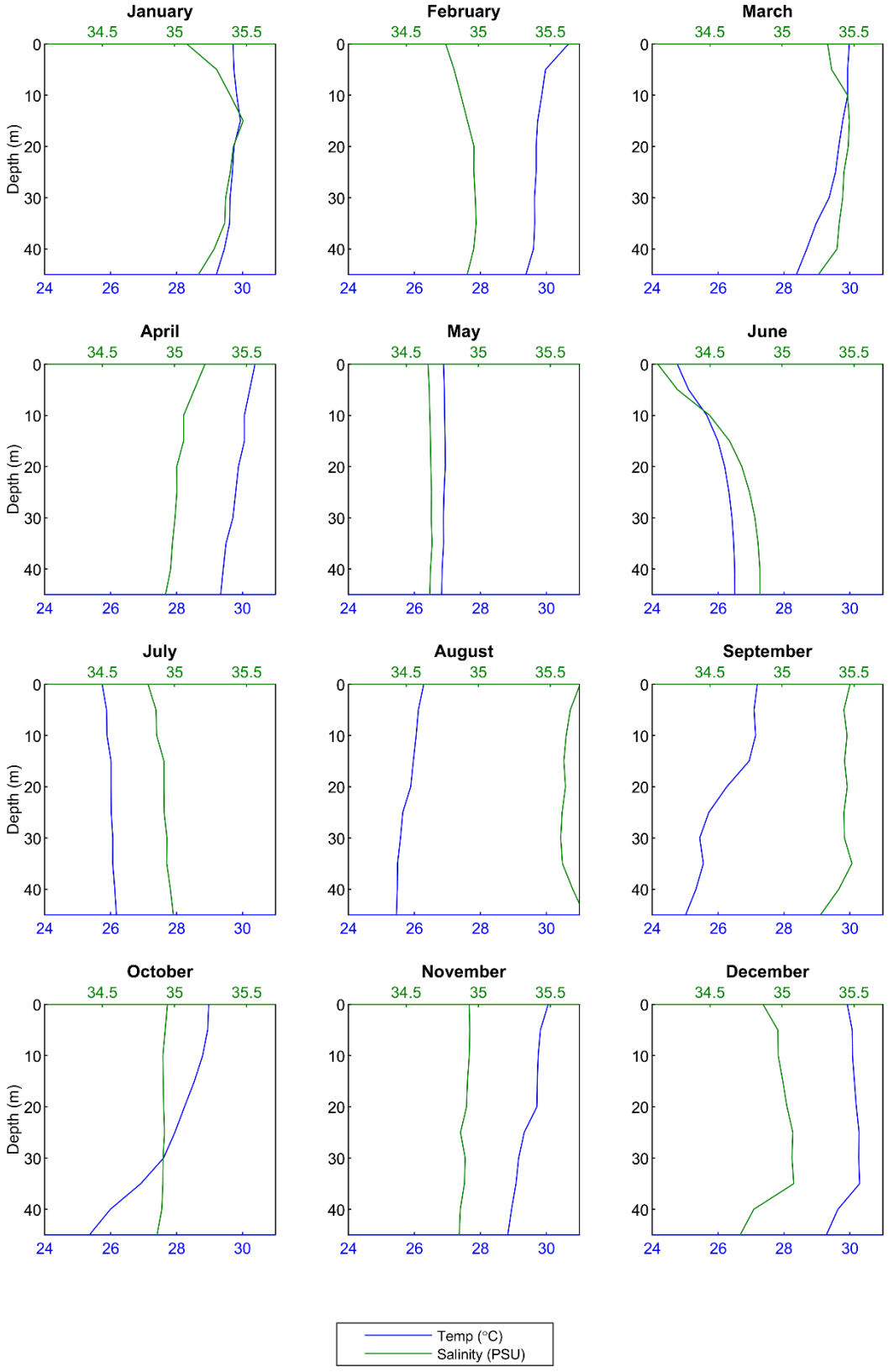


Figure 5.1 Temperature and salinity profiles nearby the Beehive-1 release location.

6 OIL SPILL MODEL – SIMAP

Modelling of the fate of oil was performed using the Spill Impact Mapping Analysis Program (SIMAP). SIMAP is designed to simulate the fate and effects of spilled hydrocarbons for both the surface and subsurface releases (Spaulding et al., 1994; French et al., 1999; French-McCay, 2003, 2004; French-McCay et al., 2004).

SIMAP has been used to predict the weathering and fate of oil spills during and after major incidents including: Montara (Australia) well blowout August 2009 in the Timor Sea (Asia-Pacific ASA, 2010); Macondo (USA) well blowout April 2010 in the Gulf of Mexico; Bohai Bay (China) oil spill August 2011; and the pipeline oil spill July 2013 in the Gulf of Thailand.

The SIMAP model calculates the transport, spreading, entrainment, evaporation and decay of surface hydrocarbon slicks as well as the entrained and dissolved oil components in the water column, either from surface slicks or from oil discharged subsea. The movement and weathering of the spilled oil is calculated for specific oil types. Input specifications for oil mixtures include the density, viscosity, pour point, distillation curve (volume lost versus temperature) and the aromatic/aliphatic component ratios within given boiling point ranges.

SIMAP is a three-dimensional model that allows for various response actions to be modelled including oil removal from skimming, burning, or collection booms, and surface and subsurface dispersant application.

The SIMAP oil spill model includes advanced weathering algorithms, specifically focussed on unique oils that tend to form emulsions and/or tar balls. The weathering algorithms are based on 5 years of extensive research conducted in response to the Deepwater Horizon oil spill in the Gulf of Mexico (French-McCay et al., 2015).

Biodegradation is included in the oil spill model. In the model, SIMAP, degradation is calculated for the surface slick, deposited oil on the shore, the entrained oil and dissolved constituents in the water column, and oil in the sediments. For surface oil, water column oil and sedimented oil, a first order degradation rate is specified. Biodegradation rates are relatively high for hydrocarbons in dissolved state or in dispersed small droplets.

6.1 Stochastic Modelling

Stochastic oil spill modelling is created by overlaying a great number (often 100 hundred) simulated hypothetical oil spills (Section 1.2.1). Stochastic modelling involves running numerous individual oil spill simulations using a range of prevailing wind and current conditions that are historically representative of the season and location of where the spill event may occur.

For the stochastic modelling undertaken in this study, 100 oil spills were modelled per season (300 spills in total) using the same spill information (spill volume, duration and oil type) but with varied start dates and times. During each simulation, the model records whether any grid cells are exposed to any oil concentrations, the concentrations involved and the elapsed time before exposure. The results of all 100 oil spill simulations (per season) were analysed to determine the following annualised statistics for every grid cell:

- Exposure load (concentrations and volumes);
- Minimum time before exposure;
- Probability of contact above defined concentrations;
- Volume of oil that may strand on shorelines from any single simulation;

- Concentration that might occur on sections of individual shorelines;
- Exposure (instantaneous and/or over a specified duration) to dissolved hydrocarbons in the water column; and
- Exposure (instantaneous and/or over a specified duration) to entrained hydrocarbons in the water column.

6.1 Floating, Shoreline and In-Water Thresholds

The thresholds and their relationship to exposure for the sea surface, shoreline, and water column (entrained and dissolved hydrocarbons) are presented in Sections 6.1.1 to 6.1.3. Supporting justifications of the adopted thresholds applied during the study and additional context relating to the area of influence are also provided. It is important to note that the thresholds herein are based on NOPSEMA (2019).

6.1.1 Floating Oil Exposure Thresholds

The modelling results can be presented to any levels; therefore, thresholds have been specified (based on scientific literature) to record floating oil exposure to the sea-surface at meaningful levels only, described in the following paragraphs.

The low threshold to assess the potential for floating oil exposure, was 1 g/m^2, which equates approximately to an average thickness of 1 µm, referred to as visible oil. Oil of this thickness is described as rainbow sheen in appearance, according to the Bonn Agreement Oil Appearance Code (Bonn Agreement, 2009; AMSA, 2014) (see Table 6.1). Figure 6.1 shows photographs highlighting the difference in appearance between a silvery sheen, rainbow sheen and metallic sheen. This threshold is considered below levels which would cause environmental harm and it is more indicative of the areas perceived to be affected due to its visibility on the sea surface and potential to trigger temporary closures of areas (i.e., fishing grounds) as a precautionary measure. Table 6.1 provides a description of the appearance in relation to exposure zone thresholds used to classify the zones of floating oil exposure.

Ecological impact has been estimated to occur at 10 g/m^2 (a film thickness of approximately 10 µm or 0.01 mm) according to French et al. (1996) and French-McCay (2009) as this level of fresh oiling has been observed to mortally impact some birds through adhesion of oil to their feathers, exposing them to secondary effects such as hypothermia. The appearance of oil at this average thickness has been described as a metallic sheen (Bonn Agreement, 2009). Concentrations above 10 g/m^2 is also considered the lower actionable threshold, where oil may be thick enough for containment and recovery as well as dispersant treatment (AMSA, 2015).

Scholten et al. (1996) and Koops et al. (2004) indicated that at oil concentrations on the sea surface of 25 g/m^2 (or greater), would be harmful for all birds that have landed in an oil film due to potential contamination of their feathers, with secondary effects such as loss of temperature regulation and ingestion of oil through preening. The appearance of oil at this thickness is also described as metallic sheen (Bonn Agreement, 2009). For this study the high exposure threshold was set to 50 g/m^2 and above based on NOPSEMA (2019). This threshold can also be used to inform response planning.

Table 6.2 defines the thresholds used to classify the zones of floating oil exposure reported herein.

Table 6.1 The Bonn Agreement Oil Appearance Code.

Code	Description Appearance	Layer Thickness Interval (g/m^2 or µm)	Litres per km^2
1	Sheen (silvery/grey)	0.04 - 0.30	40 - 300
2	Rainbow	0.30 – 5.0	300 – 5,000
3	Metallic	5.0 – 50	5,000 – 50,000
4	Discontinuous True Oil Colour	50 – 200	50,000 – 200,000
5	Continuous True Oil Colour	≥ 200	≥ 200,000

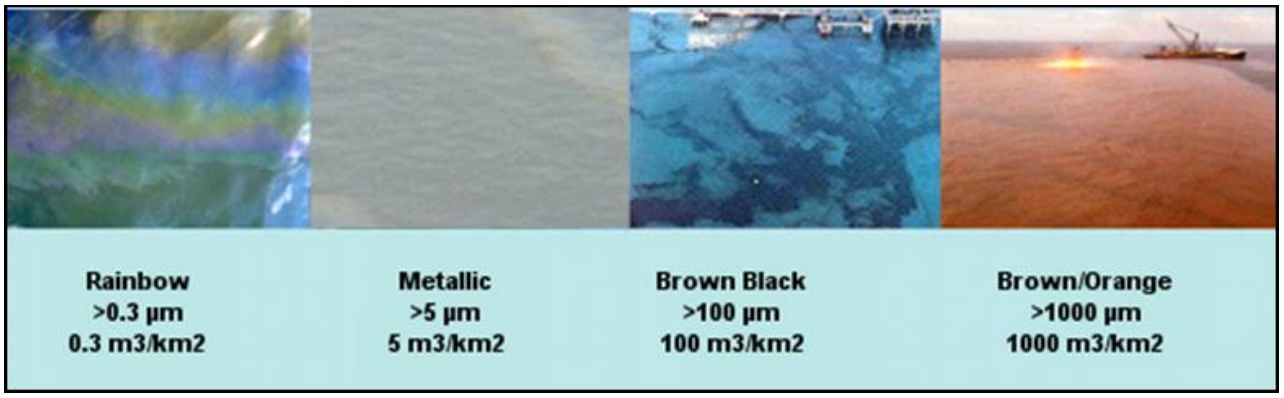


Figure 6.1 Photographs showing the difference between oil colour and thickness on the sea surface (source: adapted from Oil Spill Solutions, 2015).

Table 6.2 Floating oil exposure thresholds used in this report (in alignment with NOPSEMA (2019)).

Threshold level	Floating oil (g/m^2)	Description
Low	1	Approximates range of socio-economic effects and establishes planning area for scientific monitoring
Moderate	10	Approximates lower limit for harmful exposures to birds and marine mammals
High	50*	Approximates surface oil slick and informs response planning

* 50 g/m^2 also used to define the threshold for actionable floating oil.

6.1.2 Shoreline Accumulation Thresholds

There are many different types of shorelines, ranging from cliffs, rocky beaches, sandy beaches, mud flats and mangroves, and each of these influences the volume of oil that can remain stranded ashore and its thickness before the shoreline saturation point occurs. For instance, a sandy beach may allow oil to percolate through the sand, thus increasing its ability to hold more oil ashore over tidal cycles and various wave actions than an equivalent area of water; hence oil can increase in thickness onshore over time. A rocky shoreline was assumed as the default shoreline type for the modelling in this study, as a large part of the shoreline in the study area (especially the western part of the Joseph Bonaparte Gulf) is characterised by exposed rocky shorelines.

In previous risk assessment studies, French-McCay et al. (2005a; 2005b) used a threshold of 10 g/m2 to assess the potential for shoreline accumulation. This is a conservative threshold used to define regions of socio-economic impact, such as triggering temporary closures of adjoining fisheries or the need for shore

clean-up on beaches or man-made features/amenities (breakwaters, jetties, marinas, etc.). It would equate to approximately 2 teaspoons of hydrocarbon per square meter of shoreline accumulation. The appearance is described as a stain/film. On that basis, the 10 g/m^2 shoreline accumulation threshold has been selected to define the zone of potential “low shoreline accumulation”.

French et al. (1996) and French-McCay (2009) define a shoreline oil accumulation threshold of 100 g/m2, or above, would potentially harm shorebirds and wildlife (fur-bearing aquatic mammals and marine reptiles on or along the shore) based on studies for sub-lethal and lethal impacts. This threshold has been used in previous environmental risk assessment studies (see French-McCay, 2003; French-McCay et al., 2004, French-McCay et al., 2011; 2012; NOAA, 2013). Additionally, a shoreline concentration of 100 g/m^2, or above, is the minimum concentration that the oil can be effectively cleaned according to AMSA (2015). This threshold equates to approximately ½ a cup of oil per square meter of shoreline accumulation. The appearance is described as a thin oil coat. Therefore, 100 g/m^2 has been selected to define the zone of potential “moderate shoreline accumulation”.

Observations by Lin & Mendelssohn (1996), demonstrated that loadings of more than 1,000 g/m^2 of hydrocarbon during the growing season would be required to impact marsh plants significantly. Similar thresholds have been found in studies assessing hydrocarbon impacts on mangroves (Grant et al., 1993; Suprayogi & Murray, 1999). Hence, 1,000 g/m^2 has been selected to define the zone of potential “high shoreline accumulation”. It equates to approximately 1 litre of hydrocarbon per square meter of shoreline accumulation. The appearance is described as a hydrocarbon cover.

These shoreline accumulation thresholds derived from extensive literature review (outlined in

Table 6.3) align with the commonly used threshold values for oil spill modelling specified in NOPSEMA (2019).

Table 6.3 Thresholds used to assess shoreline accumulation.

Threshold level	Shoreline concentration (g/m^2)	Description
Low (socio-economic/sublethal)	10	Predicts potential for some socio-economic impact
Moderate	100*	Loading predicts area likely to require clean-up effort
High	> 1,000	Loading predicts area likely to require intensive clean-up effort

* 100 g/m2 also used to define the threshold for actionable shoreline oil.

6.1.3 In-water Exposure Thresholds

Oil is a mixture of thousands of hydrocarbons of varying physical, chemical, and toxicological characteristics, and therefore, demonstrate varying fates and impacts on organisms. As such, for in-water exposure, the SIMAP model provides separate outputs for dissolved and entrained hydrocarbons from oil droplets. The consequences of exposure to dissolved and entrained components will differ because they have different modes and magnitudes of effect.

Entrained hydrocarbon concentrations were calculated based on oil droplets that are suspended in the water column, though not dissolved. The composition of this oil would vary with the state of weathering (oil age) and may contain soluble hydrocarbons when the oil is fresh. Calculations for dissolved hydrocarbons specifically calculates oil components which are dissolved in water, which are known to be the primary source of toxicity exerted by oil.

6.1.3.1 Dissolved Hydrocarbons

Laboratory studies have shown that dissolved hydrocarbons exert most of the toxic effects of oil on aquatic biota (Carls et al., 2008; Nordtug et al., 2011; Redman, 2015). The mode of action is a narcotic effect, which is positively related to the concentration of soluble hydrocarbons in the body tissues of organisms (French-McCay, 2002). Dissolved hydrocarbons are taken up by organisms directly from the water column by absorption through external surfaces and gills, as well as through the digestive tract. Thus, soluble hydrocarbons are termed “bioavailable”.

Hydrocarbon compounds vary in water-solubility and the toxicity exerted by individual compounds is inversely related to solubility, however bioavailability will be modified by the volatility of individual compounds (Nirmalakhandan & Speece, 1988; Blum & Speece, 1990; McCarty, 1986; McCarty et al., 1992a, 1992b; Mackay et al., 1992; McCarty & Mackay, 1993; Verhaar et al., 1992, 1999; Swartz et al., 1995; French-McCay, 2002; McGrath and Di Toro, 2009). Of the soluble compounds, the greatest contributor to toxicity for water-column and benthic organisms are the lower-molecular-weight aromatic compounds, which are both volatile and soluble in water. Although they are not the most water-soluble hydrocarbons within most oil types, the polynuclear aromatic hydrocarbons (PAHs) containing 2-3 aromatic ring structures typically exert the largest narcotic effects because they are semi-soluble and not highly volatile, so they persist in the environment long enough for significant accumulation to occur (Anderson et al., 1974, 1987; Neff & Anderson, 1981; Malins & Hodgins, 1981; McAuliffe, 1987; NRC, 2003). The monoaromatic hydrocarbons (MAHs), including the BTEX compounds (benzene, toluene, ethylbenzene, and xylenes), and the soluble alkanes (straight chain hydrocarbons) also contribute to toxicity, but these compounds are highly volatile, so that their contribution will be low when oil is exposed to evaporation and higher when oil is discharged at depth where volatilisation does not occur (French-McCay, 2002).

French-McCay (2002) reviewed available toxicity data, where marine biota was exposed to dissolved hydrocarbons prepared from oil mixtures, finding that 95% of species and life stages exhibited 50% population mortality (LC_{50}) between 6 and 400 ppb total PAH concentration after 96 hrs exposure, with an average of 50 ppb. Hence, concentrations lower than 6 ppb total PAH value should be protective of 97.5% of species and life stages even with exposure periods of days (at least 96 hours). Early life-history stages of fish appear to be more sensitive than older fish stages and invertebrates.

Exceedances of 10, 50 or 400 ppb over a 1 hour timestep (see Table 6.4) were applied in this study to indicate the increasing potential for sub-lethal to lethal toxic effects (or low to high), based on NOPSEMA (2019).

6.1.3.2 Entrained Hydrocarbons

Entrained hydrocarbons consist of oil droplets that are suspended in the water column and insoluble. Insoluble compounds in oil cannot be absorbed from the water column by aquatic organisms, therefore they are not bioavailable through absorption of compounds from the water. Exposure to these compounds would require routes of uptake other than absorption of soluble compounds. The route of exposure of organisms to whole oil alone include direct contact with tissues of organisms and uptake of oil by direct consumption, with potential for biomagnification through the food chain (NRC, 2005).

The 10 ppb threshold represents the very lowest concentration and corresponds generally with the lowest trigger levels for chronic exposure for entrained hydrocarbons in the ANZECC & ARMCANZ (2000) water quality guidelines. Due to the requirement for relatively long exposure times (> 24 hours) for these concentrations to be expressed, they are likely to be more meaningful for juvenile fish, larvae and planktonic organisms that might be entrained (or otherwise moving) within the entrained plumes, or when entrained hydrocarbons adhere to organisms or trapped against a shoreline for periods of several days or more.

This exposure zone is not considered to be of significant biological impact and is therefore outside the adverse exposure zone. This exposure zone represents the area contacted by the spill. This area does not define the area of influence as it is considered that the environment will not be affected by the entrained hydrocarbon at this level.

Thresholds of 10 ppb and 100 ppb were applied over a 1 hour time exposure (Table 6.4), to cover the range of thresholds outlined in ANZECC & ARMCANZ, (2000) water quality guidelines, the incremental change for greater potential effect and is per NOPSEMA (2019).

A complicating factor that should be considered when assessing the consequence of dissolved and entrained oil distributions is that there will be some areas where both physically entrained oil droplets and dissolved hydrocarbons co-exist. Higher concentrations of each will tend to occur close to the source where sea conditions can force mixing of relatively unweathered oil into the water column, resulting in more rapid dissolution of soluble compounds.

Table 6.4 Dissolved and entrained hydrocarbon exposure values assessed over a 1-hour time step, as per NOPSEMA (2019).

Threshold level	Dissolved hydrocarbon concentration (ppb)	Entrained hydrocarbon concentrations (ppb)
Low	10	10
Moderate	50	-
High	400	100

6.2 Aerial Dispersant Operations

The surface dispersant was assumed to be applied on surface oil with an age between 12 hours and 72 hours from the time of release. This enabled the evaporation process to take place during the initial 12 hours following the release whilst also avoiding any waste of dispersant on highly weathered oil, which would be ineffective.

The dispersant effectiveness was set at 65% based on a combination of surface spraying using vessels and airplanes. It was assumed that that the dispersant will be effective on fresh, weathered and emulsified oil with a minimum thickness of 10 µm and a viscosity of up to 12,500 cP. The surface dispersant application was assumed continuous for 10 hours during daylight hours only, starting from 24 hours after the initial release until the end of the spill duration. Winds were capped at 35 knots to ensure safe operating conditions for planes, but also to allow for sufficient mixing of the chemical dispersants and oil at the water surface (API et al. 2001; NOAA 2010). A dispersant to oil ratio of 1:20 was applied.

Table 6.5 summarises the aerial dispersant application parameters.

Table 6.5 Aerial dispersant application parameters.

Parameter	Input
Total Volume available (m^3)	9,066 (refer to Figure 6.2 for daily volumes)
Dispersant to oil ratio	1:20 (only applied on oil > 10 g/m^2)
Dispersant effectiveness (%)	65
Maximum viscosity threshold (cP)	12,500
Minimum Operational Wind Speeds (knots)	2
Maximum Operational Wind Speeds (knots)	35
Operational hours	10 (during daylight only)

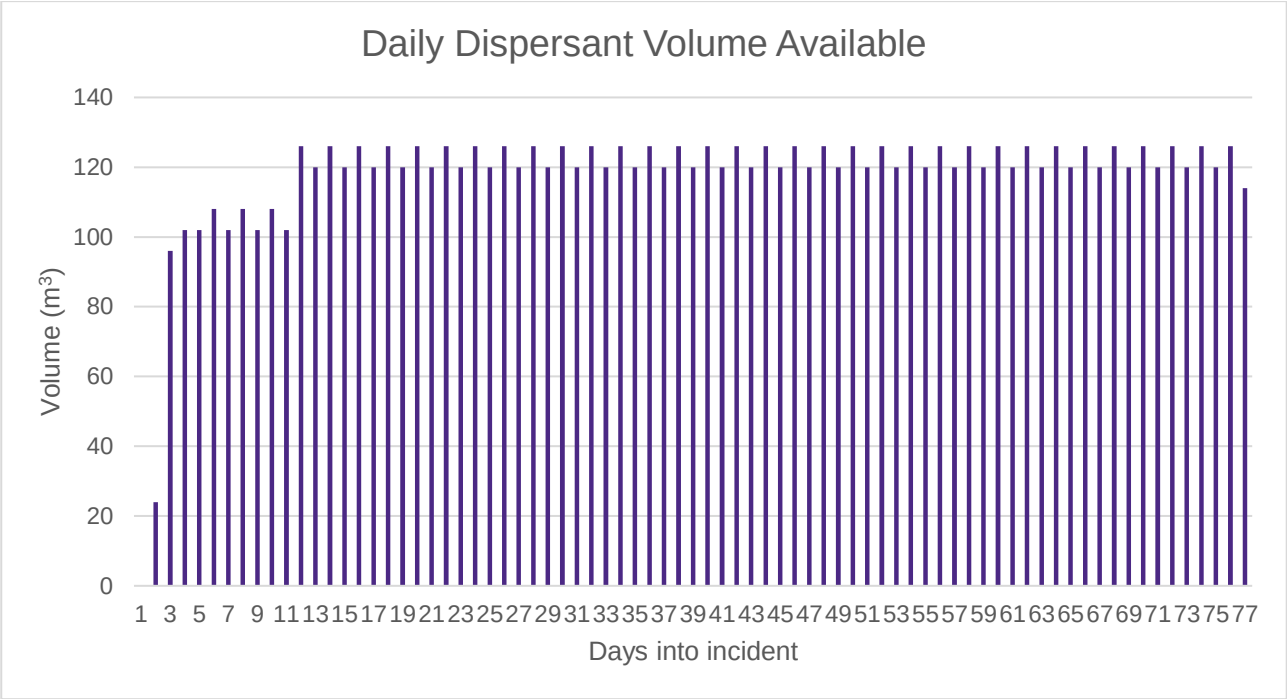


Figure 6.2 Daily dispersant volume available for application

7 OIL PROPERTIES

7.1 Oil Characteristics

7.1.1 Overview

Table 7.1 and Table 7.2 present the physical properties and boiling point ranges analogue crude oil used in this study. The analogue crude oil was carefully selected based on EOG recommendations to represent the crude oil likely to be found within permit area WA-488-P, which is likely to have an API gravity of 43° (light crude). EOG narrowed down oils in the region with a similar API to be Jabiru, Puffin, Mutineer-Exeter and Legendre crudes, all of which have APIs between 42 and 44. Based on having an API closest to that expected at Beehive-1, together with being the most conservative in terms of the residual components, EOG elected to use Jabiru crude as the analogue for spill modelling purposes.

Table 7.1 Physical properties of the oil types used in this study.

Characteristic	Crude Oil
Density (kg/m^3)	813.9 (at 15°C)
API	42.3
Dynamic viscosity (cP)	3.0 (at 20°C)
Pour point (°C)	18
Hydrocarbon property category	Group II
Hydrocarbon property classification	Light-persistent

Table 7.2 Boiling point ranges of the oil types used in this study.

Oil Type	Component	Volatile (%)	Semi-volatile (%)	Low-volatility (%)	Residual (%)
	Boiling point (°C)	<180 C_4 to C_{10}	180-160 C_{11} to C_{15}	160-380 C_{16} to C_{20}	>380 >C_{20}
Jabiru crude oil	% of total	24.2	20.9	33.9	21.0

The boiling points (BP) are dictated by the length of the carbon chains, with the longer and more complex compounds having a higher boiling point, and therefore lower volatility and evaporation rate.

The aromatic components within the volatile to low-volatility range are also soluble (with decreasing solubility following decreasing volatility) and will dissolve across the oil-water interface. The rate of dissolution will increase with increased surface area. Hence, dissolution rates will be higher under discharge conditions that generate smaller oil droplets.

Atmospheric weathering will commence if and when oil droplets float to the water surface. Typical evaporation times once the hydrocarbons reach the surface and are exposed to the atmosphere are:

- Up to 12 hours for the C_4 to C_{10} compounds (or less than 180°C BP).
- Up to 24 hours for the C_{11} to C_{15} compounds (180-160°C BP).
- Several days for the C_{16} to C_{20} compounds (160-380°C BP).

- Not applicable for the residual compounds (BP > 380°C), which will resist evaporation, persist in the marine environment for longer periods, and be subject to relatively slow degradation.

The actual fate of released oil in the marine environment will depend greatly on the amount of oil that reaches the surface, either through the initial release or by rising after discharge in the water column.

7.1.2 Crude Oil

The analogue crude oil has an API of 42.3 and a density of 813.9 kg/m^3 (at 15ºC) with a viscosity value (3.0 cP) classifying it as a Group II (light-persistent) oil according to the International Tankers Owners Pollution Federation (ITOPF, 2014) and US EPA/USCG classifications.

The crude is a mixture of volatile (79%) and persistent hydrocarbons (21%). In favourable evaporation conditions, about 24.2% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 20.8% should evaporate within the first 24 hours (180 °C < BP < 160 °C); and a further 33.9% should evaporate over several days (160 °C < BP < 380 °C). Approximately 21.0% of the oil is shown to be persistent.

7.2 Weathering Characteristics

7.2.1 Overview

A series of model weather tests were conducted to illustrate the potential behaviour of the Jabiru crude oil when exposed to idealised and representative environmental conditions:

- A 1-hour release onto the water surface at a discharge rate of 25 m^3/hr under calm wind conditions (constant 5 knots), assuming low seasonal water temperature (25 °C) and average air temperature (29 °C). The slick was also subject to ambient tidal and drift currents.

- A 1-hour release onto the water surface at a discharge rate of 50 m^3/hr under variable wind conditions (1-12 knots, drawn from representative data files), assuming low seasonal water temperature (25 °C) and average air temperature (29 °C). The slick was also subject to ambient tidal and drift currents.

The first case is indicative of cumulative weathering rates under calm conditions that would not generate entrainment, while the second case may represent conditions that could cause a minor degree of entrainment. Both scenarios provide examples of potential behaviour during periods of a spill event once the oil reaches the surface.

7.2.2 Crude Oil Mass Balance Forecasts

The mass balance forecast for the constant-wind case (Figure 7.1) shows that 45.3% of the oil is predicted to evaporate within 24 hours. Under calm conditions, the majority of the remaining oil on the water surface will weather at a slower rate due to being comprised of the longer-chain compounds with higher boiling points. Evaporation of the residual compounds will slow significantly, and they will then be subject to more gradual decay through biological and photochemical processes.

Under the variable-wind case (Figure 7.2), where the winds are of greater strength on average, entrainment of the crude oil into the water column is predicted to increase. Approximately 24 hours after the spill, 54.1% of the oil mass is forecast to have entrained and a further 42.8% is forecast to have evaporated, leaving only

a small proportion of the oil floating on the water surface (<1%). The residual compounds will tend to remain entrained beneath the surface under conditions that generate wind waves (approximately >6 m/s).

The increased level of entrainment in the variable-wind case will result in a higher percentage of biological and photochemical degradation, where the decay of the floating slicks and oil droplets in the water column occurs at an approximate rate of ~1.3% per day with an accumulated total of ~9.1% after 7 days, in comparison to a rate of ~0.3% per day and an accumulated total of ~2.4% after 7 days in the constant-wind case. Given the proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons will decay over several weeks.

Table 7.3 illustrates the summary of the mass balance for the calm wind and variable wind case at day 7.

Table 7.3 Summary of the mass balance at day 7. Results are based on a 25 m^3 surface release of crude oil over 1 hour, tracked for 7 days under calm and variable wind conditions.

End of the simulation (day 7)		
Exposure Metrics	**Calm wind conditions**	**Variable wind conditions**
Surface/Floating Oil (%)	44.4	0.0
Ashore/Shoreline (%)	0.0	0.0
Entrained (%)	3.6	44.5
Evaporated (%)	49.2	44.2
Decay (%)	2.4	9.1

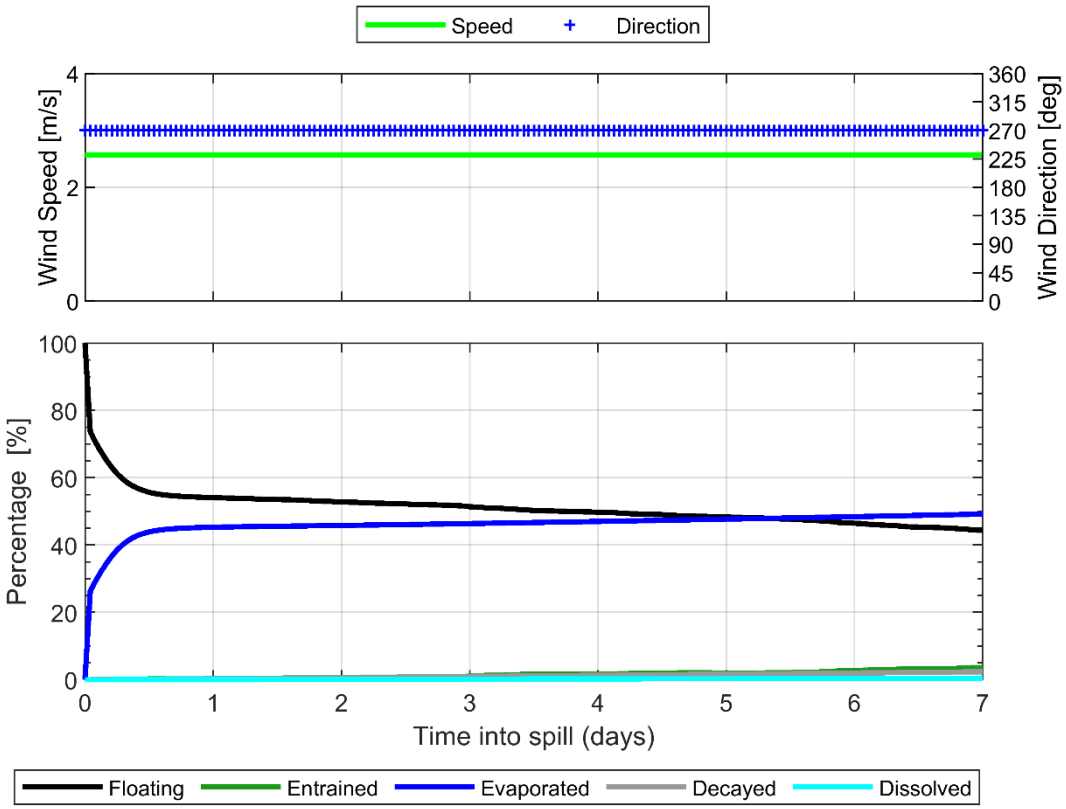


Figure 7.1 Proportional mass balance plot representing the weathering of crude oil spilled onto the water surface over 1 hour and subject to a constant 5 knots (2.6 m/s) wind speed at 25°C water temperature and 29 °C air temperature.

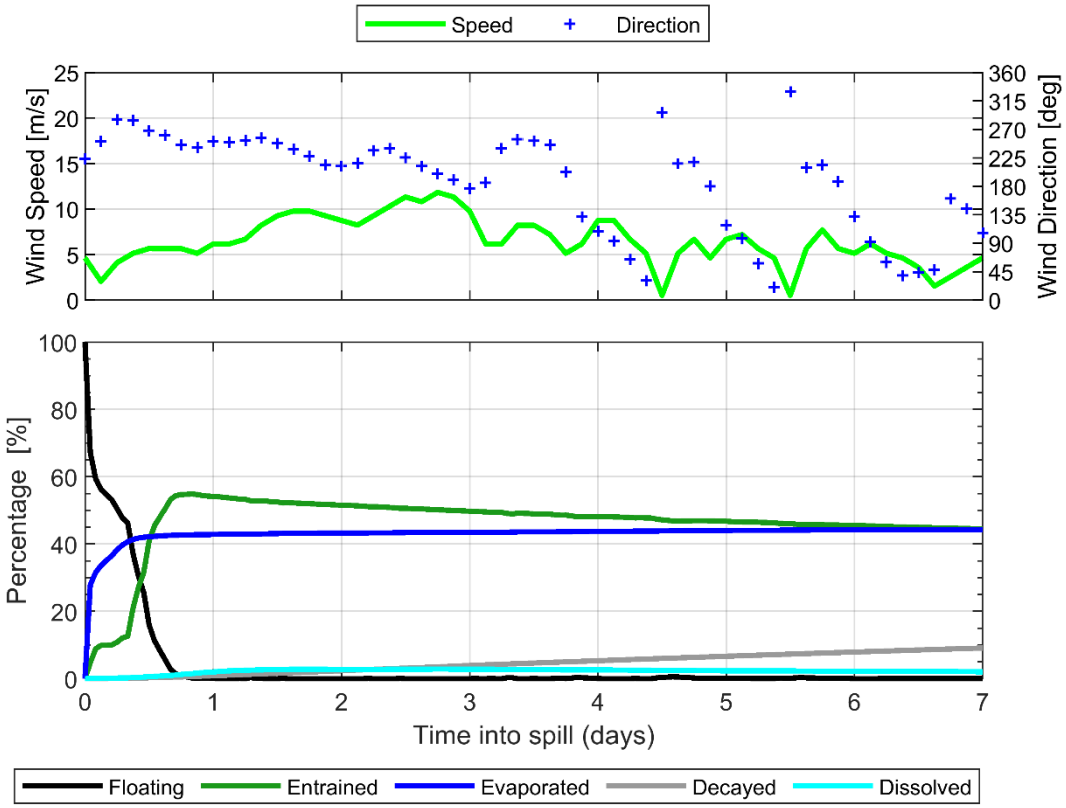


Figure 7.2 Proportional mass balance plot representing the weathering of crude oil spilled onto the water over 1 hour and subject to variable wind speeds (1-12 knots) at 25°C water temperature and 29 °C air temperature.

8 MODEL SETTINGS

Table 8.1 provides a summary of the oil spill model settings for the scenario.

Each season uses the same 100 random spill locations.

Table 8.1 Summary of the oil spill model settings used in this assessment.

Parameter	Scenario
Description	LOWC
Number of randomly selected spill start times per season for each scenario	100 (300 in total)
Release location	Single location at the Beehive-1 exploration well
Model period	Summer (October to February) Transitional (March and September) Winter (April to August)
Oil type	Crude oil
Spill volume	786,858 m^3 (4,949,192 bbl)
Release type	Surface
Release duration	77 days
Simulation length (days)	98
Surface oil concentration thresholds (g/m^2) (NOPSEMA Thresholds)	1, potential low exposure 10, potential moderate exposure 50, potential high exposure
Shoreline load thresholds (g/m^2) (NOPSEMA Thresholds)	10, potential low exposure 100, potential moderate exposure 1,000, potential high exposure
Dissolved hydrocarbon concentrations (ppb) (NOPSEMA Thresholds)	10, potential low exposure 50, potential moderate exposure 400, potential high exposure
Entrained hydrocarbon concentrations (ppb) (NOPSEMA Thresholds)	10, potential low exposure 100, potential high exposure

9 PRESENTATION AND INTERPRETION OF MODEL RESULTS

The results from the modelling study are presented in a number of tables and figures, which aim to provide an understanding of the predicted sea-surface and water column (subsurface) exposure and shoreline accumulation (if predicted).

9.1 Annual Analysis

9.1.1 Statistics

The statistics are based on the following principles:

- The greatest distance travelled by a spill trajectory – is determined by a) recording the maximum and b) second greatest distance travelled (or 99th percentile) by a single trajectory, within a scenario, from the release location to the identified exposure thresholds.
- The probability of oil exposure to a receptor – is determined by recording the number of spill trajectories to reach a specified sea surface or subsea threshold within a receptor polygon, divided by the total number of spill trajectories within that scenario.
- The minimum time before oil exposure to a receptor – is determined by ranking the elapsed time before sea surface exposure, at a specified threshold, to grid cells within a receptor polygon and recording the minimum value.
- The probability of oil accumulation at a receptor – is determined by recording the number of spill trajectories to reach a specified shoreline accumulation threshold within a receptor polygon, divided by the total number of spill trajectories within that scenario.
- The maximum potential oil loading within a receptor – is determined by identifying the maximum loading to any grid cell within a receptor polygon, for a scenario.
- The dissolved and entrained hydrocarbon exposure – is determined by recording the maximum instantaneous concentrations at each grid cell by applying a 96-hour time-based averaging.

9.2 Deterministic Trajectories

The seasonal stochastic modelling results were assessed for each scenario, and the “worst case” deterministic runs were identified and are presented in the result section based on the following criteria:

a. Largest swept area of floating oil above 1 g/m^2 (visible floating oil);

b. Minimum time before shoreline accumulation above 10 g/m^2;

c. Largest volume of oil ashore;

d. Longest length of shoreline accumulation above 10 g/m^2;

e. Largest area of entrained hydrocarbons above 10 ppb; and

f. Largest area of dissolved hydrocarbons above 10 ppb.

When no shoreline accumulation above the lowest shoreline accumulation threshold was predicted for any of the seasons modelled, only the largest swept area of floating oil, the largest area of entrained hydrocarbons and the largest area of dissolved hydrocarbons is presented.

9.2.1 Receptors Assessed

A range of environmental receptors and shorelines were assessed for sea surface exposure, shoreline contact and water column exposure as part of the study (see Figure 9.1 to Figure 9.13). Receptor categories (see Table 9.1) include sections of shorelines and offshore islands. All other sensitive receptors other than submerged reefs, shoals and banks (RSB) were sourced from Australian Government Department of Agriculture, Water and the Environment (http://www.environment.gov.au/). Risks of exposure were separately calculated for each sensitive receptor area and have been tabulated.

Table 9.1 Summary of receptors used to assess floating oil, shoreline and in-water exposure to hydrocarbons.

Receptor Category	Acronym	Hydrocarbon Exposure Assessment		
		Water Column	Floating oil	Shoreline
Australian Marine Park	AMP	✓	✓	×
Marine Park	MP	✓	✓	×
National Marine Reserves	MNP	✓	✓	×
Nature Reserve	NR	✓	✓	×
Key Ecological Feature	KEF	✓	✓	×
Shoreline	Shoreline	✓ (Reported as: Nearshore Waters)	✓ (Reported as: Nearshore Waters)	✓ (Reported as: Shoreline)
DoT Shoreline	Shoreline	✓ (Reported as: Nearshore Waters DoT Shoreline Cells)	✓ (Reported as: Nearshore Waters DoT Shoreline Cells)	✓ (Reported as: DoT Shoreline Cells)
Ramsar wetland	Ramsar	✓	✓	×
Reefs, Shoals and Banks	RSB	✓	✓	×
State Waters	State Waters	✓	✓	×

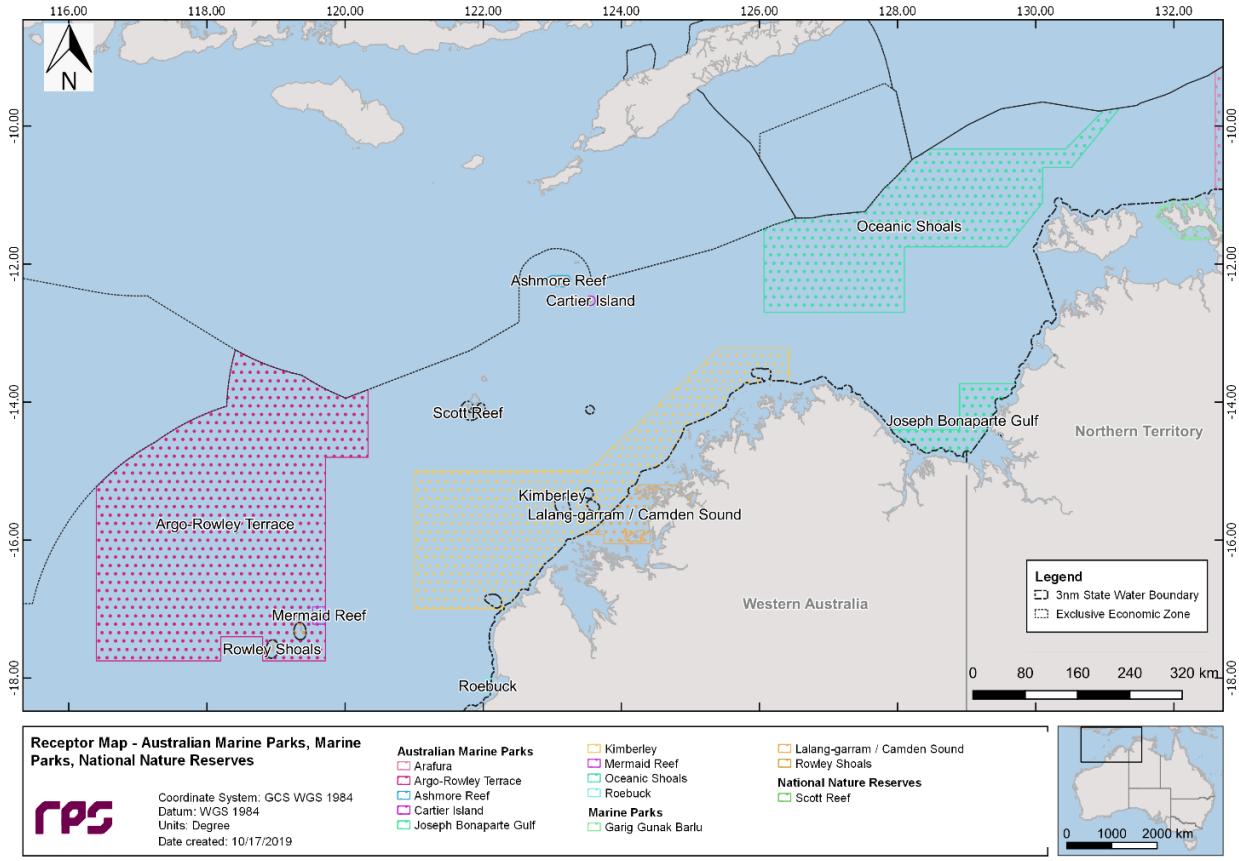


Figure 9.1 Receptor map for Australian Marine Parks, Marine Parks and National Nature Reserves.

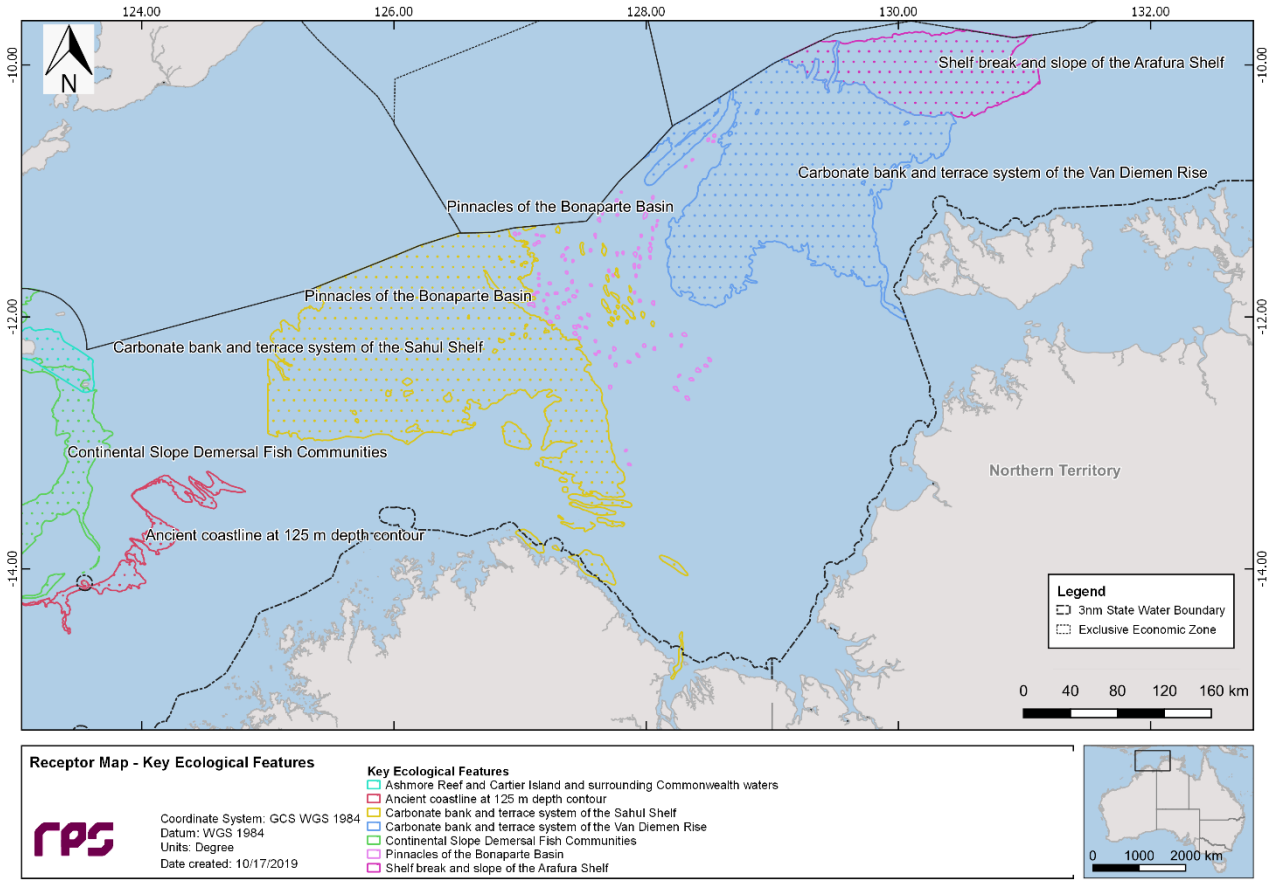


Figure 9.2 Receptor map of Key Ecological Features (KEF) (1 of 2).

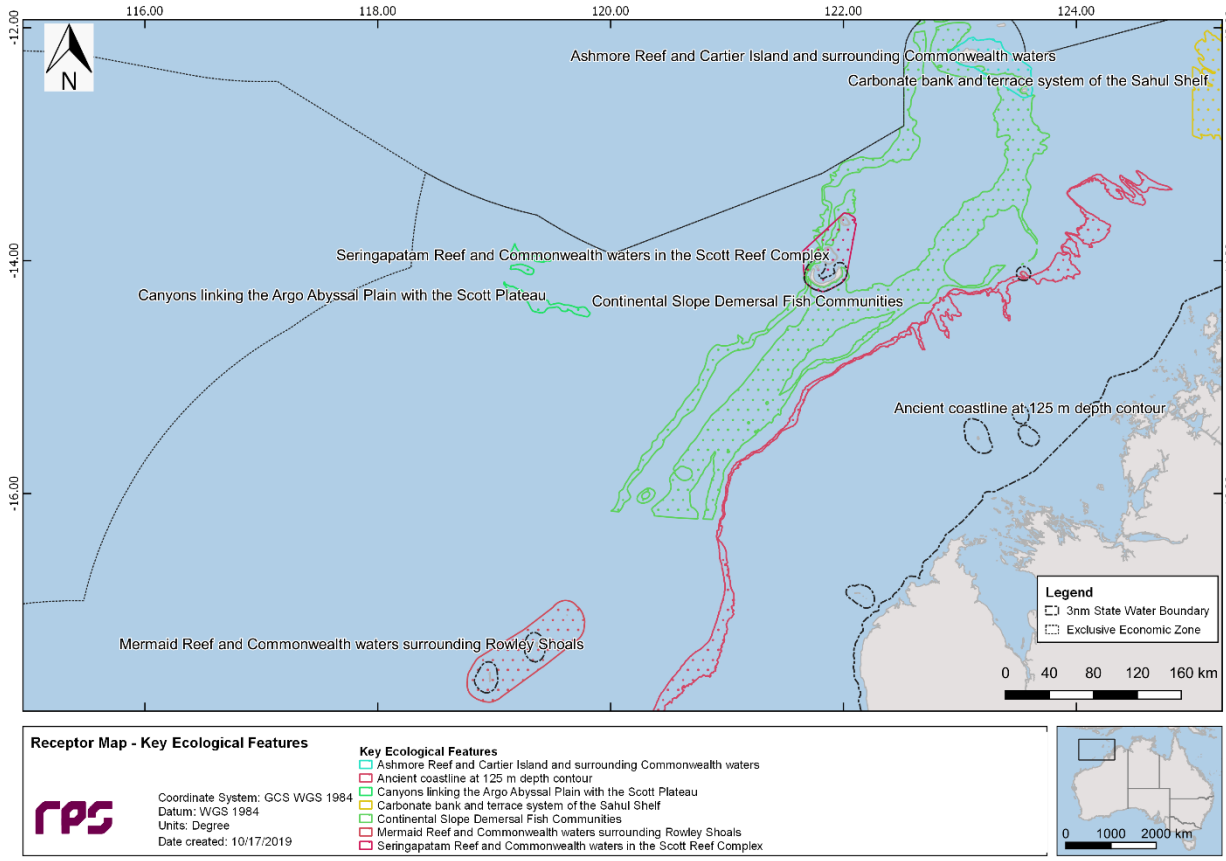


Figure 9.3 Receptor map of Key Ecological Features (KEF) (2 of 2).

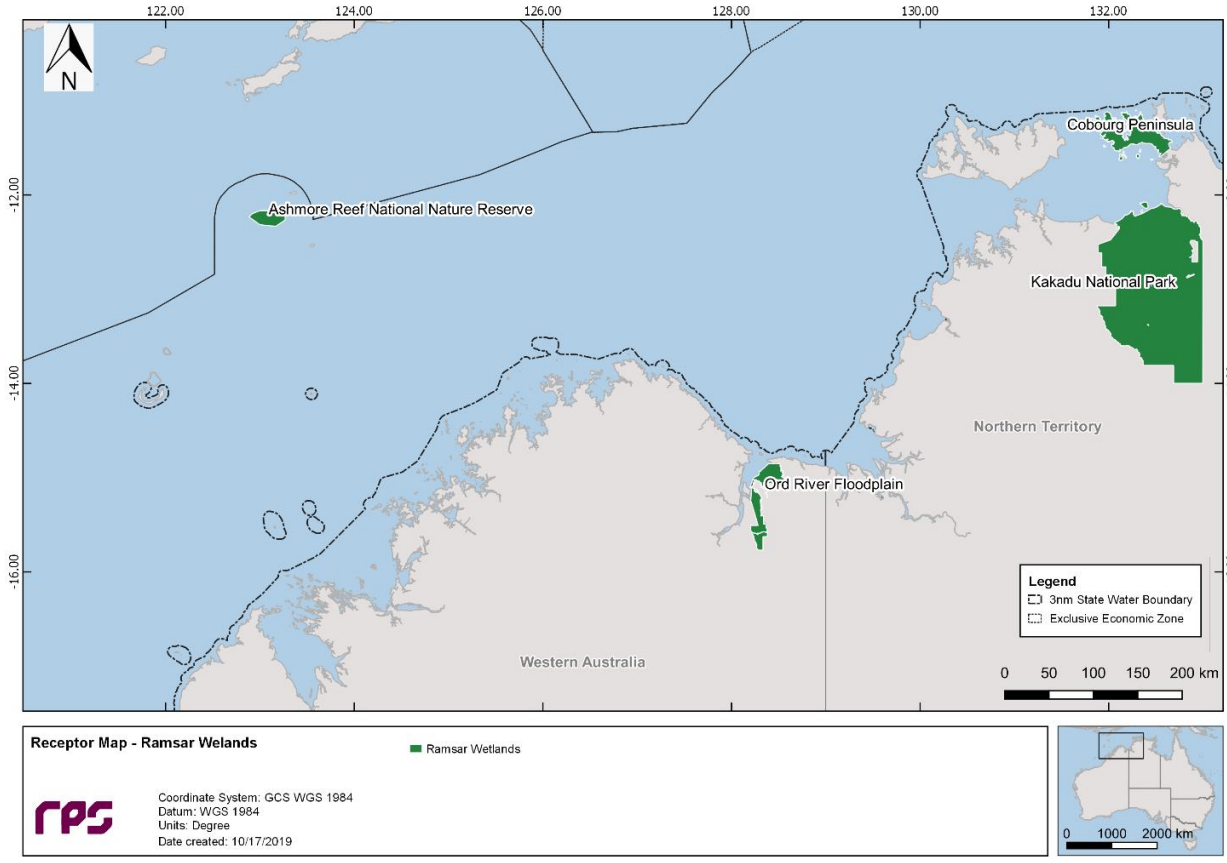


Figure 9.4 Receptor map for Ramsar wetlands.

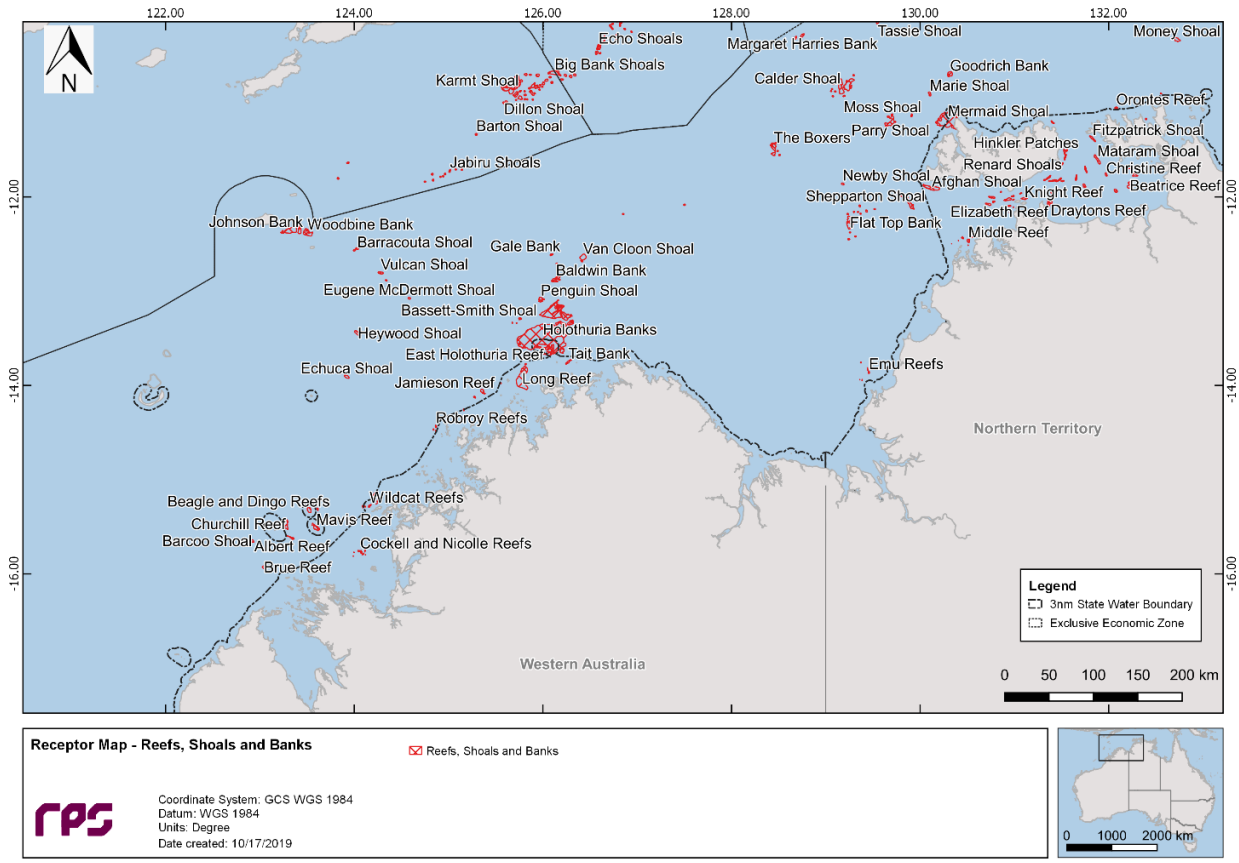


Figure 9.5 Receptor map for Reefs, Shoals and Banks.

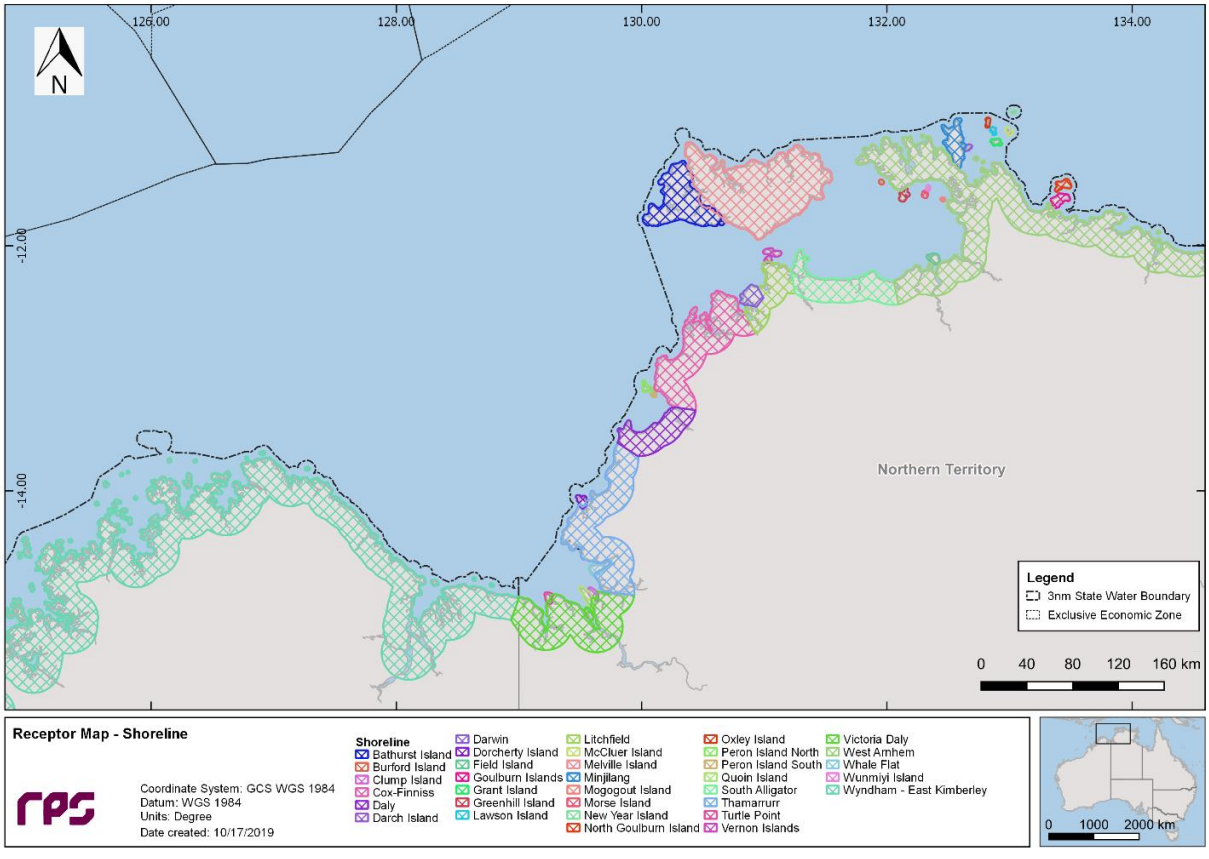


Figure 9.6 Receptor map for the shoreline sectors – names and locations (1 of 2).

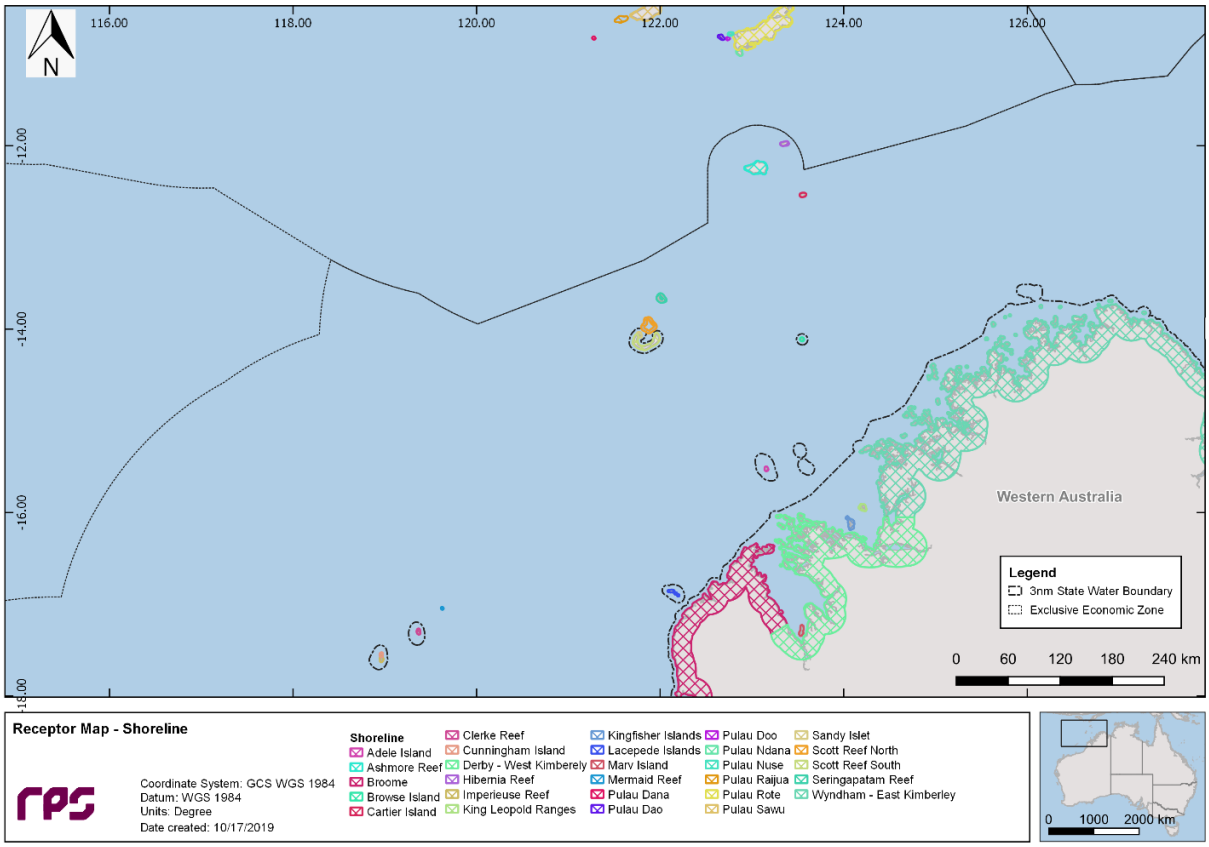


Figure 9.7 Receptor map for the shoreline sectors – names and locations (2 of 2).

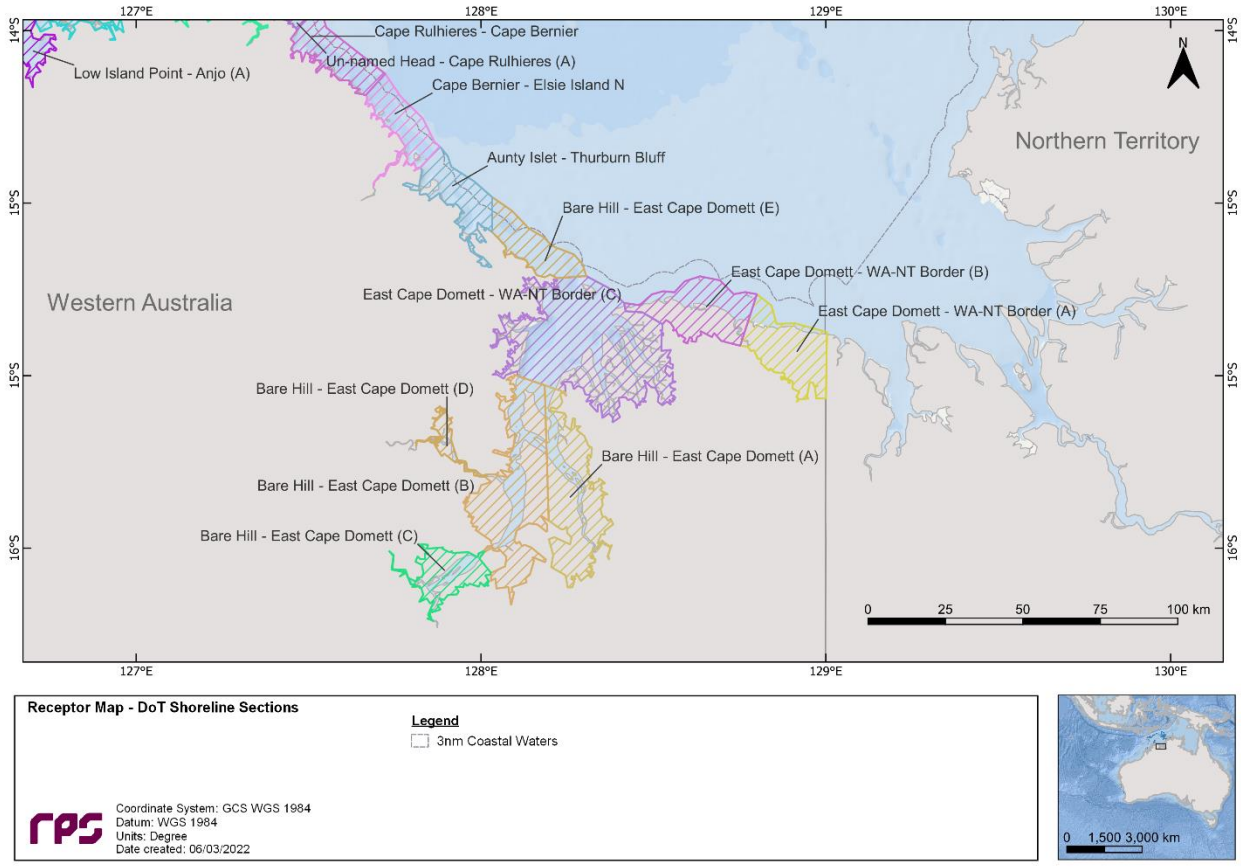


Figure 9.8 Receptor map for the DoT shoreline sections (1 of 6).

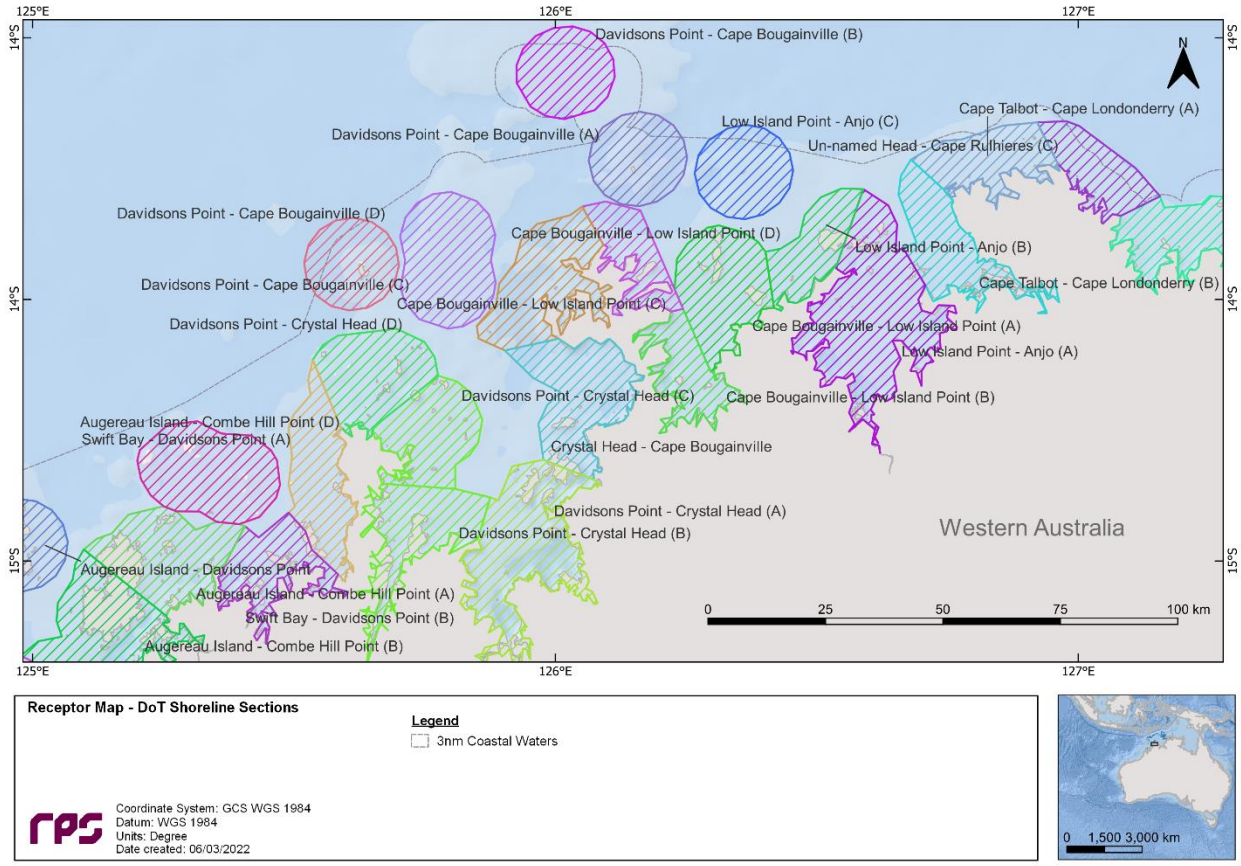


Figure 9.9 Receptor map for the DoT shoreline sections (2 of 6).

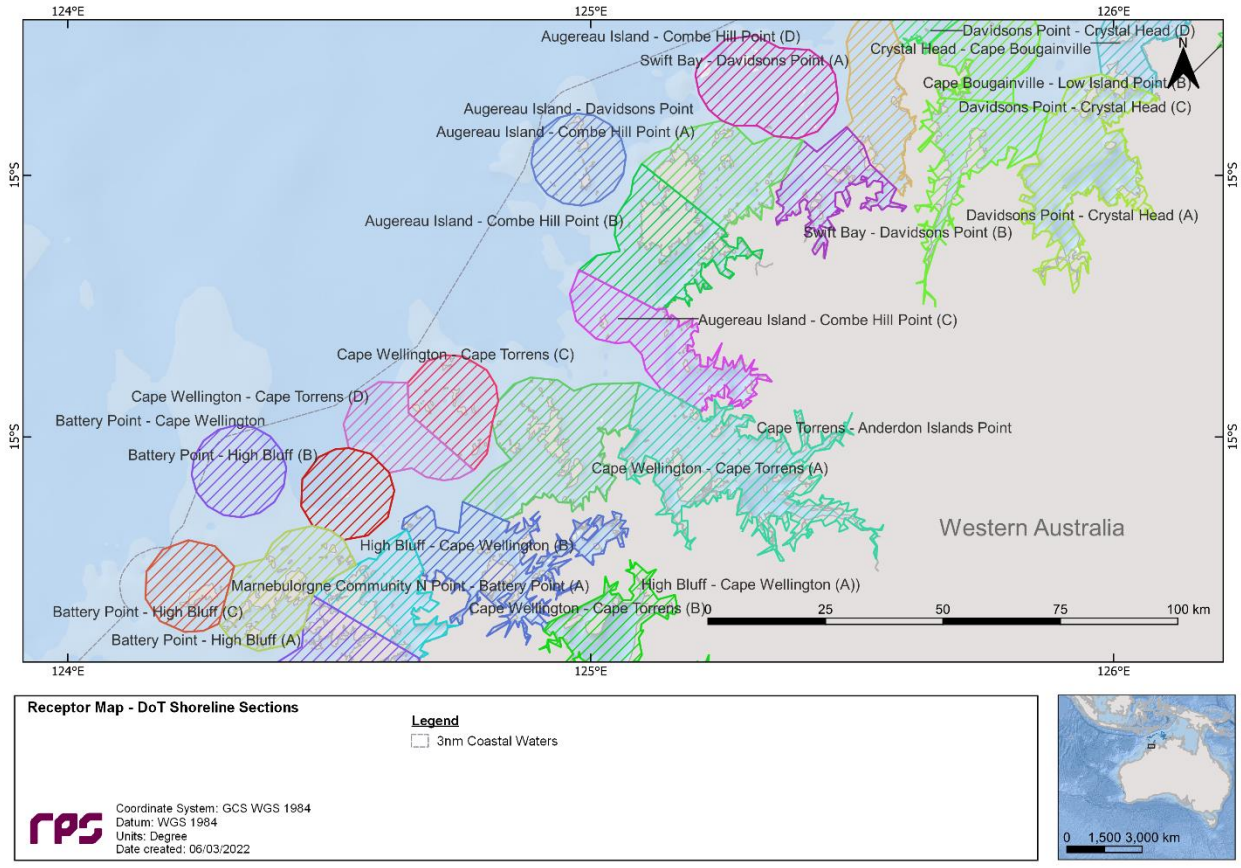


Figure 9.10 Receptor map for the DoT shoreline sections (3 of 6).

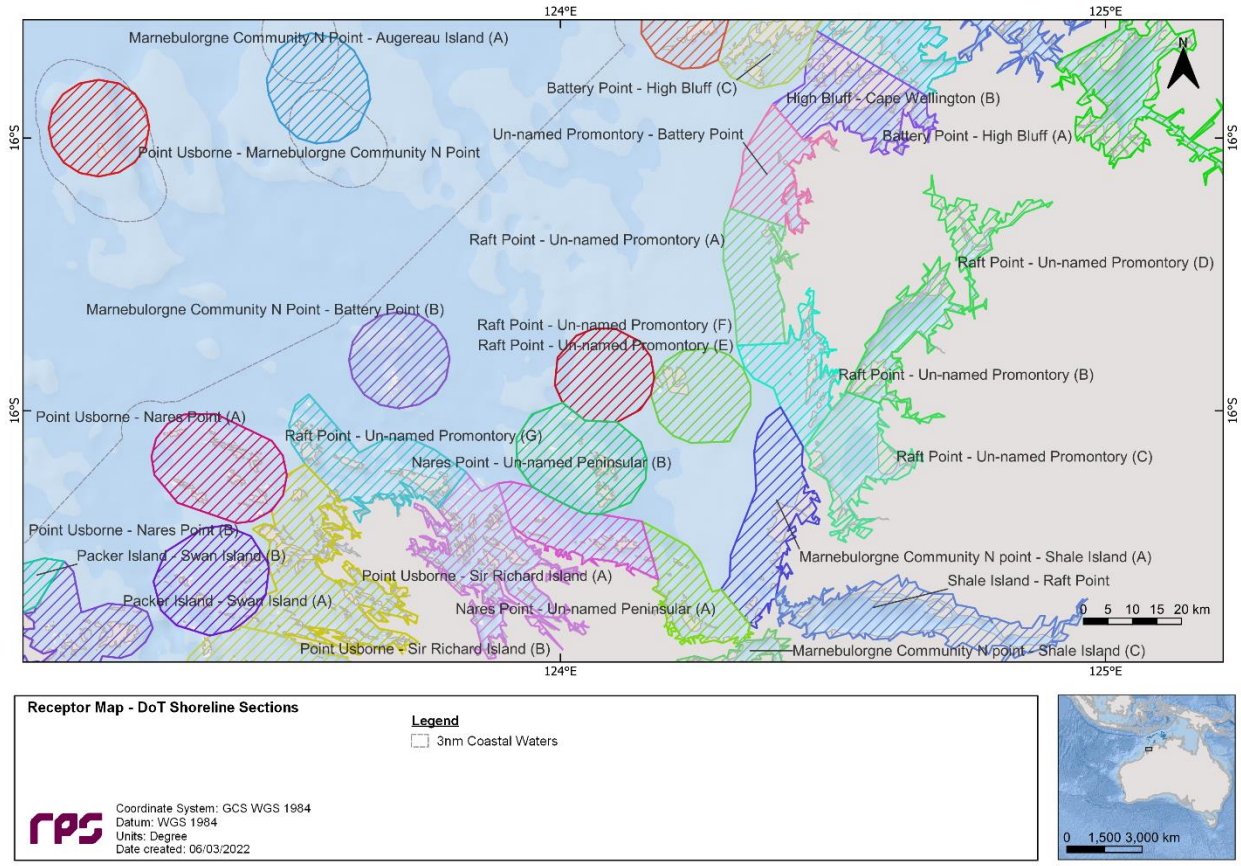


Figure 9.11 Receptor map for the DoT shoreline sections (4 of 6).

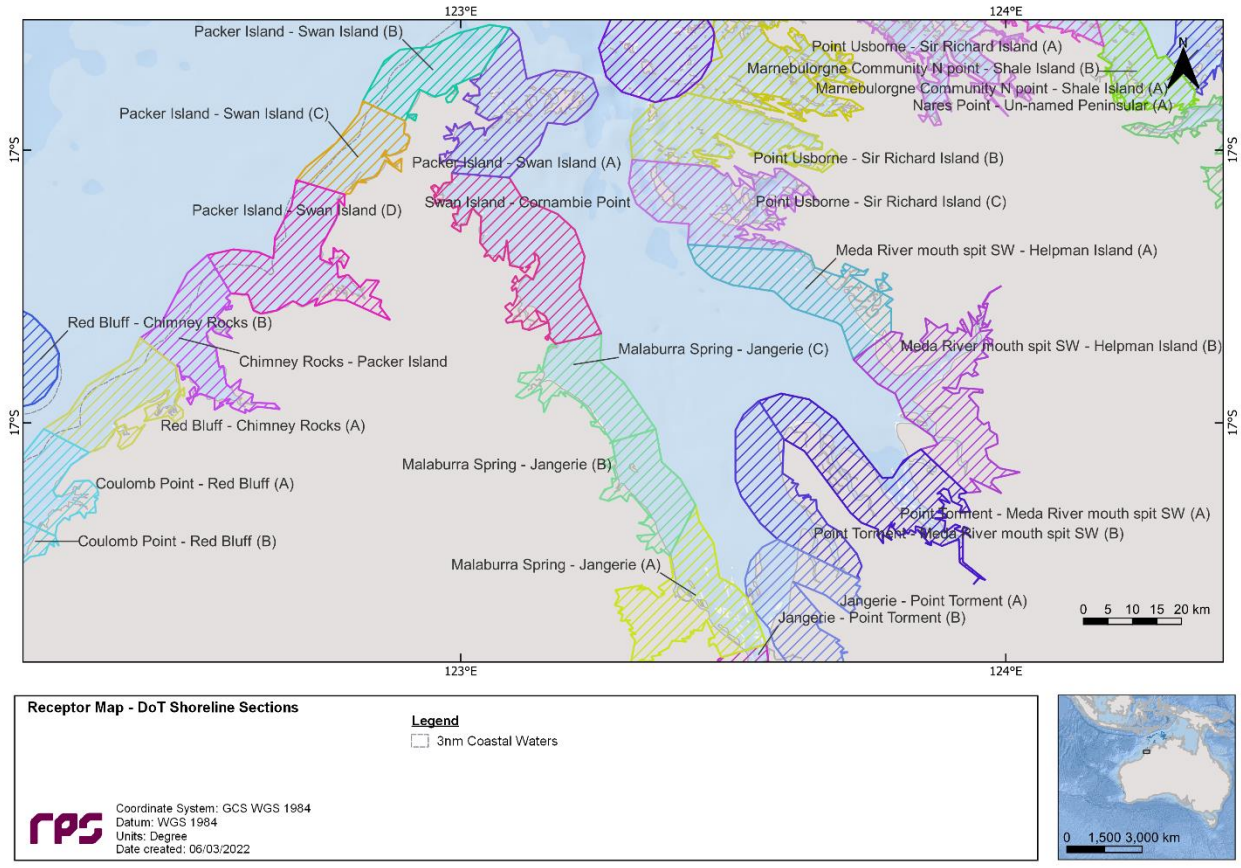


Figure 9.12 Receptor map for the DoT shoreline sections (5 of 6).

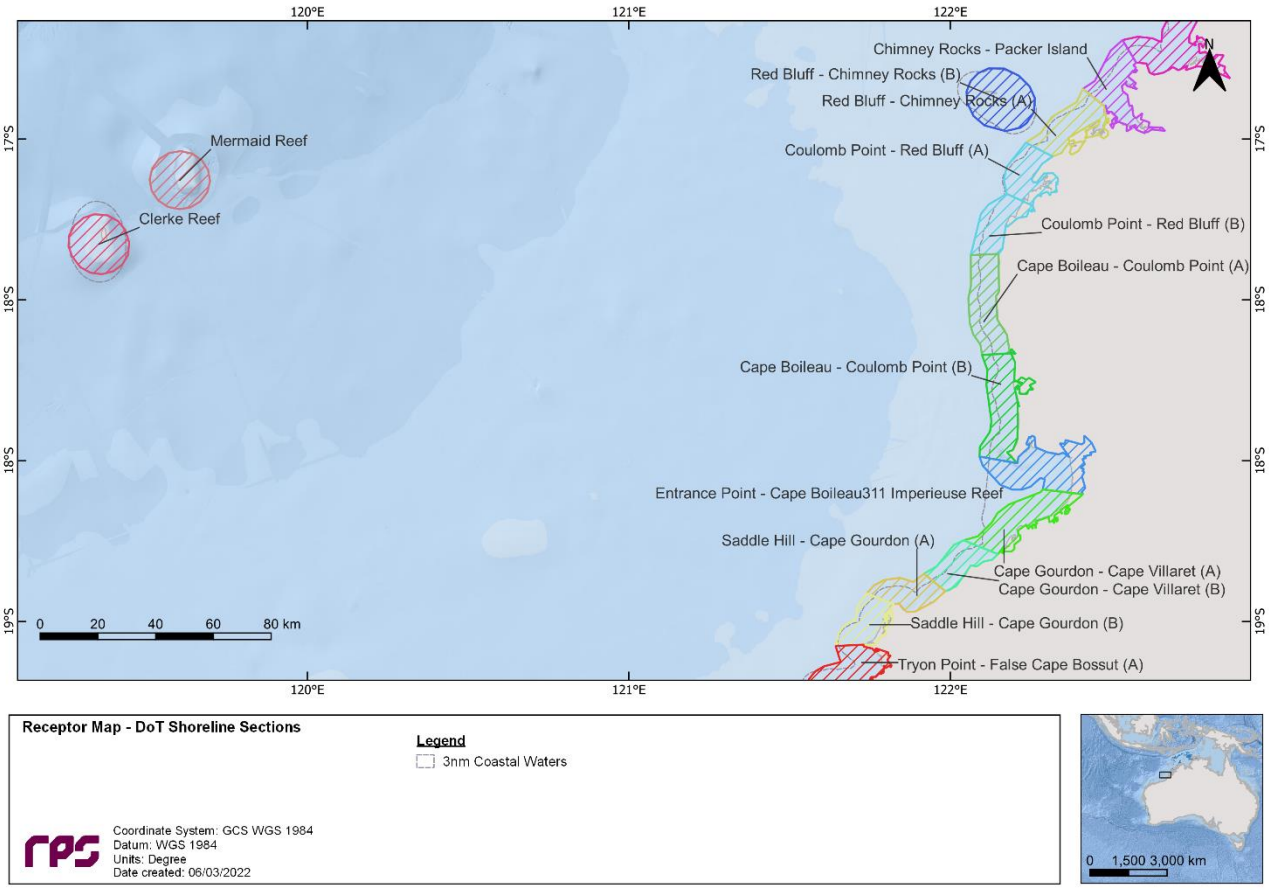


Figure 9.13 Receptor map for the DoT shoreline sections (6 of 6).

10 RESULTS – SCENARIO – LOWC – 786,858 m^3 SURFACE RELEASE OF CRUDE OIL OVER 77 DAYS

This scenario examined a loss of well control of 786,858 m^3 surface release of crude oil over 77 days, tracked for a period of 98 days. A total of 300 spill trajectories were simulated with (mitigated) and without (unmitigated) surface dispersant (i.e. 100 spills per season).

The seasonal stochastic analysis is presented in Section 10.1 and the deterministic trajectory analysis is discussed in Section 10.2.

10.1 Stochastic Analysis

10.1.1 Floating Oil Exposure

Table 10.1 summarises the maximum distance travelled by oil on the sea surface at each threshold for the seasonal conditions assessed, for the unmitigated and mitigated cases.

For the unmitigated case, the maximum distance and corresponding direction from the release location to the low (1–10 g/m^2), moderate (10–25 g/m^2) and high (> 25 g/m^2) exposure levels was 1,517 km west-northwest (winter), 153 km east-northeast (summer) and 61 km southeast (winter), respectively. In comparison, for the mitigated case the maximum distances and corresponding directions were 1,257 km west (winter), 134 km east-northeast (summer) and 125 km south-southeast (summer), for the low, moderate and high threshold, respectively.

Figure 10.1 to Figure 10.3 present sorted bar plots of the predicted area of the low, moderate and high zones of potential floating oil exposure for the unmitigated and mitigated cases from 100 spill trajectories per season and case.

Table 10.2 to Table 10.4 summarise the potential sea surface exposure to individual receptors for each season and case. Of all the receptors considered in the assessment, the Joseph Bonaparte Gulf AMP was the only receptor predicted to be exposed to floating oil above the low, moderate and high thresholds during all seasonal conditions.

For spills commencing during summer conditions, the following receptors recorded surface oil exposure greater than 70% for both the unmitigated and mitigated cases: Joseph Bonaparte Gulf AMP, Carbonate bank and terrace system of the Sahul Shelf KEF, North Kimberley MP, Wyndham - East Kimberley nearshore waters, and Northern Territory and Western Australia State Waters (Table 10.2).

The following receptors recorded surface oil exposure greater than 70% for both the unmitigated and mitigated cases, for spills commencing during the transitional months: Joseph Bonaparte Gulf AMP, Carbonate bank and terrace system of the Sahul Shelf KEF, North Kimberley MP, Wyndham - East Kimberley nearshore waters, and Western Australia State Waters (Table 10.3).

Additionally, for spills commencing during winter conditions, the following receptors recorded surface oil exposure greater than 70% for both the unmitigated and mitigated cases: Joseph Bonaparte Gulf AMP, Carbonate bank and terrace system of the Sahul Shelf KEF, North Kimberley MP, Wyndham - East Kimberley nearshore waters, Cape Bernier - Elsie Island N, Cape Rulhieres - Cape Bernier, Un-named Head - Cape Rulhieres (A), Un-named Head - Cape Rulhieres (B), Un-named Head - Cape Rulhieres (C) Nearshore Waters (DoT Shoreline Cells), and Western Australia State Waters (Table 10.4).

Figure 10.4 to Figure 10.6 present the zones of potential floating oil exposure for the NOPSEMA thresholds under summer, transitional and winter conditions, respectively, for both unmitigated and mitigated cases.

Table 10.1 Potential zones of floating oil exposure at each threshold for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions. The results were calculated from 100 spill trajectories per season and per case.

Season	Distance and direction travelled	Zones of potential floating oil exposure					
		Unmitigated			Mitigated		
		Low	Moderate	High	Low	Moderate	High
Summer	Maximum distance (km) from the release location	1,048	153	49	984	134	125
	Maximum distance (km) from the release location (99^{th} percentile)	731	95	45	728	121	46
	Direction	West-Southwest	East-Northeast	South-Southeast	West	East-Northeast	South-Southeast
Transitional	Maximum distance (km) from the release location	1,136	79	49	1,030	115	50
	Maximum distance (km) from the release location (99^{th} percentile)	903	62	46	861	56	46
	Direction	West-Southwest	South-Southeast	South-Southeast	West-Southwest	West	South-Southeast
Winter	Maximum distance (km) from the release location	1,517	79	61	1,257	84	63
	Maximum distance (km) from the release location (99^{th} percentile)	730	68	55	686	68	57
	Direction	West-Northwest	Southeast	Southeast	West	Southeast	Southeast

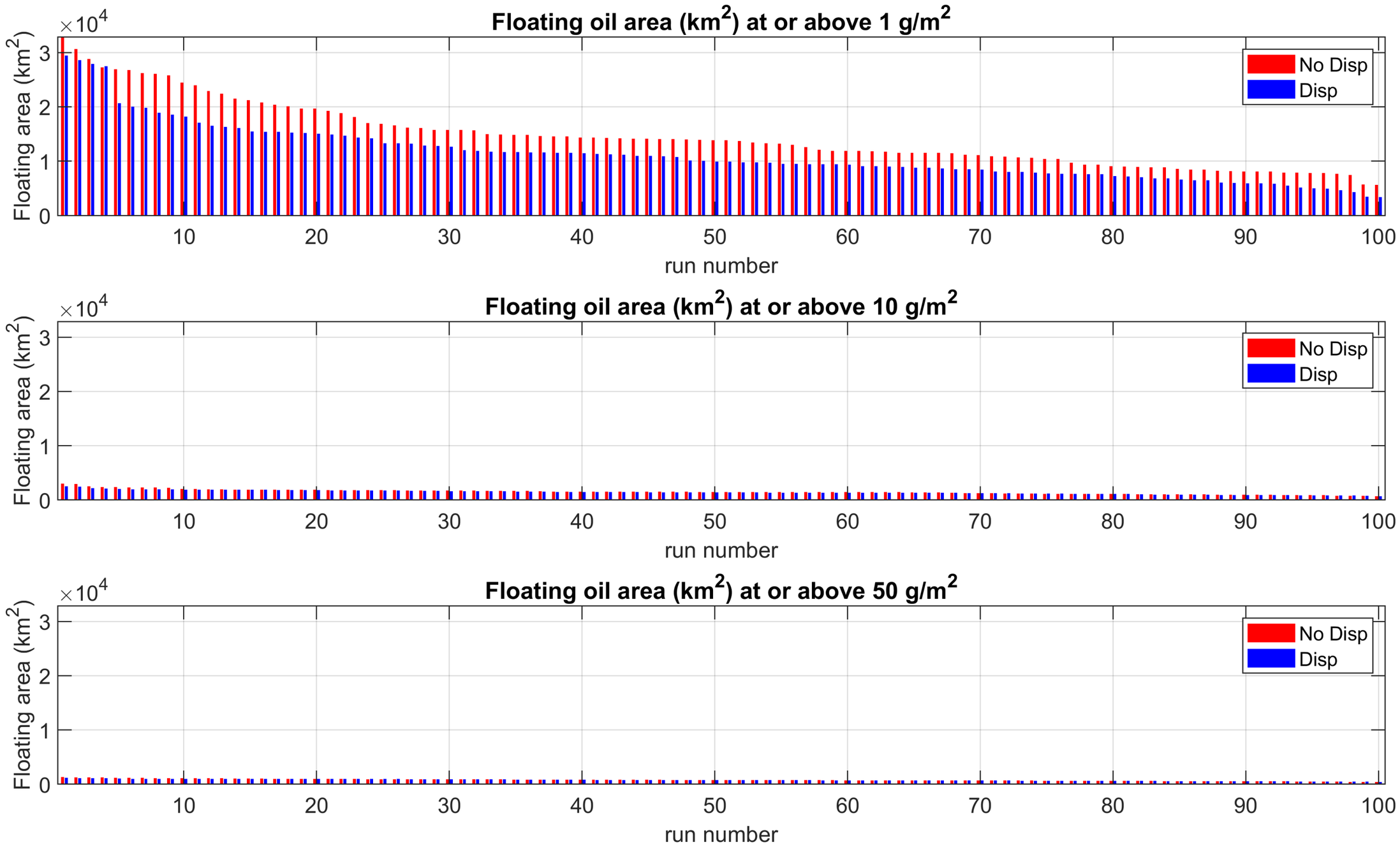


Figure 10.1 Sorted bar plots of the predicted area of the low, moderate and high zones of potential floating oil exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m³ of crude oil over 77 days, tracked for 98 days during summer conditions. The results from 100 spill trajectories are presented.

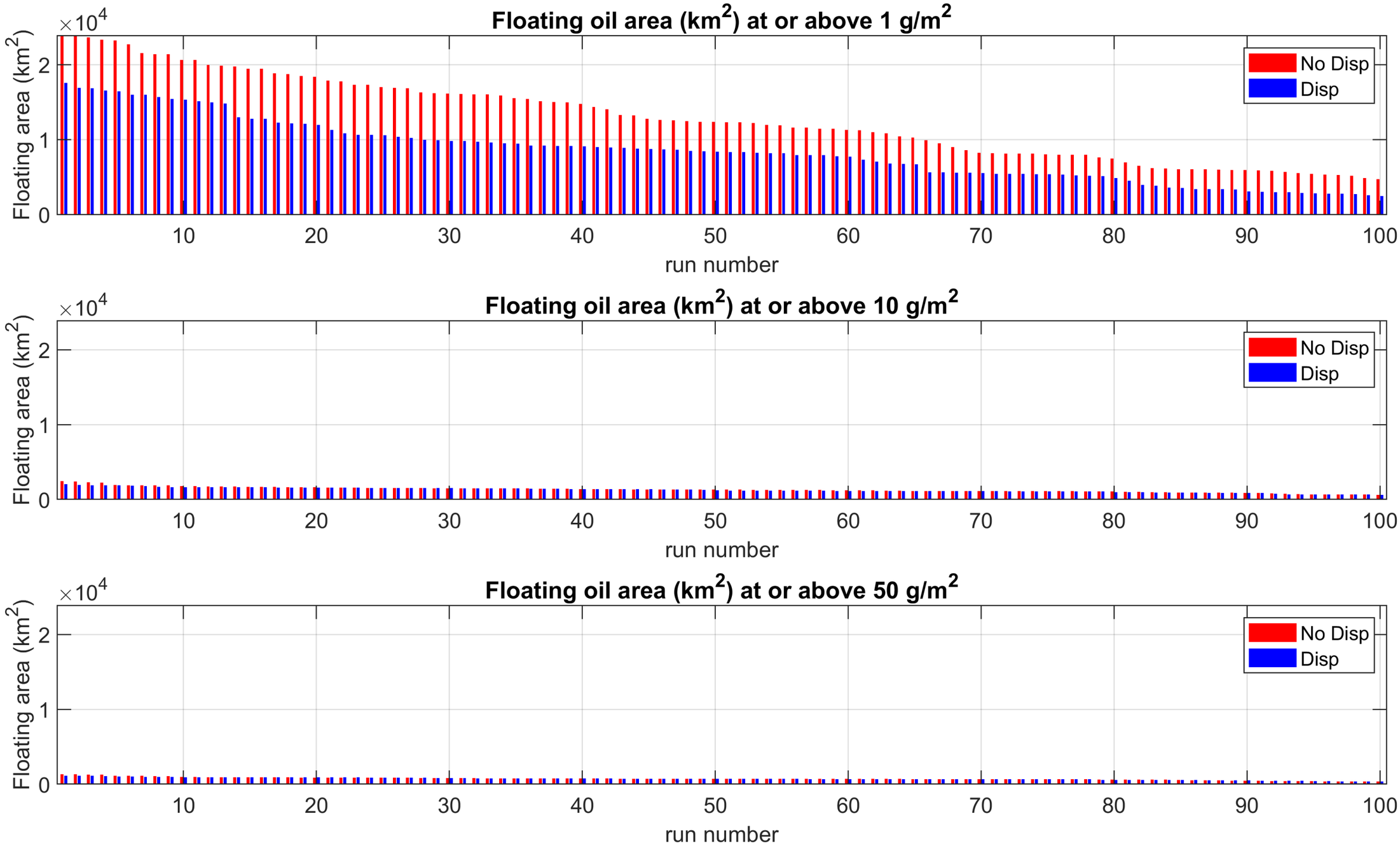


Figure 10.2 Sorted bar plots of the predicted area of the low, moderate and high zones of potential floating oil exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during transitional conditions. The results from 100 spill trajectories are presented.

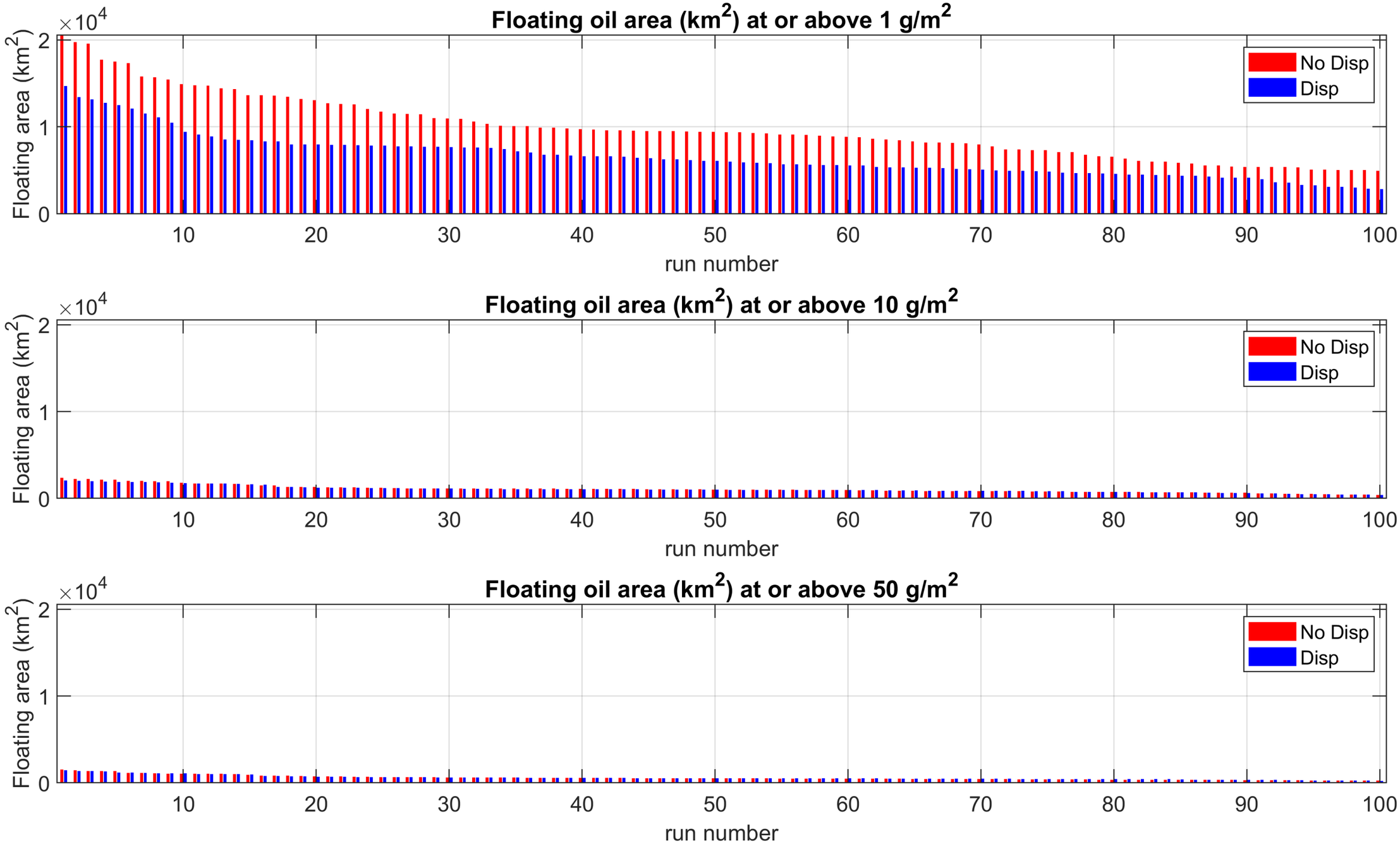


Figure 10.3 Sorted bar plots of the predicted area of the low, moderate and high zones of potential floating oil exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m³ of crude oil over 77 days, tracked for 98 days during winter conditions. The results from 100 spill trajectories are presented.

Table 10.2 Summary of the potential floating oil exposure to individual receptors for both the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
AMP	Arafura	-	-	-	-	-	-	-	-	-	-	-	-
	Argo-Rowley Terrace	2	-	-	93.17	-	-	1	-	-	68.92	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-
	Joseph Bonaparte Gulf	100	47	5	1.88	3.13	3.63	100	42	5	1.96	3.08	34.88
	Kimberley	43	-	-	21.71	-	-	42	-	-	15.17	-	-
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Oceanic Shoals	22	-	-	24.54	-	-	20	-	-	24.83	-	-
EEZ	Indonesian Exclusive Economic Zone	-	-	-	-	-	-	-	-	-	-	-	-
KEF	Ancient coastline at 125 m depth contour	24	-	-	43.54	-	-	23	-	-	36.63	-	-
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	-	-	-	-	-	-	-	-	-	-	-	-
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	-	-	-	-	-	-	-	-	-	-	-	-
	Carbonate bank and terrace system of the Sahul Shelf	94	36	-	2.54	8.54	-	89	37	9	2.38	8.67	27.5
	Carbonate bank and terrace system of the Van Diemen Rise	6	-	-	58.58	-	-	4	-	-	62.21	-	-
	Continental Slope Demersal Fish Communities	21	-	-	50.25	-	-	17	-	-	50.71	-	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Pinnacles of the Bonaparte Basin	6	-	-	47.42	-	-	1	-	-	87.25	-	-
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	7	-	-	62	-	-	4	-	-	62.92	-	-
	Tributary Canyons of the Arafura Depression	-	-	-	-	-	-	-	-	-	-	-	-
MP	Garig Gunak Barlu	-	-	-	-	-	-	-	-	-	-	-	-
	Lalang-garram / Camden Sound	-	-	-	-	-	-	2	-	-	76.08	-	-
	North Kimberley	91	9	-	5.63	22.54	-	83	9	-	5.71	22.58	-
	North Lalang-garram	1	-	-	73.54	-	-	-	-	-	-	-	-
	Rowley Shoals	-	-	-	-	-	-	-	-	-	-	-	-
NR	Scott Reef	3	-	-	69.92	-	-	2	-	-	68.75	-	-
Ramsar	Ashmore Reef National Nature Reserve	-	-	-	-	-	-	-	-	-	-	-	-
	Cobourg Peninsula	-	-	-	-	-	-	-	-	-	-	-	-
	Ord River Floodplain	12	-	-	28.71	-	-	5	-	-	43.04	-	-
RSB	Abbott Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Afghan Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Albert Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Baldwin Bank	15	-	-	22.29	-	-	8	-	-	42.13	-	-
	Barbara Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Barcoo Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Barracouta Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Bass Reef	7	-	-	27.71	-	-	7	-	-	27.17	-	-
	Bassett-Smith Shoal	7	-	-	41.92	-	-	3	-	-	73.71	-	-
	Beagle Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Beagle and Dingo Reefs	3	-	-	86.67	-	-	3	-	-	74.08	-	-
	Bill Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Branch Banks	27	-	-	37.75	-	-	21	-	-	38.33	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Brue Reef	-	-	-	-	-	-	1	-	-	75.75	-	-
	Christine Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Churchill Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Clerke Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Cockell and Nicolle Reefs	-	-	-	-	-	-	-	-	-	-	-	-
	Deep Shoal 1	-	-	-	-	-	-	-	-	-	-	-	-
	Deep Shoal 2	-	-	-	-	-	-	-	-	-	-	-	-
	Draytons Reef	1	-	-	41.29	-	-	-	-	-	-	-	-
	East Holothuria Reef	33	-	-	37.21	-	-	29	-	-	38.88	-	-
	Echuca Shoal	16	-	-	49.63	-	-	9	-	-	45.46	-	-
	Elizabeth Reef	-	-	-	-	-	-	1	-	-	93.08	-	-
	Emu Reefs	59	-	-	6.96	-	-	49	-	-	8.29	-	-
	Eugene McDermott Shoal	4	-	-	67.88	-	-	1	-	-	69.83	-	-
	Favell Bank	4	-	-	49.75	-	-	2	-	-	61.58	-	-
	Fish Reef	6	-	-	58.38	-	-	2	-	-	59.5	-	-
	Fitzpatrick Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Flat Top Bank	2	-	-	66.13	-	-	1	-	-	60.63	-	-
	Foelsche Bank	2	-	-	28.96	-	-	1	-	-	68.88	-	-
	Gale Bank	1	-	-	58	-	-	-	-	-	-	-	-
	Giles Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Goeree Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Hancox Shoal	1	-	-	72.25	-	-	-	-	-	-	-	-
	Harris Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Heritage Reef	12	-	-	64.25	-	-	8	-	-	60.88	-	-
	Heywood Shoal	7	-	-	52.58	-	-	5	-	-	49.79	-	-
	Hinkler Patches	-	-	-	-	-	-						
	Holothuria Banks	40	-	-	19.29	-	-	36	-	-	19.58	-	-
	Howland Shoals	47	-	-	11.63	-	-	35	-	-	17.58	-	-
	Hunt Patch	-	-	-	-	-	-	-	-	-	-	-	-
	Imperieuse Reef	-	-	-	-	-	-						
	Ingram Reef	14	-	-	61.25	-	-	11	-	-	48.88	-	-
	Jamieson Reef	16	-	-	59.33	-	-	13	-	-	48	-	-
	Johnson Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Jones Bank	2	-	-	87	-	-	-	-	-	-	-	-
	Kelleway Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Knight Reef	1	-	-	38.79	-	-	1	-	-	65	-	-
	Long Reef	29	-	-	40	-	-	25	-	-	42.96	-	-
	Lowry Shoal	1	-	-	71.71	-	-	-	-	-	-	-	-
	Lyne Reef	1	-	-	29.92	-	-	1	-	-	68.92	-	-
	Marie Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Marsh Shoal	2	-	-	63.13	-	-	2	-	-	65.75	-	-
	Mataram Shoal							-	-	-	-	-	-
	Mavis Reef	3	-	-	76.71	-	-	3	-	-	70.58	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Mermaid Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Middle Reef	1	-	-	88.13	-	-	-	-	-	-	-	-
	Moira Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Moresby Shoals	1	-	-	72.63	-	-	-	-	-	-	-	-
	Moss Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Newby Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Oliver Reef	2	-	-	72.08	-	-	-	-	-	-	-	-
	Oliver Rock	9	-	-	52.46	-	-	6	-	-	48.29	-	-
	Ommaney Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Osborn Reefs	-	-	-	-	-	-	-	-	-	-	-	-
	Otway Bank	24	-	-	42.42	-	-	20	-	-	38.83	-	-
	Parry Shoal	1	-	-	67.38	-	-	-	-	-	-	-	-
	Parsons Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Penguin Shoal	16	-	-	28.67	-	-	6	-	-	48.79	-	-
	Rainbow Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Renard Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Robroy Reefs	10	-	-	64.5	-	-	6	-	-	72.79	-	-
	Rothery Reef	17	-	-	49.71	-	-	6	-	-	50.75	-	-
	Shepparton Shoal	2	-	-	82.42	-	-	-	-	-	-	-	-
	Skottowe Shoal	2	-	-	55.42	-	-	-	-	-	-	-	-
	Tait Bank	29	-	-	37	-	-	28	-	-	37.79	-	-
	Taiyun Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Taylor Patches	-	-	-	-	-	-	-	-	-	-	-	-
	Tregenna Reef	1	-	-	60.83	-	-	-	-	-	-	-	-
	Van Cloon Shoal	8	-	-	42.17	-	-	8	-	-	42.33	-	-
	Vulcan Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Wells Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	West Holothuria Reef	9	-	-	47.83	-	-	6	-	-	68.13	-	-
	Wildcat Reefs	-	-	-	-	-	-	-	-	-	-	-	-
	Woodbine Bank	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Waters	Adele Island	-	-	-	-	-	-	-	-	-	-	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Bathurst Island	1	-	-	74.58	-	-	-	-	-	-	-	-
	Broome	-	-	-	-	-	-	-	-	-	-	-	-
	Browse Island	13	-	-	50.96	-	-	10	-	-	51.33	-	-
	Burford Island							-	-	-	-	-	-
	Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-
	Clerke Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Clump Island	25	-	-	18.13	-	-	9	-	-	20.83	-	-
	Cox-Finniss	16	-	-	24.79	-	-	14	-	-	25.79	-	-
	Daly	35	-	-	15.33	-	-	23	-	-	17.13	-	-
	Darwin	1	-	-	78.08	-	-	-	-	-	-	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Derby - West Kimberely	-	-	-	-	-	-	-	-	-	-	-	-
	Dorcherty Island	55	-	-	17.29	-	-	45	-	-	16.67	-	-
	Greenhill Island							-	-	-	-	-	-
	Hibernia Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Imperieuse Reef	-	-	-	-	-	-						
	Litchfield	-	-	-	-	-	-	-	-	-	-	-	-
	Melville Island	-	-	-	-	-	-	-	-	-	-	-	-
	Minjilang	-	-	-	-	-	-	-	-	-	-	-	-
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Peron Island North	19	-	-	17.38	-	-	16	-	-	20.67	-	-
	Peron Island South	6	-	-	22.71	-	-	5	-	-	23.75	-	-
	Quoin Island	33	-	-	18	-	-	20	-	-	18.04	-	-
	Sandy Islet	1	-	-	70.92	-	-	1	-	-	71.33	-	-
	Scott Reef North	2	-	-	63.67	-	-	1	-	-	70.75	-	-
	Scott Reef South	4	-	-	63.75	-	-	4	-	-	63.83	-	-
	Seringapatam Reef	-	-	-	-	-	-	-	-	-	-	-	-
	South Alligator	2	-	-	83.83	-	-	2	-	-	64.17	-	-
	Thamarrurr	71	-	-	14.5	-	-	65	2	-	16.17	45	-
	Turtle Point	37	-	-	23.5	-	-	18	-	-	31.46	-	-
	Vernon Islands	6	-	-	30.04	-	-	3	-	-	62.58	-	-
	Victoria Daly	67	-	-	18.08	-	-	57	-	-	16.21	-	-
	West Arnhem	-	-	-	-	-	-	-	-	-	-	-	-
	Whale Flat	33	-	-	21.54	-	-	24	-	-	26.42	-	-
	Wyndham - East Kimberley	70	2	-	14.92	28.88	-	70	1	-	18.54	51.88	-
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	26	-	-	20	-	-	17	-	-	20	-	-
	East Cape Domett - WA-NT Border (B)	28	-	-	17.33	-	-	20	-	-	20.13	-	-
	East Cape Domett - WA-NT Border (C)	47	5	-	6.21	23.75	-	29	5	-	14.29	24.67	-
	Bare Hill - East Cape Domett (A)	3	-	-	70.38	-	-	-	-	-	-	-	-
	Bare Hill - East Cape Domett (B)	11	-	-	30.38	-	-	8	-	-	28.83	-	-
	Bare Hill - East Cape Domett (E)	59	5	-	5.67	22.63	-	50	5	-	5.71	22.63	-
	Aunty Islet - Thurburn Bluff	49	-	-	17.58	-	-	44	-	-	17.04	-	-
	Cape Bernier - Elsie Island N	40	4	-	20.29	26.33	-	42	1	-	19.21	28.71	-
	Cape Rulhieres - Cape Bernier	53	4	-	20.38	28	-	52	3	-	21.08	44.75	-
	Un-named Head - Cape Rulhieres (A)	53	1	-	21.54	64.92	-	50	-	-	22.33	-	-
	Un-named Head - Cape Rulhieres (B)	51	1	-	14.92	42.17	-	48	-	-	23.38	-	-
	Un-named Head - Cape Rulhieres (C)	47	-	-	13.33	-	-	45	-	-	11.79	-	-
	Cape Talbot - Cape Londonderry (A)	44	-	-	14.21	-	-	40	-	-	16.17	-	-
	Cape Talbot - Cape Londonderry (B)	35	-	-	15.5	-	-	27	-	-	25.79	-	-
	Low Island Point - Anjo (A)	32	-	-	33.17	-	-	25	-	-	37.33	-	-
	Low Island Point - Anjo (B)	30	-	-	36.38	-	-	27	-	-	36.96	-	-
	Cape Bougainville - Low Island Point (A)	24	-	-	46.33	-	-	21	-	-	38.92	-	-
	Cape Bougainville - Low Island Point (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Cape Bougainville - Low Island Point (C)	34	-	-	39.08	-	-	31	-	-	38.83	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Cape Bougainville - Low Island Point (D)	32	-	-	39.96	-	-	28	-	-	38.92	-	-
	Crystal Head - Cape Bougainville	10	-	-	58.71	-	-	8	-	-	50.08	-	-
	Davidsons Point - Crystal Head (C)	7	-	-	51.75	-	-	7	-	-	55.42	-	-
	Davidsons Point - Crystal Head (D)	18	-	-	51.25	-	-	20	-	-	47.88	-	-
	Swift Bay - Davidsons Point (A)	19	-	-	51.88	-	-	14	-	-	53.29	-	-
	Swift Bay - Davidsons Point (B)	2	-	-	91.92	-	-	1	-	-	95.46	-	-
	Augereau Island - Combe Hill Point (A)	11	-	-	58.75	-	-	6	-	-	59.42	-	-
	Augereau Island - Combe Hill Point (B)	2	-	-	84.71	-	-	3	-	-	85.29	-	-
	Augereau Island - Combe Hill Point (C)	3	-	-	84.83	-	-	2	-	-	90.21	-	-
	Cape Torrens - Anderdon Islands Point	-	-	-	-	-	-	-	-	-	-	-	-
	Cape Wellington - Cape Torrens (A)	2	-	-	87.88	-	-	-	-	-	-	-	-
	Nares Point - Un-named Peninsular (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Packer Island - Swan Island (A)	-	-	-	-	-	-	1	-	-	82.58	-	-
	Packer Island - Swan Island (B)	-	-	-	-	-	-	1	-	-	82.04	-	-
	Low Island Point - Anjo (C)	38	-	-	36.42	-	-	35	-	-	37	-	-
	Davidsons Point - Cape Bougainville (A)	37	-	-	37.42	-	-	34	-	-	37.83	-	-
	Davidsons Point - Cape Bougainville (B)	35	-	-	37.21	-	-	33	-	-	38.88	-	-
	Davidsons Point - Cape Bougainville (C)	31	-	-	40	-	-	31	-	-	42.96	-	-
	Davidsons Point - Cape Bougainville (D)	32	-	-	41.13	-	-	25	-	-	41.67	-	-
	Augereau Island - Combe Hill Point (D)	19	-	-	53.96	-	-	15	-	-	53.04	-	-
	Augereau Island - Davidsons Point	16	-	-	60.71	-	-	11	-	-	63	-	-
	Cape Wellington - Cape Torrens (C)	4	-	-	87.33	-	-	4	-	-	89.08	-	-
	Cape Wellington - Cape Torrens (D)	2	-	-	91.29	-	-	1	-	-	91.13	-	-
	Battery Point - High Bluff (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Battery Point - Cape Wellington	1	-	-	73.54	-	-	1	-	-	69.04	-	-
	Raft Point - Un-named Promontory (G)	-	-	-	-	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Battery Point (B)	-	-	-	-	-	-	1	-	-	76.25	-	-
	Marnebulorgne Community N Point - Augereau Island (A)	3	-	-	75.42	-	-	4	-	-	68.54	-	-
	Point Usborne - Marnebulorgne Community N Point	4	-	-	70.67	-	-	3	-	-	70.83	-	-
	Point Usborne - Nares Point (A)	-	-	-	-	-	-	-	-	-	-	-	-
	Point Usborne - Nares Point (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Augereau Island (B)	19	-	-	49.79	-	-	16	-	-	51	-	-
	Augereau Island - Cape Londonderry	1	-	-	88.04	-	-	-	-	-	-	-	-
	Ashmore Reef	3	-	-	63.67	-	-	2	-	-	64.08	-	-
	Seringapatam Reef	4	-	-	63.75	-	-	4	-	-	64.17	-	-
State Waters	Northern Territory Sate Waters	83	3	-	9.75	46.46	-	83	4	1	9.75	43.46	45.54
	Western Australia State Waters	91	9	-	5.63	22.54	-	83	9	-	5.71	22.58	-

Table 10.3 Summary of the potential floating oil exposure to individual receptors for both the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
AMP	Arafura	-	-	-	-	-	-	-	-	-	-	-	-
	Argo-Rowley Terrace	7	-	-	88.63	-	-	4	-	-	91.75	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-
	Joseph Bonaparte Gulf	96	36	4	2.13	3.46	14.96	86	25	4	2.83	3.54	14.96
	Kimberley	57	-	-	12	-	-	57	-	-	10.79	-	-
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Oceanic Shoals	2	-	-	24.13	-	-	2	-	-	20.63	-	-
EEZ	Indonesian Exclusive Economic Zone	7	-	-	77.33	-	-	5	-	-	79.75	-	-
KEF	Ancient coastline at 125 m depth contour	44	-	-	28.46	-	-	42	-	-	35	-	-
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	-	-	-	-	-	-	-	-	-	-	-	-
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	-	-	-	-	-	-	-	-	-	-	-	-
	Carbonate bank and terrace system of the Sahul Shelf	91	34	1	1.75	2.58	36.08	82	22	2	1.67	2.71	5.42
	Carbonate bank and terrace system of the Van Diemen Rise	-	-	-	-	-	-	-	-	-	-	-	-
	Continental Slope Demersal Fish Communities	38	-	-	31.54	-	-	34	-	-	51.38	-	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	1	-	-	95.21	-	-	-	-	-	-	-	-
	Pinnacles of the Bonaparte Basin	2	-	-	30.38	-	-	1	-	-	96.13	-	-
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	-	-	-	-	-	-	-	-	-	-	-	-
	Tributary Canyons of the Arafura Depression	-	-	-	-	-	-						
MP	Garig Gunak Barlu	-	-	-	-	-	-	-	-	-	-	-	-
	Lalang-garram / Camden Sound	2	-	-	51.38	-	-	-	-	-	-	-	-
	North Kimberley	90	-	-	7.33	-	-	88	1	-	7.67	30.46	-
	North Lalang-garram	3	-	-	89.38	-	-	-	-	-	-	-	-
	Rowley Shoals	1	-	-	95.25	-	-	-	-	-	-	-	-
NR	Scott Reef	-	-	-	-	-	-	-	-	-	-	-	-
Ramsar	Ashmore Reef National Nature Reserve	-	-	-	-	-	-	-	-	-	-	-	-
	Cobourg Peninsula	-	-	-	-	-	-	-	-	-	-	-	-
	Ord River Floodplain	13	-	-	46.08	-	-	3	-	-	75.58	-	-
RSB	Abbott Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Afghan Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Albert Reef	2	-	-	93.42	-	-	-	-	-	-	-	-
	Baldwin Bank	8	-	-	52.71	-	-	1	-	-	74.83	-	-
	Barbara Shoal	-	-	-	-	-	-						
	Barcoo Shoal	-	-	-	-	-	-	1	-	-	66.38	-	-
	Barracouta Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Bass Reef	1	-	-	98	-	-	1	-	-	96.96	-	-
	Bassett-Smith Shoal	15	-	-	31.29	-	-	9	-	-	31.79	-	-
	Beagle Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Beagle and Dingo Reefs	2	-	-	68.63	-	-	-	-	-	-	-	-
	Bill Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Branch Banks	35	-	-	28.13	-	-	23	-	-	32.33	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Brue Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Christine Reef												
	Churchill Reef	2	-	-	94.46	-	-	-	-	-	-	-	-
	Clerke Reef	-	-	-	-	-	-						
	Cockell and Nicolle Reefs	-	-	-	-	-	-						
	Deep Shoal 1	-	-	-	-	-	-	-	-	-	-	-	-
	Deep Shoal 2	-	-	-	-	-	-	-	-	-	-	-	-
	Draytons Reef	-	-	-	-	-	-	-	-	-	-	-	-
	East Holothuria Reef	40	-	-	17.04	-	-	31	-	-	14.79	-	-
	Echuca Shoal	28	-	-	48.63	-	-	14	-	-	51.92	-	-
	Elizabeth Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Emu Reefs	8	-	-	65.04	-	-	2	-	-	86.96	-	-
	Eugene McDermott Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Favell Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Fish Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Fitzpatrick Shoal												
	Flat Top Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Foelsche Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Gale Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Giles Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Goeree Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Hancox Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Harris Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Heritage Reef	17	-	-	40.58	-	-	13	-	-	46.25	-	-
	Heywood Shoal	1	-	-	88.04	-	-	1	-	-	46.58	-	-
	Hinkler Patches	-	-	-	-	-	-						
	Holothuria Banks	53	-	-	13	-	-	45	-	-	13.13	-	-
	Howland Shoals	13	-	-	36.42	-	-	1	-	-	86.71	-	-
	Hunt Patch	-	-	-	-	-	-	-	-	-	-	-	-
	Imperieuse Reef	-	-	-	-	-	-						
	Ingram Reef	21	-	-	42.13	-	-	14	-	-	49.54	-	-
	Jamieson Reef	26	-	-	34.54	-	-	17	-	-	27.83	-	-
	Johnson Bank	-	-	-	-	-	-						
	Jones Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Kelleway Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Knight Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Long Reef	39	-	-	29.42	-	-	38	-	-	16.88	-	-
	Lowry Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Lyne Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Marie Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Marsh Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Mataram Shoal							-	-	-	-	-	-
	Mavis Reef	2	-	-	74.25	-	-	-	-	-	-	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Mermaid Reef	-	-	-	-	-	-						
	Mermaid Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Middle Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Moira Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Moresby Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Moss Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Newby Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Oliver Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Oliver Rock	15	-	-	30.92	-	-	13	-	-	35.21	-	-
	Ommaney Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Osborn Reefs	-	-	-	-	-	-	-	-	-	-	-	-
	Otway Bank	31	-	-	23.17	-	-	18	-	-	14.92	-	-
	Parry Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Parsons Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Penguin Shoal	16	-	-	28.96	-	-	9	-	-	28.83	-	-
	Rainbow Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Renard Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Robroy Reefs	12	-	-	39.13	-	-	8	-	-	52.38	-	-
	Rothery Reef	21	-	-	29.46	-	-	14	-	-	30.75	-	-
	Shepparton Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Skottowe Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Tait Bank	38	-	-	29.17	-	-	27	-	-	9.83	-	-
	Taiyun Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Taylor Patches	-	-	-	-	-	-	-	-	-	-	-	-
	Tregenna Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Van Cloon Shoal	1	-	-	53.04	-	-	-	-	-	-	-	-
	Vulcan Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Wells Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	West Holothuria Reef	15	-	-	26.58	-	-	9	-	-	38.92	-	-
	Wildcat Reefs	-	-	-	-	-	-						
	Woodbine Bank	-	-	-	-	-	-						
Nearshore Waters	Adele Island	3	-	-	86.46	-	-	-	-	-	-	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Bathurst Island	-	-	-	-	-	-	-	-	-	-	-	-
	Broome	-	-	-	-	-	-	-	-	-	-	-	-
	Browse Island	14	-	-	47.79	-	-	10	-	-	48.08	-	-
	Burford Island							-	-	-	-	-	-
	Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-
	Clerke Reef	-	-	-	-	-	-						
	Clump Island	15	-	-	31.46	-	-	6	-	-	42.96	-	-
	Cox-Finniss	1	-	-	95.71	-	-	1	-	-	95.71	-	-
	Daly	-	-	-	-	-	-	-	-	-	-	-	-
	Darwin	-	-	-	-	-	-	-	-	-	-	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Derby - West Kimberely	-	-	-	-	-	-	-	-	-	-	-	-
	Dorcherty Island	13	-	-	23.71	-	-	8	-	-	30.13	-	-
	Greenhill Island							-	-	-	-	-	-
	Hibernia Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Imperieuse Reef	-	-	-	-	-	-						
	Litchfield	-	-	-	-	-	-	-	-	-	-	-	-
	Melville Island	-	-	-	-	-	-	-	-	-	-	-	-
	Minjilang	-	-	-	-	-	-						
	Mermaid Reef												
	Peron Island North	2	-	-	91.71	-	-	2	-	-	92.58	-	-
	Peron Island South	-	-	-	-	-	-	-	-	-	-	-	-
	Quoin Island	29	-	-	27.75	-	-	3	-	-	65.33	-	-
	Sandy Islet	-	-	-	-	-	-	-	-	-	-	-	-
	Scott Reef North	-	-	-	-	-	-	-	-	-	-	-	-
	Scott Reef South	-	-	-	-	-	-	-	-	-	-	-	-
	Seringapatam Reef	-	-	-	-	-	-	-	-	-	-	-	-
	South Alligator	-	-	-	-	-	-	-	-	-	-	-	-
	Thamarrurr	40	-	-	22.79	-	-	26	-	-	25.83	-	-
	Turtle Point	16	-	-	29.33	-	-	8	-	-	38.96	-	-
	Vernon Islands	1	-	-	97.42	-	-	-	-	-	-	-	-
	Victoria Daly	36	-	-	14.29	-	-	29	-	-	24.13	-	-
	West Arnhem	-	-	-	-	-	-	-	-	-	-	-	-
	Whale Flat	22	-	-	29.79	-	-	3	-	-	47.46	-	-
	Wyndham - East Kimberley	77	-	-	14.5	-	-	76	-	-	10.83	-	-
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	28	-	-	23.13	-	-	19	-	-	33.5	-	-
	East Cape Domett - WA-NT Border (B)	31	-	-	23.67	-	-	22	-	-	31.67	-	-
	East Cape Domett - WA-NT Border (C)	44	-	-	11	-	-	30	-	-	10.79	-	-
	Bare Hill - East Cape Domett (A)	5	-	-	37.96	-	-	3	-	-	74.46	-	-
	Bare Hill - East Cape Domett (B)	30	-	-	23.92	-	-	13	-	-	26.46	-	-
	Bare Hill - East Cape Domett (E)	50	-	-	9.33	-	-	40	-	-	8.88	-	-
	Aunty Islet - Thurburn Bluff	49	-	-	13.46	-	-	38	-	-	18.58	-	-
	Cape Bernier - Elsie Island N	45	-	-	15.21	-	-	41	-	-	10.63	-	-
	Cape Rulhieres - Cape Bernier	57	-	-	8.63	-	-	49	1	-	7.96	30.46	-
	Un-named Head - Cape Rulhieres (A)	53	-	-	7.75	-	-	49	-	-	8.88	-	-
	Un-named Head - Cape Rulhieres (B)	50	-	-	15.67	-	-	51	-	-	10.25	-	-
	Un-named Head - Cape Rulhieres (C)	55	-	-	7.5	-	-	50	-	-	8.33	-	-
	Cape Talbot - Cape Londonderry (A)	53	-	-	11.92	-	-	44	-	-	12.75	-	-
	Cape Talbot - Cape Londonderry (B)	35	-	-	24.96	-	-	30	-	-	29	-	-
	Low Island Point - Anjo (A)	33	-	-	28.67	-	-	17	-	-	33.13	-	-
	Low Island Point - Anjo (B)	29	-	-	31.54	-	-	24	-	-	33.13	-	-
	Cape Bougainville - Low Island Point (A)	23	-	-	34.46	-	-	19	-	-	37.33	-	-
	Cape Bougainville - Low Island Point (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Cape Bougainville - Low Island Point (C)	37	-	-	10.29	-	-	33	-	-	22.54	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Cape Bougainville - Low Island Point (D)	42	-	-	10.42	-	-	35	-	-	23.63	-	-
	Crystal Head - Cape Bougainville	5	-	-	45.79	-	-	1	-	-	52.08	-	-
	Davidsons Point - Crystal Head (C)	5	-	-	48.67	-	-	1	-	-	62.96	-	-
	Davidsons Point - Crystal Head (D)	23	-	-	40.54	-	-	15	-	-	40.88	-	-
	Swift Bay - Davidsons Point (A)	14	-	-	40.04	-	-	10	-	-	37.42	-	-
	Swift Bay - Davidsons Point (B)	4	-	-	58.88	-	-	3	-	-	60.42	-	-
	Augereau Island - Combe Hill Point (A)	7	-	-	49.13	-	-	6	-	-	55.63	-	-
	Augereau Island - Combe Hill Point (B)	5	-	-	55.67	-	-	2	-	-	65.13	-	-
	Augereau Island - Combe Hill Point (C)	5	-	-	53.58	-	-	1	-	-	75.5	-	-
	Cape Torrens - Anderdon Islands Point	-	-	-	-	-	-	-	-	-	-	-	-
	Cape Wellington - Cape Torrens (A)	3	-	-	60.83	-	-	-	-	-	-	-	-
	Cape Wellington - Cape Torrens (B)	-	-	-	-	-	-	-	-	-	-	-	-
	High Bluff - Cape Wellington (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Point Usborne - Sir Richard Island (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Point Usborne - Sir Richard Island (C)	-	-	-	-	-	-	-	-	-	-	-	-
	Packer Island - Swan Island (A)	-	-	-	-	-	-	-	-	-	-	-	-
	Packer Island - Swan Island (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Low Island Point - Anjo (C)	47	-	-	12.04	-	-	46	-	-	9.79	-	-
	Davidsons Point - Cape Bougainville (A)	47	-	-	9.88	-	-	47	-	-	13.63	-	-
	Davidsons Point - Cape Bougainville (B)	46	-	-	14.96	-	-	39	-	-	14.67	-	-
	Davidsons Point - Cape Bougainville (C)	40	-	-	29.46	-	-	43	-	-	16.88	-	-
	Davidsons Point - Cape Bougainville (D)	43	-	-	23.75	-	-	44	-	-	17.67	-	-
	Augereau Island - Combe Hill Point (D)	24	-	-	36.29	-	-	22	-	-	41.33	-	-
	Augereau Island - Davidsons Point	19	-	-	38.92	-	-	16	-	-	45.04	-	-
	Cape Wellington - Cape Torrens (C)	4	-	-	63.63	-	-	6	-	-	56.25	-	-
	Cape Wellington - Cape Torrens (D)	2	-	-	69.54	-	-	4	-	-	79.54	-	-
	Battery Point - High Bluff (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Battery Point - Cape Wellington	3	-	-	53	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Battery Point (A)	1	-	-	88.54	-	-	-	-	-	-	-	-
	Raft Point - Un-named Promontory (F)	-	-	-	-	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Battery Point (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Augereau Island (A)	4	-	-	53.38	-	-	1	-	-	96.92	-	-
	Point Usborne - Marnebulorgne Community N Point	3	-	-	85	-	-	1	-	-	63.67	-	-
	Point Usborne - Nares Point (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Augereau Island (B)	37	-	-	30.88	-	-	33	-	-	47.63	-	-
	Augereau Island - Cape Londonderry	-	-	-	-	-	-	-	-	-	-	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Seringapatam Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Clerke Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Imperieuse Reef	1	-	-	95.25	-	-	-	-	-	-	-	-
State Waters	Northern Territory Sate Waters	50	-	-	7.29	-	-	52	-	-	8.08	-	-
	Western Australia State Waters	90	-	-	7.33	-	-	88	1	-	7.67	30.46	-

Table 10.4 Summary of the potential floating oil exposure to individual receptors for both the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
AMP	Arafura	-	-	-	-	-	-	-	-	-	-	-	-
	Argo-Rowley Terrace	2	-	-	73.21	-	-	-	-	-	-	-	-
	Ashmore Reef	1	-	-	80.79	-	-	-	-	-	-	-	-
	Cartier Island	2	-	-	66.75	-	-	2	-	-	72.42	-	-
	Joseph Bonaparte Gulf	87	22	9	2.67	3.96	4.29	82	13	6	2.54	3.96	4.29
	Kimberley	70	-	-	16.13	-	-	63	-	-	16.75	-	-
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Oceanic Shoals	21	-	-	35.29	-	-	9	-	-	47.08	-	-
EEZ	Indonesian Exclusive Economic Zone	12	-	-	46.54	-	-	6	-	-	68.25	-	-
KEF	Ancient coastline at 125 m depth contour	27	-	-	33.88	-	-	17	-	-	39.5	-	-
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	3	-	-	66.75	-	-	2	-	-	72.42	-	-
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	-	-	-	-	-	-	-	-	-	-	-	-
	Carbonate bank and terrace system of the Sahul Shelf	97	19	1	1.58	5.71	11.25	97	18	-	1.83	5.71	-
	Carbonate bank and terrace system of the Van Diemen Rise	-	-	-	-	-	-	-	-	-	-	-	-
	Continental Slope Demersal Fish Communities	23	-	-	39.08	-	-	16	-	-	44.25	-	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Pinnacles of the Bonaparte Basin	11	-	-	25.88	-	-	7	-	-	23.08	-	-
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	1	-	-	62.33	-	-	-	-	-	-	-	-
	Tributary Canyons of the Arafura Depression	-	-	-	-	-	-	-	-	-	-	-	-
MP	Garig Gunak Barlu	-	-	-	-	-	-	-	-	-	-	-	-
	Lalang-garram / Camden Sound	-	-	-	-	-	-	-	-	-	-	-	-
	North Kimberley	98	-	-	8.08	-	-	96	-	-	7.67	-	-
	North Lalang-garram	-	-	-	-	-	-	-	-	-	-	-	-
	Rowley Shoals	-	-	-	-	-	-	-	-	-	-	-	-
NR	Scott Reef	-	-	-	-	-	-	-	-	-	-	-	-
Ramsar	Ashmore Reef National Nature Reserve	1	-	-	80.79	-	-	-	-	-	-	-	-
	Cobourg Peninsula	-	-	-	-	-	-	-	-	-	-	-	-
	Ord River Floodplain	8	-	-	47.33	-	-	3	-	-	55.17	-	-
RSB	Abbott Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Afghan Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Albert Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Baldwin Bank	3	-	-	46.83	-	-	1	-	-	46.17	-	-
	Barbara Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Barcoo Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Barracouta Shoal	4	-	-	64.63	-	-	2	-	-	68.63	-	-
	Bass Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Bassett-Smith Shoal	10	-	-	42.29	-	-	5	-	-	44	-	-
	Beagle Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Beagle and Dingo Reefs	1	-	-	80.96	-	-	3	-	-	51.46	-	-
	Bill Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Branch Banks	25	-	-	23.38	-	-	16	-	-	23.5	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Brue Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Christine Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Churchill Reef	1	-	-	73.04	-	-	1	-	-	69.42	-	-
	Clerke Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Cockell and Nicolle Reefs	-	-	-	-	-	-	-	-	-	-	-	-
	Deep Shoal 1	-	-	-	-	-	-	-	-	-	-	-	-
	Deep Shoal 2	-	-	-	-	-	-	-	-	-	-	-	-
	Draytons Reef	-	-	-	-	-	-	-	-	-	-	-	-
	East Holothuria Reef	33	-	-	18.5	-	-	16	-	-	19	-	-
	Echuca Shoal	10	-	-	41.08	-	-	2	-	-	46.75	-	-
	Elizabeth Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Emu Reefs	11	-	-	31.46	-	-	7	-	-	32.83	-	-
	Eugene McDermott Shoal	6	-	-	57.79	-	-	3	-	-	62.21	-	-
	Favell Bank	1	-	-	48.71	-	-	-	-	-	-	-	-
	Fish Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Fitzpatrick Shoal												
	Flat Top Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Foelsche Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Gale Bank	2	-	-	51.92	-	-	-	-	-	-	-	-
	Giles Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Goeree Shoal	3	-	-	65.58	-	-	1	-	-	65.67	-	-
	Hancox Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Harris Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Heritage Reef	4	-	-	35.92	-	-	2	-	-	73.21	-	-
	Heywood Shoal	1	-	-	89.21	-	-	-	-	-	-	-	-
	Hinkler Patches	-	-	-	-	-	-	-	-	-	-	-	-
	Holothuria Banks	61	-	-	17.38	-	-	46	-	-	17.92	-	-
	Howland Shoals	11	-	-	26.83	-	-	6	-	-	35.88	-	-
	Hunt Patch	-	-	-	-	-	-	-	-	-	-	-	-
	Imperieuse Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Ingram Reef	10	-	-	38.5	-	-	6	-	-	32.75	-	-
	Jamieson Reef	20	-	-	31.63	-	-	14	-	-	30.33	-	-
	Johnson Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Jones Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Kelleway Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Knight Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Long Reef	36	-	-	23.75	-	-	19	-	-	24.75	-	-
	Lowry Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Lyne Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Marie Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Marsh Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Mataram Shoal							-	-	-	-	-	-
	Mavis Reef	2	-	-	74.25	-	-	1	-	-	75.33	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Mermaid Reef	-	-	-	-	-	-						
	Mermaid Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Middle Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Moira Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Moresby Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Moss Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Newby Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Oliver Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Oliver Rock	5	-	-	33.83	-	-	6	-	-	28.92	-	-
	Ommaney Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Osborn Reefs	-	-	-	-	-	-	-	-	-	-	-	-
	Otway Bank	24	-	-	23.96	-	-	13	-	-	24.38	-	-
	Parry Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Parsons Bank	-	-	-	-	-	-	-	-	-	-	-	-
	Penguin Shoal	8	-	-	38.5	-	-	7	-	-	40.17	-	-
	Rainbow Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Renard Shoals	-	-	-	-	-	-	-	-	-	-	-	-
	Robroy Reefs	3	-	-	50.33	-	-	1	-	-	64.54	-	-
	Rothery Reef	7	-	-	33.88	-	-	8	-	-	27.04	-	-
	Shepparton Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Skottowe Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Tait Bank	33	-	-	19.88	-	-	15	-	-	20.63	-	-
	Taiyun Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	Taylor Patches	-	-	-	-	-	-	-	-	-	-	-	-
	Tregenna Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Van Cloon Shoal	4	-	-	38.63	-	-	-	-	-	-	-	-
	Vulcan Shoal	5	-	-	60.29	-	-	4	-	-	66.58	-	-
	Wells Shoal	-	-	-	-	-	-	-	-	-	-	-	-
	West Holothuria Reef	2	-	-	28.38	-	-	3	-	-	24.33	-	-
	Wildcat Reefs	-	-	-	-	-	-	-	-	-	-	-	-
	Woodbine Bank	-	-	-	-	-	-	-	-	-	-	-	-
Nearshore Waters	Adele Island	1	-	-	71.29	-	-	-	-	-	-	-	-
	Ashmore Reef	1	-	-	80.79	-	-	-	-	-	-	-	-
	Bathurst Island	-	-	-	-	-	-	-	-	-	-	-	-
	Broome	-	-	-	-	-	-	-	-	-	-	-	-
	Browse Island	4	-	-	62.17	-	-	2	-	-	51.83	-	-
	Burford Island	-	-	-	-	-	-	-	-	-	-	-	-
	Cartier Island	-	-	-	-	-	-	1	-	-	72.63	-	-
	Clerke Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Clump Island	5	-	-	65.08	-	-	2	-	-	85.33	-	-
	Cox-Finniss	-	-	-	-	-	-	-	-	-	-	-	-
	Daly	1	-	-	80.5	-	-	-	-	-	-	-	-
	Darwin	-	-	-	-	-	-	-	-	-	-	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Derby - West Kimberely	-	-	-	-	-	-	-	-	-	-	-	-
	Dorcherty Island	19	-	-	35.88	-	-	11	-	-	38.46	-	-
	Greenhill Island							-	-	-	-	-	-
	Hibernia Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Imperieuse Reef	-	-	-	-	-	-						
	Litchfield	-	-	-	-	-	-	-	-	-	-	-	-
	Melville Island	-	-	-	-	-	-	-	-	-	-	-	-
	Minjilang	-	-	-	-	-	-	-	-	-	-	-	-
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Peron Island North	-	-	-	-	-	-	-	-	-	-	-	-
	Peron Island South	-	-	-	-	-	-	-	-	-	-	-	-
	Quoin Island	29	-	-	41.33	-	-	7	-	-	52.83	-	-
	Sandy Islet	-	-	-	-	-	-	-	-	-	-	-	-
	Scott Reef North	-	-	-	-	-	-	-	-	-	-	-	-
	Scott Reef South	-	-	-	-	-	-	-	-	-	-	-	-
	Seringapatam Reef	-	-	-	-	-	-	-	-	-	-	-	-
	South Alligator	-	-	-	-	-	-	-	-	-	-	-	-
	Thamarrurr	29	-	-	42.63	-	-	20	-	-	42.88	-	-
	Turtle Point	27	-	-	14.92	-	-	10	-	-	17.71	-	-
	Vernon Islands	-	-	-	-	-	-	-	-	-	-	-	-
	Victoria Daly	48	-	-	14.92	-	-	32	-	-	15.5	-	-
	West Arnhem	-	-	-	-	-	-	-	-	-	-	-	-
	Whale Flat	13	-	-	54.75	-	-	2	-	-	59.38	-	-
	Wyndham - East Kimberley	93	-	-	9.46	-	-	84	-	-	8.25	-	-
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	24	-	-	18.25	-	-	9	-	-	27.88	-	-
	East Cape Domett - WA-NT Border (B)	27	-	-	17.25	-	-	11	-	-	61.88	-	-
	East Cape Domett - WA-NT Border (C)	45	-	-	17.71	-	-	32	-	-	27.88	-	-
	Bare Hill - East Cape Domett (A)	5	-	-	45	-	-	1	-	-	95.17	-	-
	Bare Hill - East Cape Domett (B)	28	-	-	32.54	-	-	17	-	-	36.67	-	-
	Bare Hill - East Cape Domett (E)	60	-	-	11.83	-	-	42	-	-	11.79	-	-
	Aunty Islet - Thurburn Bluff	64	-	-	10.5	-	-	48	-	-	11.33	-	-
	Cape Bernier - Elsie Island N	78	-	-	8.58	-	-	78	-	-	8.71	-	-
	Cape Rulhieres - Cape Bernier	90	-	-	8.04	-	-	87	-	-	6.42	-	-
	Un-named Head - Cape Rulhieres (A)	85	-	-	8.04	-	-	82	-	-	6.46	-	-
	Un-named Head - Cape Rulhieres (B)	84	-	-	8.29	-	-	72	-	-	7.71	-	-
	Un-named Head - Cape Rulhieres (C)	80	-	-	11.79	-	-	73	-	-	9.38	-	-
	Cape Talbot - Cape Londonderry (A)	63	-	-	15.21	-	-	42	-	-	16.29	-	-
	Cape Talbot - Cape Londonderry (B)	23	-	-	23.79	-	-	11	-	-	24.88	-	-
	Low Island Point - Anjo (A)	23	-	-	24.92	-	-	11	-	-	26.38	-	-
	Low Island Point - Anjo (B)	22	-	-	21.96	-	-	16	-	-	27.75	-	-
	Cape Bougainville - Low Island Point (A)	7	-	-	28.96	-	-	5	-	-	31.42	-	-
	Cape Bougainville - Low Island Point (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Cape Bougainville - Low Island Point (C)	40	-	-	27.13	-	-	29	-	-	27.63	-	-

Receptor		Unmitigated						Mitigated					
		Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)			Probability of floating oil exposure (%)			Minimum time before floating oil exposure (days)		
		Low	Moderate	High	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
	Cape Bougainville - Low Island Point (D)	43	-	-	22.67	-	-	31	-	-	22.96	-	-
	Crystal Head - Cape Bougainville	7	-	-	35.38	-	-	-	-	-	-	-	-
	Davidsons Point - Crystal Head (A)	-	-	-	-	-	-	-	-	-	-	-	-
	Davidsons Point - Crystal Head (C)	3	-	-	44.5	-	-	-	-	-	-	-	-
	Davidsons Point - Crystal Head (D)	14	-	-	33.38	-	-	7	-	-	26.58	-	-
	Swift Bay - Davidsons Point (A)	13	-	-	33.83	-	-	4	-	-	34.83	-	-
	Swift Bay - Davidsons Point (B)	6	-	-	43.67	-	-	2	-	-	47.46	-	-
	Augereau Island - Combe Hill Point (A)	3	-	-	40.04	-	-	3	-	-	40.5	-	-
	Augereau Island - Combe Hill Point (B)	2	-	-	52.46	-	-	1	-	-	46.33	-	-
	Augereau Island - Combe Hill Point (C)	1	-	-	43	-	-	1	-	-	49.83	-	-
	Cape Torrens - Anderdon Islands Point	-	-	-	-	-	-	-	-	-	-	-	-
	Cape Wellington - Cape Torrens (A)	1	-	-	45.96	-	-	-	-	-	-	-	-
	Low Island Point - Anjo (C)	66	-	-	18.67	-	-	40	-	-	19.13	-	-
	Davidsons Point - Cape Bougainville (A)	61	-	-	20.79	-	-	38	-	-	20.67	-	-
	Davidsons Point - Cape Bougainville (B)	43	-	-	18.29	-	-	25	-	-	18.96	-	-
	Davidsons Point - Cape Bougainville (C)	46	-	-	23.75	-	-	30	-	-	24.13	-	-
	Davidsons Point - Cape Bougainville (D)	46	-	-	23.92	-	-	28	-	-	24.58	-	-
	Augereau Island - Combe Hill Point (D)	18	-	-	36.46	-	-	11	-	-	31.75	-	-
	Augereau Island - Davidsons Point	5	-	-	38.88	-	-	8	-	-	34.75	-	-
	Cape Wellington - Cape Torrens (C)	1	-	-	61.63	-	-	-	-	-	-	-	-
	Cape Wellington - Cape Torrens (D)	2	-	-	64.54	-	-	1	-	-	89.88	-	-
	Battery Point - High Bluff (B)	-	-	-	-	-	-	-	-	-	-	-	-
	Battery Point - Cape Wellington	-	-	-	-	-	-	-	-	-	-	-	-
	Battery Point - High Bluff (C)	-	-	-	-	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Battery Point (A)	-	-	-	-	-	-	-	-	-	-	-	-
	Marnebulorgne Community N Point - Augereau Island (A)	3	-	-	53.63	-	-	3	-	-	52	-	-
	Point Usborne - Marnebulorgne Community N Point	2	-	-	68.33	-	-	2	-	-	69.88	-	-
	Marnebulorgne Community N Point - Augereau Island (B)	12	-	-	44.58	-	-	8	-	-	44.54	-	-
	Augereau Island - Cape Londonderry	-	-	-	-	-	-	-	-	-	-	-	-
	Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Seringapatam Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Mermaid Reef	-	-	-	-	-	-	-	-	-	-	-	-
	Clerke Reef	-	-	-	-	-	-	-	-	-	-	-	-
State Waters	Northern Territory Sate Waters	59	-	-	10.83	-	-	57	-	-	12.42	-	-
	Western Australia State Waters	98	-	-	8.08	-	-	96	-	-	7.67	-	-

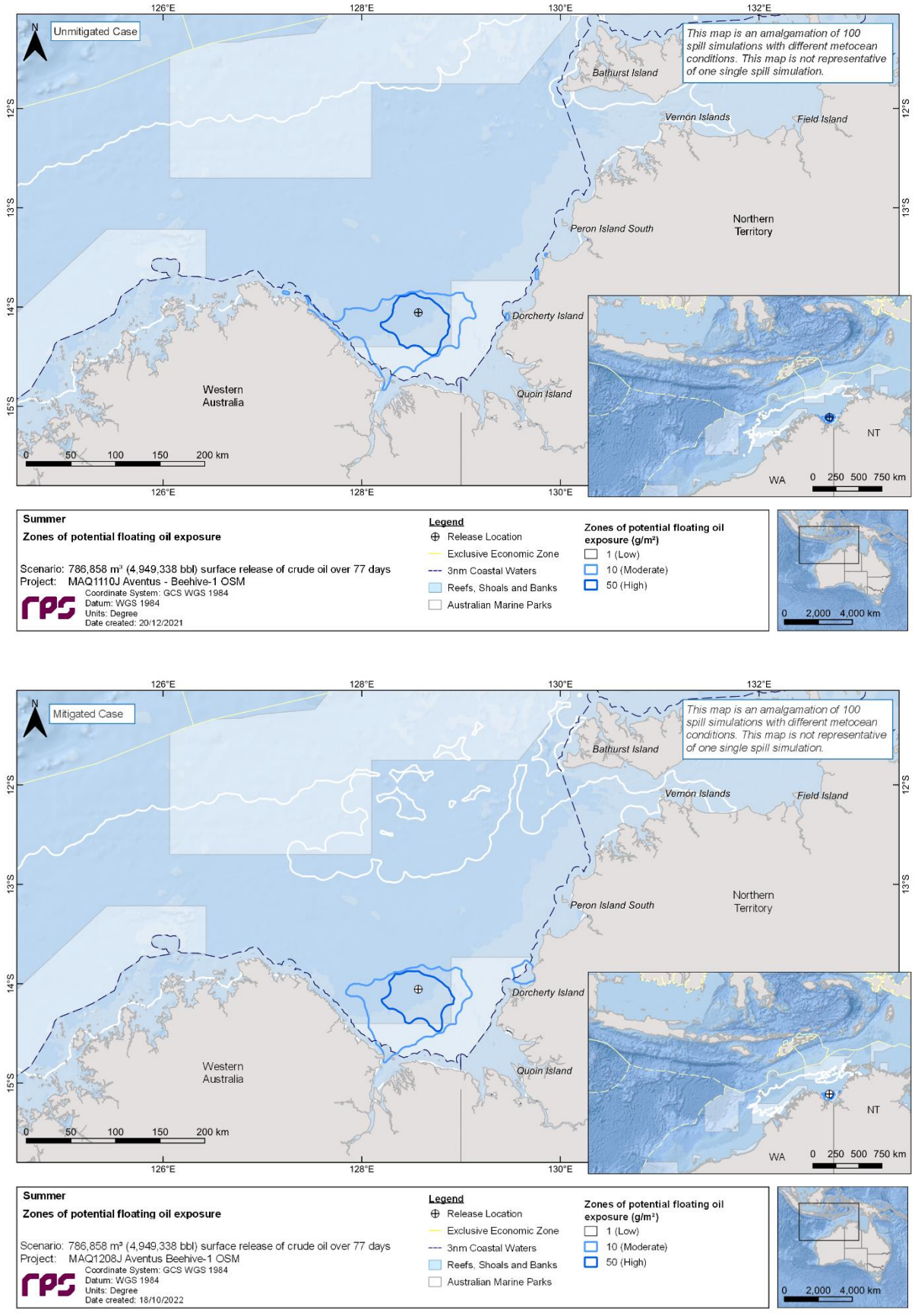


Figure 10.4 Zones of potential floating oil exposure for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during summer conditions. The results were calculated from 100 spill trajectories.

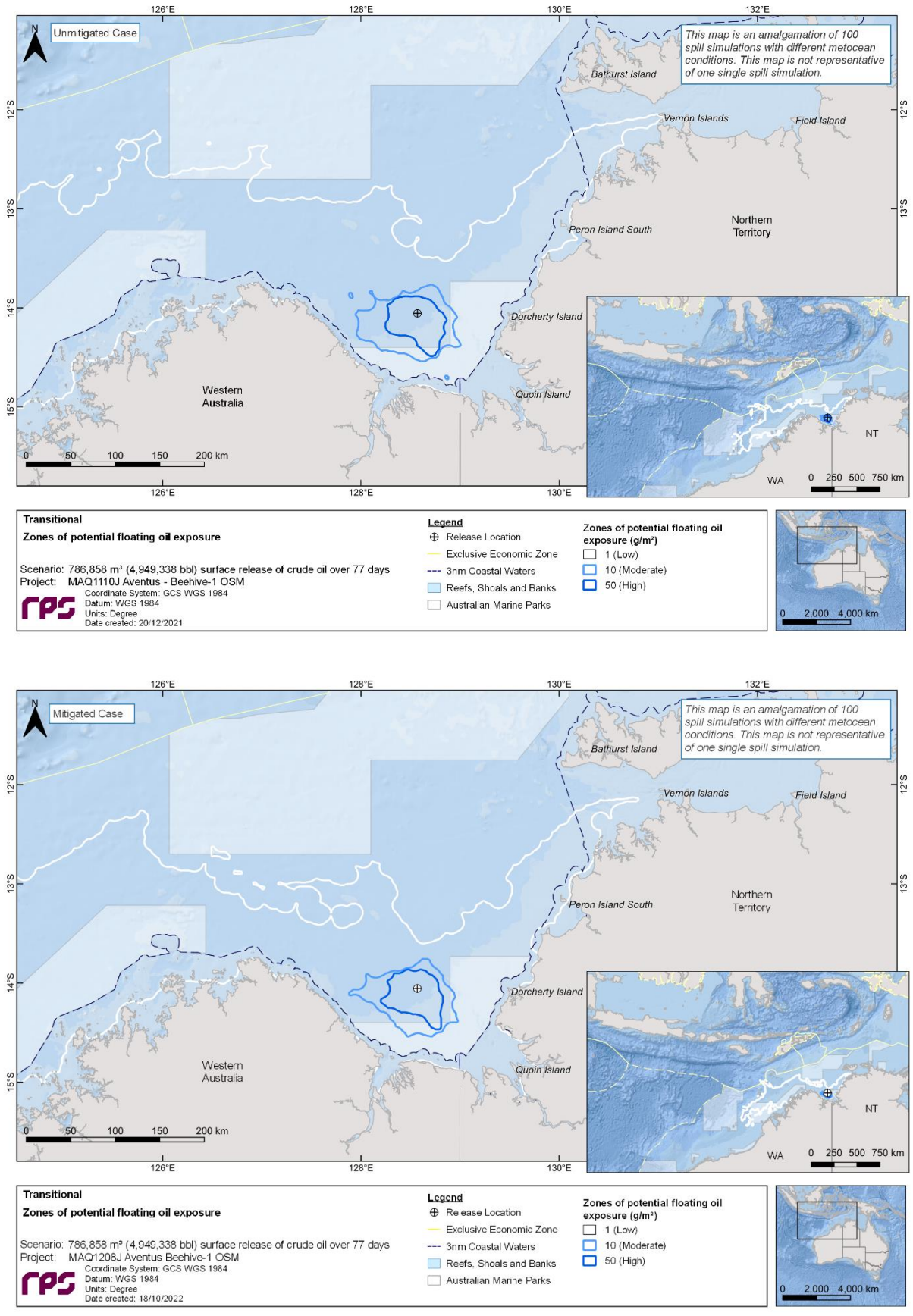


Figure 10.5 Zones of potential floating oil exposure for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during transitional conditions. The results were calculated from 100 spill trajectories.

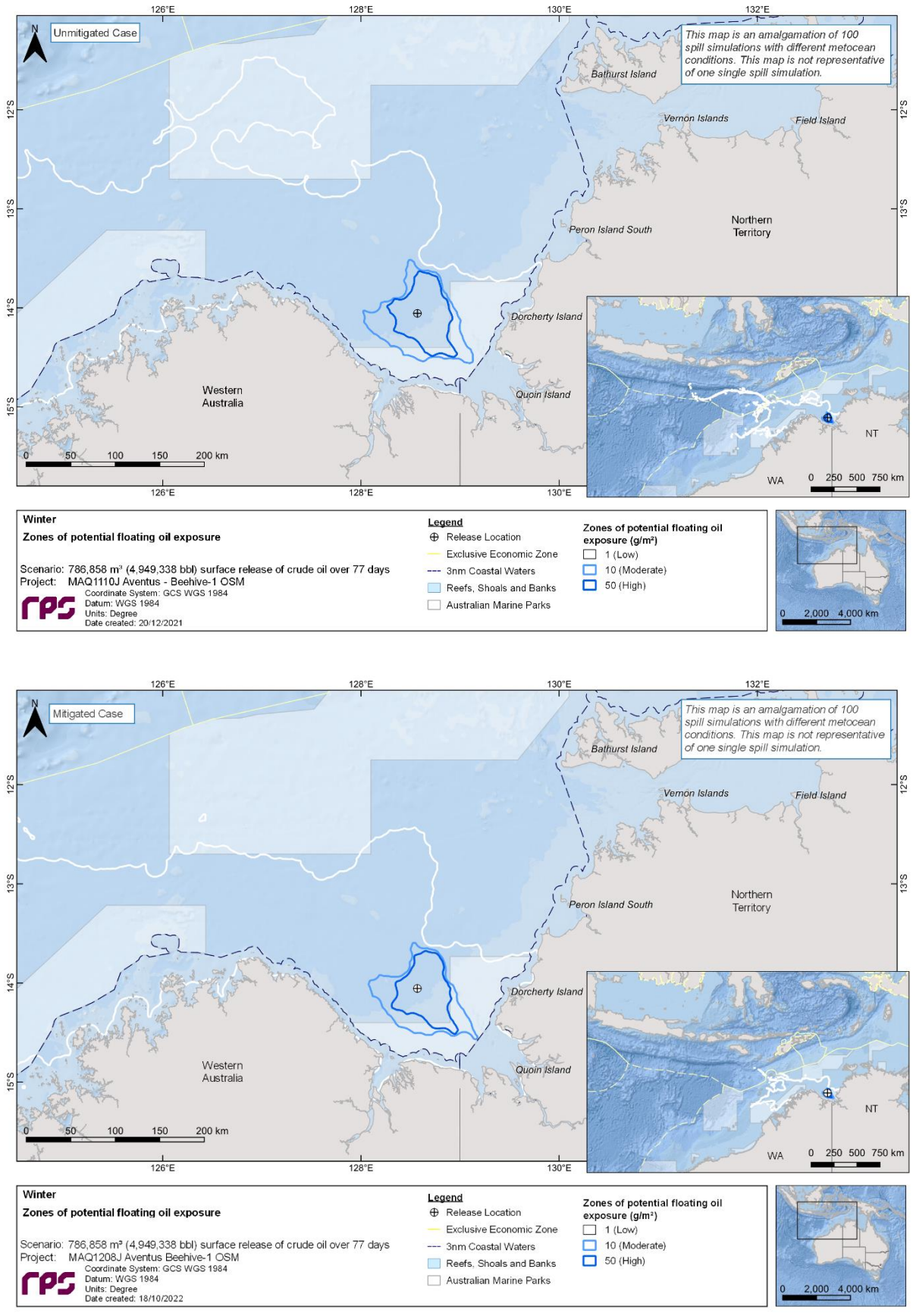


Figure 10.6 Zones of potential floating oil exposure for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during winter conditions. The results were calculated from 100 spill trajectories.

10.1.2 Shoreline Accumulation

Table 10.5 presents a summary of the predicted potential shoreline accumulation during seasonal conditions for the unmitigated and mitigated cases.

For the unmitigated case, the probability of accumulation to any shoreline at, or above, the low threshold (10 g/m^2) was 100% for all seasons and the minimum time before shoreline accumulation at, or above, the low threshold ranged between 10.29 days (transitional) to 11.58 days (summer). The maximum volume ashore for a single spill trajectory ranged between 406.9 m^3 (winter) and 705.0 m^3 (summer) and the maximum length of shoreline contacted at the low threshold was 201 km for winter and 225 km for summer.

Similarly, for the mitigated case, the probability of accumulation to any shoreline at, or above, the low threshold (10 g/m^2) was 100% for all seasons and the minimum time before shoreline accumulation at, or above, the low threshold ranged between 10.71 days (winter) to 13.17 days (summer). The maximum volume ashore for a single spill trajectory ranged between 204.8.6 m^3 (winter) and 421.0 m^3 (summer), which represented a reduction of 50% in the maximum volume ashore in comparison to the unmitigated case. The maximum length of shoreline contacted at the low threshold for the mitigated case ranged between 132 km (winter) and 151 km (summer). For all seasonal conditions assessed, the modelling demonstrated a maximum reduction in the length of shoreline contact above the low (39%), moderate (27%) and high (21%) thresholds, when the surface dispersant was applied.

Table 10.5 Summary of oil accumulation across all shorelines for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions. The results were calculated from 100 spill trajectories per season.

Shoreline Statistics	Unmitigated			Mitigated		
	Summer	Trans	Winter	Summer	Trans	Winter
Probability of accumulation on any shoreline (%)	100	100	100	100	100	100
Absolute minimum time for visible oil to shore (days)	11.58	10.29	11.25	13.17	10.79	10.71
Maximum volume of hydrocarbons ashore (m^3)	705.0	414.9	406.9	421.0	380.8	204.8
Average volume of hydrocarbons ashore (m^3)	259.5	176.9	145.8	178.6	96.8	64.2
Maximum length of the shoreline at 10 g/m^2 (km)	225	224	201	151	143	132
Average shoreline length (km) at 10 g/m^2 (km)	119.7	82.6	90.9	92.9	54.4	55.2
Maximum length of the shoreline at 100 g/m^2 (km)	129	116	99	98	84	53
Average shoreline length (km) at 100 g/m^2 (km)	61.6	45.5	40.9	43.6	26.2	19.1
Maximum length of the shoreline at 1,000 g/m^2 (km)	16	9	8	13	6	2
Average shoreline length (km) at 1,000 g/m^2 (km)	5.2	3.5	2.7	3.5	2.2	1.3

Table 10.6 to

Table 10.8 summarises the shoreline accumulation on individual receptors for each season for the unmitigated and mitigated cases.

For the unmitigated case, the shoreline assessment identified Wyndham - East Kimberley, Thamarrurr, Daly, Victoria Daly, Dorcherty Island and Un-named Head - Cape Rulhieres (A) shorelines as the sectors with the largest potential shoreline oil accumulation during summer conditions with volumes ranging between 134.8 m^3 to 404.4 m^3 (Table 10.6). During the transitional and winter months, the Wyndham - East Kimberley, Victoria Daly and Thamarrurr shorelines recorded potential shoreline oil accumulation ranging between 164.9 m^3 to 414.9 m^3 (transitional; Table 10.7) and 155.6 m^3 and 406.9 m^3 (winter; Table 10.8). Additionally, Wyndham - East Kimberley recorded the earliest shoreline contact (11.25 days) and the longest mean length (58.1 km) of shoreline accumulation above the low threshold during transitional conditions.

Similarly, for the mitigated case, the shoreline assessment identified Daly, Dorcherty Island, Thamarrurr, Victoria Daly, Wyndham - East Kimberley, Cape Bernier - Elsie Island N, Un-named Head - Cape Rulhieres (A), Un-named Head - Cape Rulhieres (C), Davidsons Point - Crystal Head (D) and Davidsons Point - Cape Bougainville (D) shorelines as the sectors with the largest potential shoreline oil accumulation during summer conditions with volumes ranging between 40.1 m^3 to 339.1 m^3 (Table 10.6). During the transitional months, for the mitigated case the Browse Island, Quoin Island, Thamarrurr, Victoria Daly, Wyndham - East Kimberley, East Cape Domett - WA-NT Border (A), Cape Bernier - Elsie Island N, Un-named Head - Cape Rulhieres (A), Un-named Head - Cape Rulhieres (C), Cape Bougainville - Low Island Point (D) Davidsons Point - Crystal Head (D) and Davidsons Point - Cape Bougainville (D) shorelines recorded potential shoreline oil accumulation ranging between 36.4 m^3 to 344.7 m^3 (Table 10.7). In comparison during the winter months for the mitigated case the shorelines with the largest potential shoreline oil accumulation was Wyndham - East Kimberley, Aunty Islet - Thurburn Bluff, Cape Bernier - Elsie Island N, Davidsons Point - Crystal Head (D), Davidsons Point - Cape Bougainville (C), Davidsons Point - Cape Bougainville (D), Augereau Island - Davidsons Point ranging between 30.1 m^3 and 201.9 m^3 (Table 10.8). Additionally, during both transitional and winter conditions the Wyndham - East Kimberley shoreline recorded the earliest shoreline contact (10.79 days, transitional and 10.71 days, winter) and the longest mean length (40.5 km, transitional and 38.7 km, winter) of shoreline accumulation above the low threshold.

Figure 10.7 to Figure 10.9 present sorted bar plots of the predicted length of shoreline accumulation for the low, moderate and high shoreline accumulation thresholds for the unmitigated and mitigated cases from 100 spill trajectories per season and case.

The maximum potential shoreline loading above the low, moderate and high shoreline thresholds are presented for each season, for both unmitigated and mitigated cases in Figure 10.10 to Figure 10.12.

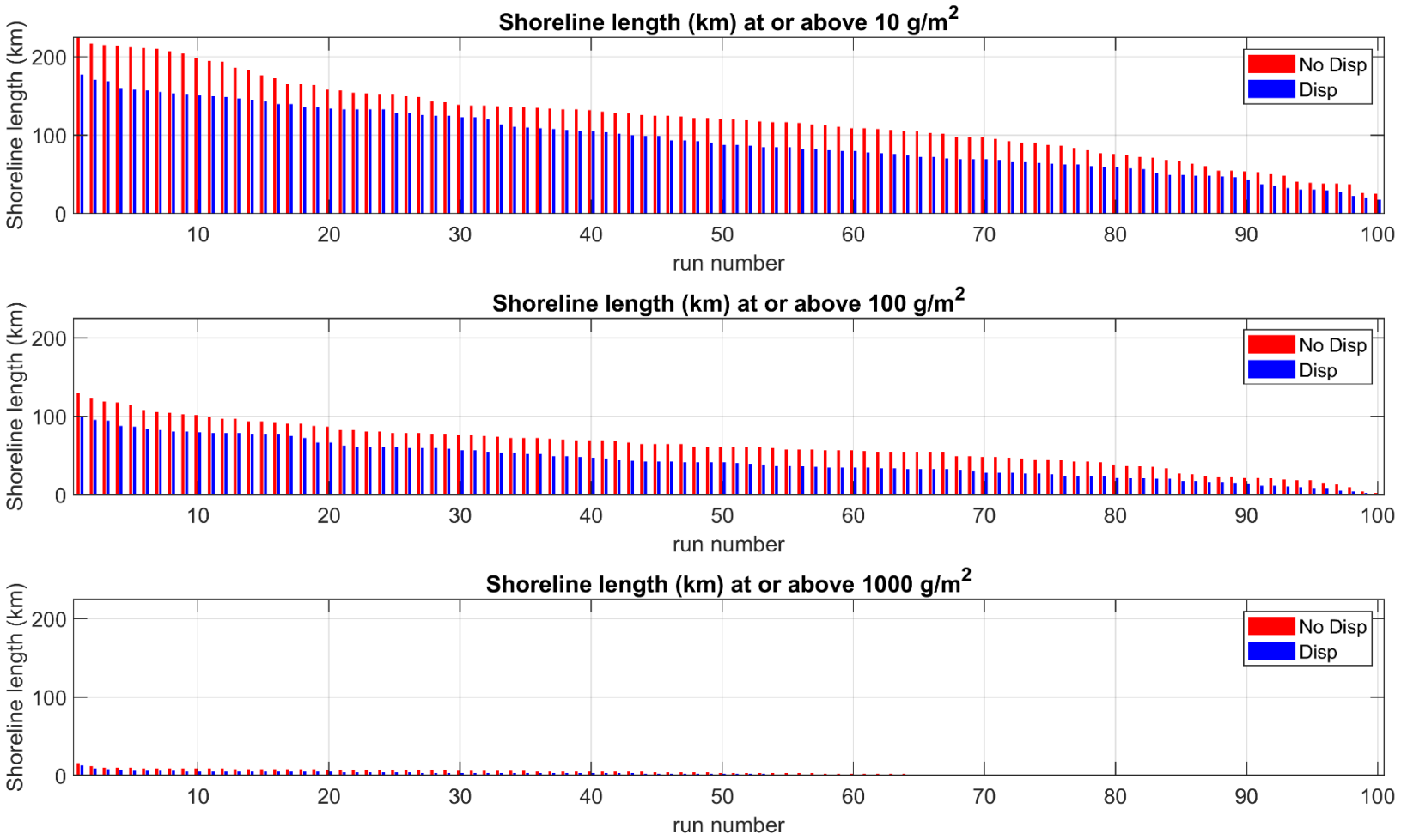


Figure 10.7 Sorted bar plots of the predicted length of shoreline accumulation for the low, moderate and high shoreline accumulation thresholds for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during summer conditions. The results from 100 spill trajectories are presented.

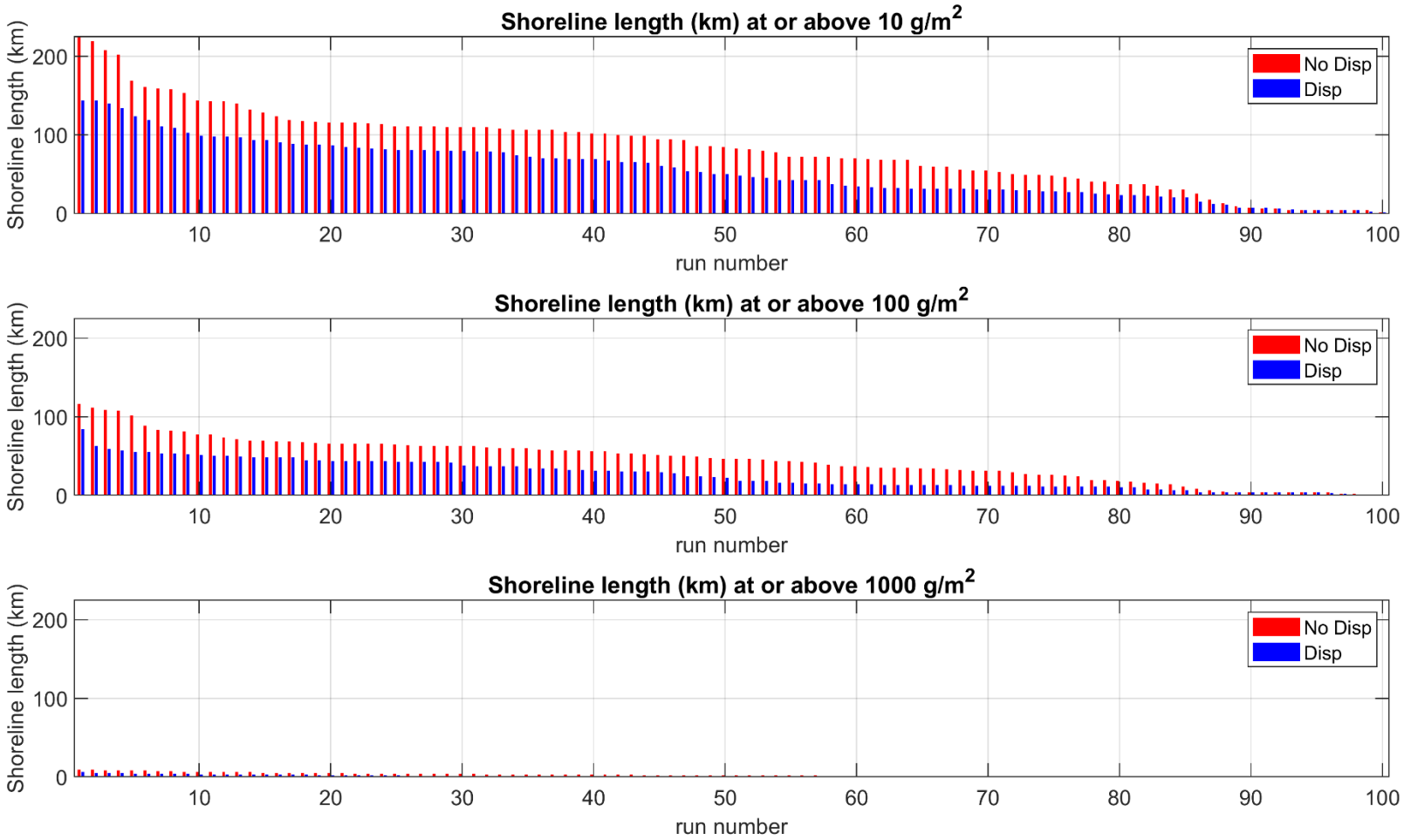


Figure 10.8 Sorted bar plots of the predicted length of shoreline accumulation for the low, moderate and high shoreline accumulation thresholds for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during summer conditions. The results from 100 spill trajectories are presented.

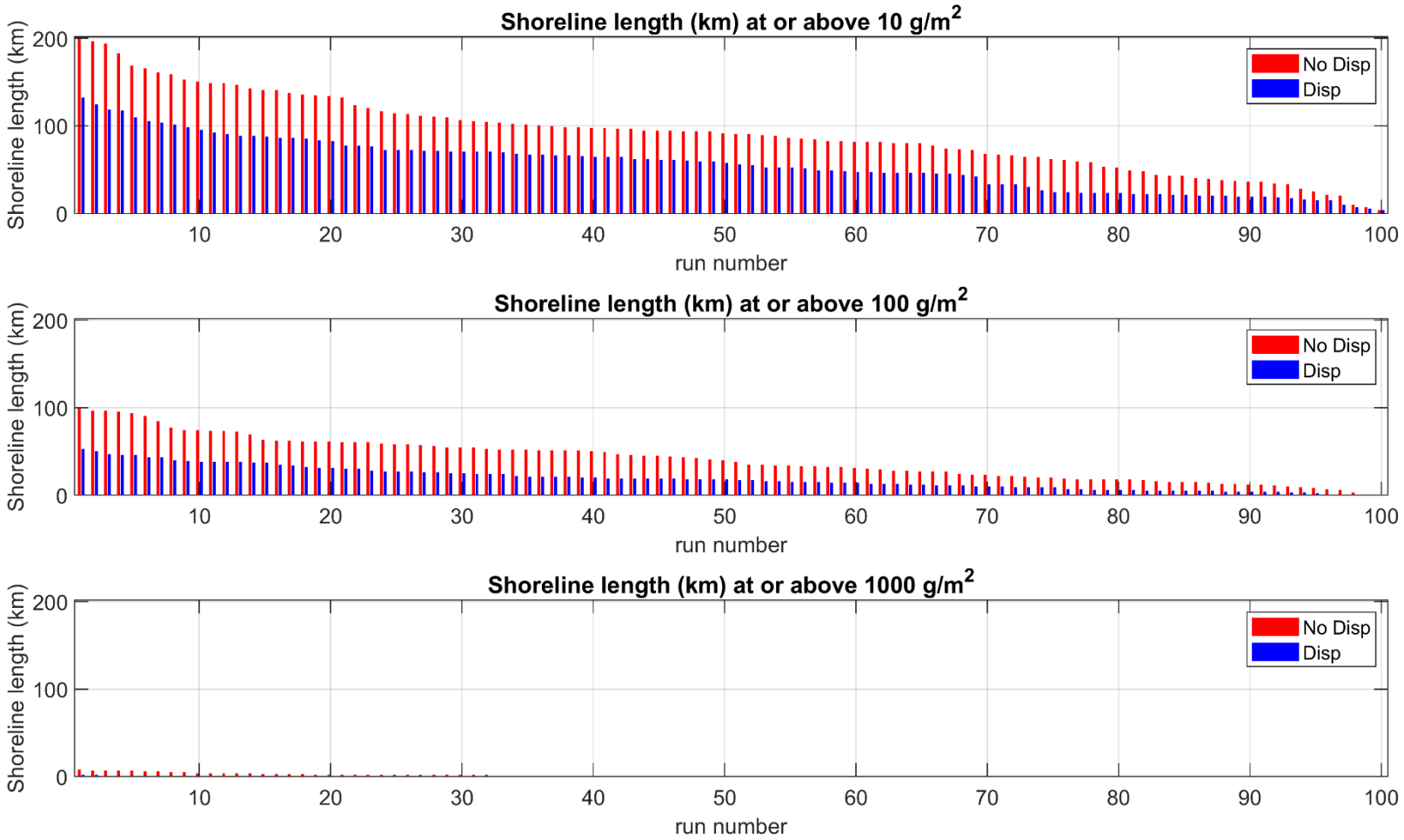


Figure 10.9 Sorted bar plots of the predicted length of shoreline accumulation for the low, moderate and high shoreline accumulation thresholds for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during summer conditions. The results from 100 spill trajectories are presented.

Table 10.6 Summary of oil accumulation on individual shoreline sectors for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories.

Shoreline sector	Unmitigated																		Mitigated											
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Adele Island	6	1	-	70.92	96.08	-	66	132	< 0.1	1.7	1.3	1	-	2	1	-	7	-	-	71.83	-	-	57	95	< 0.1	1.7	1.4	-	-	2	-	-
Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bathurst Island	4	3	-	69.08	71.75	-	65	248	0.3	12.3	10.8	2	-	17.1	3	-	5	1	-	69.83	70.42	-	63	104	0.1	4.7	4.8	1	-	8	1	-
Broome	1	-	-	97.21	-	-	39	39	< 0.1	0.5	1	-	-	1	-	-	2	-	-	81.25	-	-	54	98	< 0.1	2	2.5	-	-	3	-	-
Browse Island	23	20	1	48.54	50.54	91.92	299	2,059	3.1	64.3	3.5	3	3	4	4	3	18	17	1	50.29	51	93	246	1714	2	51	3.5	2.7	2	4	4	2
Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clump Island	55	42	-	18.58	19.58	-	164	928	3.5	20.6	3.2	1.9	-	8	5	-	57	30	-	20.25	20.29	-	123	889	2.1	20.9	2.2	1.7	-	7	4	-
Cox-Finniss	20	14	-	23.79	26.13	-	91	582	4.6	51.4	20.5	10.8	-	43.2	19.1	-	21	14	1	22.29	32.63	48.63	106	1176	4.3	56.5	16	8.8	2	32.2	15.1	2
Daly	57	41	2	18.33	25.79	46.13	104	3,692	8.4	199.6	9.2	4.6	4	32.2	24.1	6	57	36	5	13.17	27.63	40	109	2583	9.2	210.1	7.3	4.5	3.4	38.2	22.1	7
Darwin	8	3	-	48.08	51.71	-	69	134	0.1	2.6	1.9	1	-	3	1	-	5	2	-	37.75	52.21	-	74	126	< 0.1	1.6	1.6	1	-	2	1	-
Derby - West Kimberely	2	-	-	90.33	-	-	43	44	< 0.1	1	1.5	-	-	2	-	-	1	-	-	82.54	-	-	59	100	< 0.1	2.8	4	-	-	4	-	-
Dorcherty Island	66	54	12	17.38	19.25	50.46	239	7,065	12.4	134.8	4.8	3.4	1.6	12.1	8	2	62	39	7	16.83	18.29	47	162	1967	8.9	90.2	5.6	4.2	1.9	17.1	10.1	3
Greenhill Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	73.54	-	-	52	52	< 0.1	0.6	1	-	-	1	-	-
Hibernia Reef	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lawson Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	82.46	-	-	45	45	< 0.1	0.6	1	-	-	1	-	-
Lacepede Islands	1	-	-	95.33	-	-	39	39	< 0.1	0.5	1	-	-	1	-	-																
Litchfield	8	-	-	60.33	-	-	52	60	< 0.1	2	1.5	-	-	3	-	-	1	-	-	75.54	-	-	56	56	< 0.1	0.7	1	-	-	1	-	-
Melville Island	9	-	-	61.96	-	-	47	89	0.2	4.2	3.5	-	-	8	-	-	8	-	-	68.33	-	-	48	92	0.1	2.6	2.8	-	-	5	-	-
Minjilang	3	-	-	70.83	-	-	61	88	< 0.1	1.1	1	-	-	1	-	-																
New Year Island	2	-	-	80.25	-	-	44	45	< 0.1	0.6	1	-	-	1	-	-																
Oxley Island	2	-	-	81.33	-	-	44	44	< 0.1	0.5	1	-	-	1	-	-																
Peron Island North	27	17	-	18.71	21.58	-	144	880	2.3	32.4	3.8	3.4	-	8	7	-	23	12	2	22.63	23.63	41.29	134	1194	1.7	44.2	3.5	3.2	1	9	7	1
Peron Island South	12	6	-	22.67	22.75	-	102	399	0.4	10.6	2.6	1.7	-	4	4	-	10	7	-	23.33	23.88	-	116	291	0.3	6.2	2.5	1.6	-	4	2	-
Quoin Island	64	49	2	17.38	17.63	59.58	124	1056	8.4	59.1	7.4	4.7	1	20.1	11.1	1	65	41	-	16.79	17.96	-	102	725	5.6	40.5	6	3.6	-	16.1	9	-
Sandy Islet	3	-	-	70.67	-	-	49	50	< 0.1	1.2	1.3	-	-	2	-	-	3	-	-	66.58	-	-	69	99	< 0.1	1.2	1	-	-	1	-	-
Scott Reef North	10	3	-	64.08	64.13	-	61	216	0.4	12.4	4.9	4	-	14.1	6	-	11	3	-	64.58	64.67	-	56	155	0.3	10.2	4	3	-	10.1	5	-
Scott Reef South	12	7	-	62.13	63.5	-	87	611	2	57.5	10.6	7.8	-	29.2	18.1	-	11	6	-	63.54	64.08	-	92	614	1.5	45.7	9	9	-	22.1	20.1	-
Seringapatam Reef	8	1	-	70.25	97.58	-	66	117	0.1	3.4	2.3	2	-	4	2	-	6	-	-	71.46	-	-	47	49	< 0.1	1.2	1.3	-	-	2	-	-
South Alligator	8	4	-	54.21	57.75	-	58	117	0.1	3.1	2.4	1	-	5	1	-	5	-	-	62.21	-	-	50	98	< 0.1	3	2.6	-	-	5	-	-
Thamarrurr	80	74	31	11.58	14.46	18.92	190	6903	54.9	271.2	27.1	15.6	2.2	60.3	40.2	7	76	70	22	13.17	15.38	48.54	170	6713	36.8	339.1	20.2	10.4	2.5	55.3	44.2	11.1
Turtle Point	58	47	-	18.63	24.17	-	155	819	4.8	29.4	4	2.7	-	7	6	-	59	39	1	19.42	23	44	125	1226	3.1	26.4	3.3	2.1	1	8	6	1
Vernon Islands	18	11	-	30.54	39.17	-	98	627	1.4	26.4	5.8	3.4	-	14.1	8	-	18	6	-	30.88	40.75	-	76	640	0.9	21.5	4.6	3.9	-	11.1	7	-
Victoria Daly	76	73	28	14.75	19.13	25.21	189	4,229	52.9	258.3	27.8	14.6	2.6	57.3	42.2	6	76	65	19	15.5	20.04	24.25	140	1847	26.9	133.6	19.4	9.9	1.6	52.3	34.2	3

Shoreline sector	Unmitigated																Mitigated													
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
West Arnhem	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	60.75	-	-	48	55	< 0.1	0.7	1	-	-	1	-	-
Whale Flat	65	54	6	18.29	22.54	67.88	180	1,947	9.1	78.7	5.2	3.6	1.8	13.1	10.1	3	65	34	-	18.63	27.5	-	108	527	3.5	29.2	3.5	3	-	12.1	9	-
Wyndham - East Kimberley	78	70	41	16.17	17.38	28.38	208	4,644	108.7	404.4	51.2	30.6	4.5	156.8	85.4	9	72	67	35	15.79	15.83	29.83	177	3018	73.2	331.3	45.8	24.3	2.8	134.7	74.4	6
East Cape Domett - WA-NT Border (A)	41	26	5	23.08	24.08	28.58	155	2,415	7.6	126.5	6.2	5.3	2.6	17.1	15.1	4	28	20	4	23.08	24.08	50	132	1310	3.7	55.7	5.9	4.2	1.3	16.1	12.1	2
East Cape Domett - WA-NT Border (B)	29	23	4	21.21	22.58	59.58	143	1,452	3.5	46.6	6.1	3.8	1	12.1	8	1	25	17	-	18.08	34.79	-	106	652	1.4	18.1	4.4	2.4	-	11.1	6	-
East Cape Domett - WA-NT Border (C)	45	26	5	16.46	17.38	42.79	128	2350	5.4	69	6	4.5	1.4	21.1	14.1	3	32	20	4	15.79	15.83	42.83	135	1795	3.6	48.6	5.7	3.9	1.3	23.1	8	2
Bare Hill - East Cape Domett (A)	13	3	-	36.92	64.63	-	73	193	0.2	3.7	1.3	1	-	3	1	-	7	3	-	40.21	49.83	-	82	151	0.1	2.5	1.6	1	-	2	1	-
Bare Hill - East Cape Domett (B)	21	10	-	33.21	45	-	79	480	0.8	15.4	3.6	2	-	15.1	3	-	17	7	-	32	49.63	-	79	443	0.9	21.2	4.8	4.5	-	18.1	7	-
Bare Hill - East Cape Domett (E)	40	25	-	19.46	22.46	-	110	486	2.2	18.1	3.7	2.7	-	11.1	9	-	28	14	-	24.63	27.5	-	92	367	1.1	13.3	3.2	2.4	-	11.1	8	-
Aunty Islet - Thurburn Bluff	43	36	1	16.42	27.33	64.58	158	1,206	6.3	37.3	6.9	4.4	1	13.1	10.1	1	41	30	1	18.67	28.08	64	126	1075	4.7	32.1	7	4.1	1	15.1	10.1	1
Cape Bernier - Elsie Island N	38	29	8	20.38	28.29	28.38	203	3,949	7.7	101.3	6.5	4.5	1.1	16.1	13.1	2	38	33	7	28.46	28.79	30	156	2157	4.5	40.1	5.7	2.6	1	12.1	8	1
Cape Rulhieres - Cape Bernier	36	25	1	28.29	29	87.67	144	1,337	4	34.7	5.5	3.5	1	15.1	6	1	40	24	-	24.58	29.21	-	114	656	2.6	22.7	4.2	2.2	-	11.1	6	-
Un-named Head - Cape Rulhieres (A)	46	37	18	23.79	24.33	29.38	409	4,644	18.7	183.9	5.9	5.3	2.8	14.1	12.1	6	43	36	13	24.08	24.83	29.88	311	3018	13.2	147.8	6.4	4.8	2.4	13.1	11.1	5
Un-named Head - Cape Rulhieres (B)	40	23	1	24.71	27.29	91.04	119	1,021	3.9	52.2	5.5	4.3	1	17.1	12.1	1	40	20	-	36.42	40.63	-	94	477	2.2	25.6	4.2	2.8	-	16.1	9	-
Un-named Head - Cape Rulhieres (C)	40	39	21	37.33	37.83	41.54	361	3712	14.7	88.3	7.7	5.4	1.2	13.1	12.1	2	40	36	15	36.29	37.54	39.79	275	2945	10.5	64.7	6.9	5.1	1.1	11.1	9	2
Cape Talbot - Cape Londonderry (A)	28	22	-	16.17	19.13	-	120	408	2	15.7	5.3	2.7	-	13.1	5	-	32	22	-	31.88	39	-	100	330	1.8	12.2	4.6	2.6	-	12.1	5	-
Cape Talbot - Cape Londonderry (B)	16	8	-	25.46	35.5	-	85	147	0.3	4.7	1.9	1.1	-	5	2	-	14	2	-	28.21	54.04	-	67	126	0.2	2.9	1.6	1	-	4	1	-
Low Island Point - Anjo (A)	27	21	12	36.08	48.96	56.17	240	1363	7.8	61.5	8.3	6.7	1.4	18.1	11.1	2	28	17	1	47.54	50.46	76	126	1019	2.7	26.8	5.3	4.3	1	10.1	6	1
Low Island Point - Anjo (B)	24	14	-	48.46	49.42	-	104	576	1	13.3	3.2	1.8	-	7	3	-	24	10	-	50.13	52.71	-	83	347	0.6	8.7	2.3	1.3	-	3	2	-

Shoreline sector	Unmitigated																Mitigated														
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Cape Bougainville - Low Island Point (A)	33	28	1	38.92	46.21	83.25	138	1061	2.9	24.4	4.9	3.3	1	10.1	7	1	27	24	1	39.13	39.67	66	173	1178	3.6	35.6	5.6	4.1	1	10.1	8	1
Cape Bougainville - Low Island Point (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
Cape Bougainville - Low Island Point (C)	21	13	-	49.38	51.33	-	86	315	0.8	7.9	3.6	1.5	-	7	4	-	17	14	1	49.75	50	82	176	1036	1.9	25	4.6	3.6	1	8	5	1
Cape Bougainville - Low Island Point (D)	34	27	14	39.88	39.88	57.58	307	2234	8.3	63.5	5.2	3.9	1.4	12.1	7	2	31	21	11	42.38	42.46	64.54	332	1901	7.5	63.3	4.5	4.8	1.6	9	7	3
Crystal Head - Cape Bougainville	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davidsons Point - Crystal Head (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davidsons Point - Crystal Head (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davidsons Point - Crystal Head (C)	18	11	-	52.13	52.25	-	100	289	0.5	6.7	2.6	1.6	-	6	3	-	16	7	-	53.29	53.58	-	76	185	0.3	5	1.9	1.4	-	5	3	-
Davidsons Point - Crystal Head (D)	29	20	3	50.29	51.63	81.71	226	4437	5.8	109.5	5.2	5	2	13.1	9	3	23	19	2	50.46	52.42	85.25	233	2599	4.1	55.3	5.3	4.1	2	11.1	7	2
Swift Bay - Davidsons Point (A)	2	1	-	60.29	97.92	-	75	156	< 0.1	3.2	2	1	-	3	1	-	1	1	-	86.29	92.25	-	88	128	< 0.1	2.1	2	1	-	2	1	-
Swift Bay - Davidsons Point (B)	2	1	-	93.13	94.17	-	102	184	< 0.1	4	2.5	1	-	3	1	-	2	-	-	91.63	-	-	47	48	< 0.1	1.1	1.5	-	-	2	-	-
Augereau Island - Combe Hill Point (A)	16	9	-	55.63	61.75	-	86	722	1.2	40.5	4.9	3.1	-	17.1	11.1	-	16	6	-	59.83	60.13	-	79	395	0.6	20.7	3.3	2.7	-	13.1	6	-
Augereau Island - Combe Hill Point (B)	2	2	-	85.33	85.46	-	250	419	< 0.1	5.8	1.5	1	-	2	1	-	2	2	-	85.79	85.92	-	180	214	< 0.1	2.6	1	1	-	1	1	-
Augereau Island - Combe Hill Point (C)	3	2	-	68.33	89.21	-	120	334	< 0.1	4.8	2	1.5	-	3	2	-	4	1	-	86.83	93.21	-	81	181	< 0.1	2.9	1.3	1	-	2	1	-
Cape Wellington - Cape Torrens (A)	2	1	-	88.42	89.46	-	86	204	< 0.1	5.4	4.5	2	-	5	2	-	4	-	-	71.04	-	-	50	56	< 0.1	1.1	1.5	-	-	2	-	-

Shoreline sector	Unmitigated																Mitigated														
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Cape Wellington - Cape Torrens (B)																	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Battery Point - High Bluff (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Raft Point - Un-named Promontory (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nares Point - Un-named Peninsular (B)	1	-	-	91.83	-	-	41	41	< 0.1	0.5	1	-	-	1	-	-	1	-	-	89.63	-	-	42	43	< 0.1	1	2	-	-	2	-	-
Packer Island - Swan Island (A)	1	-	-	97.21	-	-	39	39	< 0.1	0.5	1	-	-	1	-	-	2	-	-	81.25	-	-	58	98	< 0.1	1.5	2	-	-	2	-	-
Davidsons Point - Cape Bougainville (A)	32	29	1	41.29	41.63	93.25	420	1003	1.7	12.3	1	1	1	1	1	1	30	27	-	38.38	42.54	-	304	827	1.1	10.1	1	1	-	1	1	-
Davidsons Point - Cape Bougainville (C)	35	26	11	39.75	41.79	63.08	459	1,746	5.7	42.4	2.5	2.9	1.3	3	3	2	33	23	2	39.92	39.96	47.58	310	1291	3.6	30.5	2.6	2.5	1.5	3	3	2
Davidsons Point - Cape Bougainville (D)	36	29	14	40.5	40.96	58.75	588	3,009	9.6	78.3	3.2	2.9	2.1	4	4	3	30	26	10	41.46	42.04	47.04	443	2011	5.6	51.3	3.1	3	1.3	4	4	2
Augereau Island - Combe Hill Point (D)	27	20	2	50.38	53.08	83.5	204	1,552	6.5	119.8	7.9	7.6	3	13.1	13.1	4	26	17	-	52.29	55.38	-	160	977	4.5	59.6	7.3	7.8	-	13.1	13.1	-
Augereau Island - Davidsons Point	23	19	-	54.92	58.79	-	123	546	2.9	27.7	7.9	5.7	-	14.1	9	-	24	16	-	51.54	60.13	-	115	608	2.1	23.1	5.9	4.1	-	13.1	7	-
Cape Wellington - Cape Torrens (C)	9	4	-	71.33	89.13	-	68	164	0.3	8.1	3.2	2	-	7	4	-	9	4	-	85.13	89.96	-	66	165	0.2	7.1	3	1.5	-	9	2	-
Battery Point - High Bluff (C)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	93.33	-	-	40	40	< 0.1	0.5	1	-	-	1	-	-
Marnebulorgne Community N Point - Battery Point (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
Marnebulorgne Community N Point - Battery Point (B)	1	-	-	77.42	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-	1	1	-	92.08	92.13	-	145	145	< 0.1	1.8	1	1	-	1	1	-
Point Usborne - Marnebulorgne	6	1	-	70.92	96.08	-	66	132	< 0.1	1.7	1.3	1	-	2	1	-	7	-	-	71.83	-	-	57	95	< 0.1	1.7	1.4	-	-	2	-	-

Shoreline sector	Unmitigated																			Mitigated									
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Community N Point																															
Point Usborne - Nares Point (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	90.96	-	-	51	51	< 0.1	0.6	1	-	-	1	-	-
Point Usborne - Nares Point (B)	2	-	-	90.33	-	-	43	44	< 0.1	0.5	1	-	-	1	-	-	1	-	-	82.54	-	-	100	100	< 0.1	1.2	1	-	-	1	-	-
Marnebulorgne Community N Point - Augereau Island (B)	23	20	1	48.54	50.54	91.92	299	2059	3.1	64.3	3.5	3	3	4	4	3	18	17	1	50.29	51	92.83	246	1714	2	51	3.5	2.7	2	4	4	2
Augereau Island - Cape Londonderry	8	1	-	70.25	97.58	-	66	117	0.1	3.4	2.3	2	-	4	2	-	6	-	-	71.46	-	-	47	49	< 0.1	1.2	1.3	-	-	2	-	-
Ashmore Reef	12	3	-	63.13	63.54	-	65	416	0.7	22.2	5.9	7.7	-	18.1	11.1	-	11	3	-	63.54	64.13	-	61	253	0.6	19.4	5.8	7	-	15.1	10.1	-
Seringapatam Reef	12	7	-	62.13	63.5	-	90	611	1.7	47.6	9.1	6.2	-	25.1	14.1	-	11	6	-	64	64.08	-	96	614	1.3	40.3	7.5	7	-	19.1	15.1	-
Red Bluff - Chimney Rocks (B)	1	-	-	95.33	-	-	39	39	< 0.1	0.5	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 10.7 Summary of oil accumulation on individual shoreline receptors for the unmitigated and mitigated cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories.

Shoreline sector	Unmitigated																																
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m²)		Volume on shoreline (m³)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m²)		Volume on shoreline (m³)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Adele Island	6	3	-	75.29	84.38	-	172	538	0.3	10	2	2.3	-	3	3	-	3	2	-	84.83	86.42	-	114	313	< 0.1	4.9	2	1	-	2	1	-
Ashmore Reef	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bathurst Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Broome	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	61.5	-	-	57	57	< 0.1	0.7	1	-	-	1	-	-
Browse Island	38	27	7	40.58	47.33	59.71	303	2053	5.1	57.2	2.8	2.8	1.9	4	4	3	27	21	8	46.75	48	50	349	1801	4.2	53.7	2.8	2.6	1.5	4	4	2
Cartier Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clump Island	41	32	-	10.29	24.21	-	171	790	2.8	22.5	3.2	2.1	-	8	5	-	31	13	-	17.29	41.38	-	105	457	0.9	9	2	1.7	-	5	3	-
Cox-Finniss	1	1	-	94.63	96.71	-	135	273	< 0.1	5	3	1	-	3	1	-	1	1	-	96.21	97.79	-	86	137	< 0.1	4.2	4	1	-	4	1	-
Daly	9	1	-	63.5	93.17	-	56	209	0.1	4.9	1.6	1	-	5	1	-	2	-	-	80.96	-	-	62	73	< 0.1	1.8	1.5	-	-	2	-	-
Darwin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Derby - West Kimberely	2	-	-	54.75	-	-	50	58	< 0.1	1.1	1.5	-	-	2	-	-	1	-	-	53.96	-	-	59	59	< 0.1	0.7	1	-	-	1	-	-
Dorcherty Island	21	13	2	22.96	25.21	72.08	187	1061	2.4	23.3	4.5	3.9	1	7	6	1	19	12	-	21.58	32.42	-	99	285	0.7	8.3	3.2	1.5	-	7	4	-
Greenhill Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hibernia Reef	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lawson Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lacepede Islands	1	-	-	73.92	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-																	
Litchfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melville Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minjilang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																	
New Year Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																	
Oxley Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																	
Peron Island North	2	2	-	92.08	92.54	-	160	496	0.2	17.6	5	3	-	6	5	-	2	1	-	92.63	93.33	-	96	280	0.1	10.3	4.5	2	-	7	2	-
Peron Island South	1	-	-	93.17	-	-	73	73	< 0.1	0.9	1	-	-	1	-	-	2	1	-	94.08	96.75	-	85	140	< 0.1	2.6	1.5	1	-	2	1	-
Quoin Island	42	40	1	18.38	19.92	86.04	148	1067	6.3	45.1	8.4	4.6	1	16.1	10.1	1	38	20	-	18.13	31.96	-	89	504	2	36.4	4.5	2.5	-	15.1	11.1	-
Sandy Islet	1	-	-	66.88	-	-	51	51	< 0.1	0.6	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scott Reef North	1	-	-	66.25	-	-	52	52	< 0.1	1.3	2	-	-	2	-	-	2	1	-	66.29	66.46	-	55	103	< 0.1	2.5	2	1	-	3	1	-
Scott Reef South	3	2	-	43.33	44.42	-	59	130	< 0.1	4.8	4.4	1	-	6	1	-	2	-	-	65.42	-	-	48	52	< 0.1	2.5	3	-	-	4	-	-
Seringapatam Reef	4	1	-	68.63	94.21	-	51	156	< 0.1	3.4	3	1	-	6	1	-	2	-	-	68.25	-	-	45	51	< 0.1	0.9	1.5	-	-	2	-	-
South Alligator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamarrurr	45	41	21	15.67	22.79	29.75	222	4062	28.1	164.9	21.5	13.6	2	47.2	27.1	4	42	34	6	21.5	26.38	35.79	157	1460	9	54.4	11.3	7.2	1	25.1	14.1	1
Turtle Point	31	24	-	22.75	24.63	-	142	745	2.2	20.1	3.7	2.8	-	7	6	-	31	14	-	24.21	31.17	-	97	364	1	10.5	2.8	2	-	6	4	-
Vernon Islands	1	1	-	97.13	97.5	-	117	191	< 0.1	7.2	5	3	-	5	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Victoria Daly	48	40	14	12.33	15.79	26.25	197	6068	32.2	228.8	24.3	15	3.1	49.3	28.1	6	40	34	9	15.92	18.42	47.33	138	2254	13.6	109.7	18.3	9.7	1.8	38.2	21.1	3

Shoreline sector	Unmitigated																														
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
West Arnhem	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Whale Flat	36	29	-	26.88	30.83	-	146	697	2.5	22.8	3.7	2.3	-	6	5	-	28	8	-	25.33	40.29	-	88	249	0.5	7.7	1.7	1.6	-	4	4	-
Wyndham - East Kimberley	83	79	30	11.83	12.79	25.29	182	4373	100.9	408.2	55.3	30.9	4.4	165.9	100.5	9	82	75	23	10.79	14.96	30.38	144	3815	59.6	344.7	40.5	21.2	2.5	119.6	71.4	6
East Cape Domett - WA-NT Border (A)	34	23	7	24.92	30.29	72.21	194	2333	8.2	105.5	7.1	6.7	1.9	16.1	13.1	3	28	18	7	30.13	42.17	72	150	1438	4.4	57.7	6	5	1.3	15.1	11.1	2
East Cape Domett - WA-NT Border (B)	33	27	-	26.79	39.71	-	121	852	3	22.5	6.2	3.1	-	11.1	7	-	26	19	-	21.71	34.58	-	100	565	1.1	10.2	3.9	1.7	-	10.1	3	-
East Cape Domett - WA-NT Border (C)	42	33	2	11.83	12.79	51.54	117	1588	6.2	63	10	5.5	1	33.2	20.1	1	36	23	-	13.83	23.67	-	102	638	3.1	34.6	6.5	3.7	-	22.1	11.1	-
Bare Hill - East Cape Domett (A)	13	2	-	36.04	83.71	-	67	200	0.2	3.7	1.4	1	-	3	1	-	10	2	-	33.46	85.88	-	72	114	0.1	1.5	1.3	1	-	2	1	-
Bare Hill - East Cape Domett (B)	33	18	-	23.79	35.04	-	94	530	1.8	14.9	4.8	2.3	-	17.1	5	-	23	12	-	18.58	35.92	-	82	576	1.2	19.4	4.6	2.8	-	13.1	7	-
Bare Hill - East Cape Domett (E)	38	30	-	17.29	17.29	-	123	729	3.6	24.2	6.4	3.4	-	14.1	9	-	34	20	-	26.46	35.79	-	101	591	1.6	16.2	3.5	2.5	-	10.1	6	-
Aunty Islet - Thurburn Bluff	48	38	1	16.25	17	88.88	157	1880	7.1	73.3	6.7	4.7	2	17.1	13.1	2	41	29	-	21.33	22.17	-	118	823	3.5	31.1	5.1	3.3	-	14.1	8	-
Cape Bernier - Elsie Island N	42	37	11	16.96	21.21	31.71	225	3488	13	97.9	9.8	6.7	1.1	24.1	18.1	2	42	30	8	18.54	23.04	44.96	172	1633	7.9	87.2	7.7	5.7	1	23.1	17.1	1
Cape Rulhieres - Cape Bernier	37	26	-	18	26.33	-	142	954	5.4	33	8.1	5.6	-	21.1	10.1	-	36	24	-	10.96	23.96	-	112	923	3	25.2	6	3.7	-	18.1	7	-
Un-named Head - Cape Rulhieres (A)	37	29	20	14.67	15.25	25.29	405	4373	20.4	177	8.2	7.2	3	15.1	12.1	6	34	29	13	13.88	14.96	30.38	353	3815	14.1	153.3	7.5	6.2	2.5	14.1	13.1	5
Un-named Head - Cape Rulhieres (B)	33	25	-	18.08	21.25	-	154	926	6.2	51	9.1	6.8	-	20.1	14.1	-	34	24	-	22.04	25.88	-	117	474	3.2	21.3	6.5	3.9	-	14.1	9	-
Un-named Head - Cape Rulhieres (C)	45	42	11	12.38	21.79	31.96	245	2199	9.7	78.3	6.2	4.2	1.4	14.1	10.1	2	46	37	3	20.25	29.25	35	180	1873	5.4	56.4	4.7	3.4	1	13.1	8	1
Cape Talbot - Cape Londonderry (A)	29	19	-	21.67	35.13	-	109	522	1.4	13	3.8	2	-	11.1	4	-	32	14	-	21.88	37.63	-	88	331	0.9	11.4	2.5	1.4	-	9	4	-
Cape Talbot - Cape Londonderry (B)	9	7	-	39.54	46.13	-	116	214	0.3	6.3	2.8	1.9	-	6	3	-	3	-	-	54.33	-	-	66	72	< 0.1	1.6	1.3	-	-	2	-	-
Low Island Point - Anjo (A)	32	18	1	27.88	37.63	44.83	127	1351	2.5	56.9	3.8	3.2	1	14.1	11.1	1	30	15	-	31.29	37.63	-	109	943	1.5	25.6	3	2.5	-	9	6	-
Low Island Point - Anjo (B)	23	8	-	37.17	42.13	-	80	256	0.6	9.7	2.4	1.9	-	7	3	-	21	8	-	32.38	38.75	-	91	412	0.5	7.6	2.2	1.6	-	5	3	-

Shoreline sector	Unmitigated																Mitigated													
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Cape Bougainville - Low Island Point (A)	36	20	-	33.38	38.29	-	118	846	2.3	27	3.8	2.9	-	11.1	8	-	32	17	1	11.96	37.75	64.29	115	1179	1.5	39.8	2.9	2.2	1	9	6	1
Cape Bougainville - Low Island Point (B)	1	-	-	84.63	-	-	55	55	< 0.1	0.7	1	-	-	1	-	-																
Cape Bougainville - Low Island Point (C)	20	12	-	39.29	56.42	-	83	249	0.5	5.4	2.8	1.1	-	6	2	-	20	8	-	36.67	39.92	-	90	449	0.6	15.2	2.4	2.3	-	7	5	-
Cape Bougainville - Low Island Point (D)	34	28	1	33.58	35.83	54.04	251	1507	5.6	50.5	4.5	3.8	1	9	6	1	38	23	3	19.67	36.17	40.33	176	1569	4	59.5	3.7	3.8	1.3	8	6	2
Crystal Head - Cape Bougainville	1	-	-	65.21	-	-	53	53	< 0.1	0.6	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davidsons Point - Crystal Head (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davidsons Point - Crystal Head (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	70.38	-	-	50	50	< 0.1	0.6	1	-	-	1	-	-
Davidsons Point - Crystal Head (C)	13	4	-	41.63	49.75	-	72	193	0.3	6.4	2.2	1.8	-	7	3	-	10	4	-	46.63	51.5	-	72	183	0.1	3	1.6	1	-	3	1	-
Davidsons Point - Crystal Head (D)	39	30	4	32.67	36.38	54.71	183	2969	4.8	85.3	3.7	2.9	2.3	11.1	9	3	34	18	4	31	41.08	56.04	146	1735	2.7	40.9	3.2	3	1	12.1	8	1
Swift Bay - Davidsons Point (A)	2	-	-	68.96	-	-	56	61	< 0.1	0.8	1	-	-	1	-	-	1	1	-	57.17	58	-	377	377	< 0.1	4.7	1	1	-	1	1	-
Swift Bay - Davidsons Point (B)	5	2	-	62.63	63.17	-	97	179	< 0.1	3.7	1.2	1.5	-	2	2	-	2	1	-	65.08	69.46	-	139	219	< 0.1	2.7	1.5	1	-	2	1	-
Augereau Island - Combe Hill Point (A)	16	5	-	46.96	55.83	-	85	412	1.4	35.5	5.3	9	-	18.1	12.1	-	10	5	-	51.96	52.96	-	76	354	0.6	19.4	5.4	4	-	14.1	7	-
Augereau Island - Combe Hill Point (B)	5	4	-	53.13	53.17	-	108	190	< 0.1	3.1	1.2	1	-	2	1	-	3	2	-	58.42	58.58	-	122	187	< 0.1	2.3	1	1	-	1	1	-
Augereau Island - Combe Hill Point (C)	4	1	-	57.88	62	-	86	178	< 0.1	2.2	1	1	-	1	1	-	2	-	-	59.54	-	-	55	59	< 0.1	0.7	1	-	-	1	-	-
Cape Wellington - Cape Torrens (A)	7	4	-	59.63	69.04	-	82	222	0.1	4.7	2	1.3	-	3	2	-	5	2	-	60.13	74.96	-	75	107	< 0.1	1.4	1.6	1	-	2	1	-

Shoreline sector	Unmitigated																Mitigated														
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Cape Wellington - Cape Torrens (B)																	1	-	-	96.04	-	-	52	52	< 0.1	0.6	1	-	-	1	-	-
Battery Point - High Bluff (A)	1	-	-	87.79	-	-	43	43	< 0.1	0.5	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Raft Point - Un-named Promontory (A)	1	-	-	91.29	-	-	41	41	< 0.1	0.5	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nares Point - Un-named Peninsular (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Packer Island - Swan Island (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	61.5	-	-	57	57	< 0.1	0.7	1	-	-	1	-	-
Davidsons Point - Cape Bougainville (A)	45	42	2	21.67	23.67	79.46	435	1138	2.4	14	1	1	1	1	1	1	43	30	-	10.79	15.58	-	211	788	1.1	9.7	1	1	-	1	1	-
Davidsons Point - Cape Bougainville (C)	46	41	7	14.92	15	47.04	430	1969	7	51.1	2.7	2.7	2	3	3	3	45	37	2	18.13	23.71	89.29	284	1439	4.4	37.6	2.6	2.5	2	3	3	2
Davidsons Point - Cape Bougainville (D)	46	41	7	12.88	15.46	43.67	366	2263	7	65.6	3.1	2.8	2.3	4	4	3	48	41	3	14.5	20.17	58.21	249	1853	4.6	45.9	2.8	2.2	1.7	4	4	2
Augereau Island - Combe Hill Point (D)	36	28	2	35.33	35.38	58.75	170	1283	5.7	63	6.4	5.8	1	13.1	13.1	1	38	22	-	25.92	32.58	-	115	876	3.1	33.1	4.8	4.3	-	12.1	11.1	-
Augereau Island - Davidsons Point	32	24	-	38.58	42.63	-	138	875	4.3	40.7	6.8	5.4	-	15.1	11.1	-	30	19	1	31.21	37.04	68.96	119	1136	3.2	33.7	6.1	5.1	1	13.1	10.1	1
Cape Wellington - Cape Torrens (C)	15	7	-	61.08	70.46	-	72	192	0.5	6.7	4.2	2	-	8	3	-	14	9	-	60.46	63.38	-	66	171	0.6	8.1	5.1	1.5	-	10.1	3	-
Battery Point - High Bluff (C)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	92.92	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-
Marnebulorgne Community N Point - Battery Point (A)	3	-	-	83.5	-	-	44	46	< 0.1	0.6	1	-	-	1	-	-																
Marnebulorgne Community N Point - Battery Point (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Point Usborne - Marnebulorgne	6	3	-	75.29	84.38	-	172	538	0.3	10	2	2.3	-	3	3	-	3	2	-	84.83	86.42	-	114	313	< 0.1	4.9	2	1	-	2	1	-

Shoreline sector	Unmitigated																			Mitigated										
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Community N Point																															
Point Usborne - Nares Point (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Point Usborne - Nares Point (B)	2	-	-	54.75	-	-	50	58	< 0.1	1.1	1.5	-	-	2	-	-	1	-	-	53.96	-	-	59	59	< 0.1	0.7	1	-	-	1	-	-
Marnebulorgne Community N Point - Augereau Island (B)	38	27	7	40.58	47.33	59.71	303	2053	5.1	57.2	2.8	2.8	1.9	4	4	3	27	21	8	46.75	48	49.71	349	1801	4.2	53.7	2.8	2.6	1.5	4	4	2
Augereau Island - Cape Londonderry	4	1	-	68.63	94.21	-	51	156	< 0.1	3.4	3	1	-	6	1	-	2	-	-	68.25	-	-	45	51	< 0.1	0.9	1.5	-	-	2	-	-
Ashmore Reef	2	-	-	49.5	-	-	57	61	< 0.1	2.5	2.5	-	-	4	-	-	2	1	-	66.29	66.46	-	55	103	< 0.1	2.5	2	1	-	3	1	-
Seringapatam Reef	3	2	-	43.33	44.42	-	60	130	< 0.1	4.1	3.7	1	-	5	1	-	2	-	-	65.42	-	-	48	52	< 0.1	2.5	3	-	-	4	-	-
Red Bluff - Chimney Rocks (B)	1	-	-	73.92	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 10.8 Summary of oil accumulation on individual shoreline receptors for the unmitigated and mitigated cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories.

Shoreline sector	Unmitigated																																
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m²)		Volume on shoreline (m³)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m²)		Volume on shoreline (m³)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Adele Island	2	2	-	69.29	70.08	-	231	461	0.1	7.6	2.5	1.5	-	3	2	-	3	1	-	67	71.42	-	66	157	< 0.1	3.2	2.3	1	-	3	1	-
Ashmore Reef	7	3	-	69.75	80.88	-	55	225	0.3	14.4	6.6	2	-	19.1	3	-	9	1	-	66.79	81.5	-	48	133	0.2	7.4	3.9	1	-	11.1	1	-
Bathurst Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Broome	1	-	-	88.83	-	-	41	41	< 0.1	0.5	1	-	-	1	-	-	1	-	-	97.54	-	-	38	38	< 0.1	0.5	1	-	-	1	-	-
Browse Island	22	11	-	37.04	37.92	-	114	444	0.8	14.3	2.1	2.6	-	4	4	-	16	3	-	44.08	52.88	-	72	251	0.3	8.2	1.7	3.4	-	4	4	-
Cartier Island	11	5	-	66.08	67.13	-	73	277	0.4	11.2	3.4	2.2	-	9	3	-	8	2	-	68.54	68.67	-	64	139	0.2	6.1	2.8	1	-	7	1	-
Clump Island	41	31	-	27.54	36.63	-	134	693	1.7	16.9	2.3	1.6	-	5	4	-	22	9	-	28	70.25	-	97	339	0.4	5.8	1.6	1.3	-	3	2	-
Cox-Finniss	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Daly	8	3	-	53	71	-	85	286	0.2	7	1.9	1.3	-	5	2	-	1	-	-	89.54	-	-	52	52	< 0.1	0.6	1	-	-	1	-	-
Darwin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Derby - West Kimberely	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	87.5	-	-	42	42	< 0.1	0.5	1	-	-	1	-	-
Dorcherty Island	26	19	-	38.54	39.54	-	138	936	1.3	22.5	2.7	1.8	-	6	6	-	17	9	-	42.25	53.29	-	94	246	0.4	4.3	2	1	-	3	1	-
Greenhill Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hibernia Reef	6	3	-	70.63	87.29	-	61	281	0.2	7.8	4.4	1	-	8	1	-	5	-	-	80.54	-	-	48	83	< 0.1	5.9	3.2	-	-	9	-	-
Lawson Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lacepede Islands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
Litchfield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Melville Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minjilang	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
New Year Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
Oxley Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
Peron Island North	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Peron Island South	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quoin Island	50	43	1	28	31.63	76.17	131	1232	6.2	38.2	7.3	4.1	1	15.1	11.1	1	42	21	-	25.96	52.67	-	87	305	1.9	14.7	4.3	2.1	-	9	5	-
Sandy Islet	1	-	-	92	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scott Reef North	5	-	-	63.79	-	-	43	53	< 0.1	2	2.2	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scott Reef South	7	-	-	74.75	-	-	53	99	< 0.1	3.5	2.2	-	-	6	-	-	3	-	-	87.58	-	-	42	44	< 0.1	0.5	1	-	-	1	-	-
Seringapatam Reef	2	-	-	56.54	-	-	54	57	< 0.1	0.7	1	-	-	1	-	-	3	-	-	82.96	-	-	44	46	< 0.1	0.6	1	-	-	1	-	-
South Alligator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thamarrurr	41	35	16	31.17	37.17	56.08	178	3959	16.9	155.6	16.8	11.2	1.3	46.2	30.2	3	37	30	2	36.92	40.92	60.13	116	1283	5.4	45	10.2	5.5	1	32.2	16.1	1
Turtle Point	48	38	-	13.92	14.96	-	140	666	3.2	23.8	3.8	2.7	-	7	5	-	36	25	-	14.88	15.88	-	108	321	1.2	8.9	2.6	1.6	-	7	3	-
Vernon Islands	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Victoria Daly	58	54	17	13.96	14.5	49.88	181	3492	29.7	160.7	21.5	11.8	2.4	53.3	29.2	4	50	39	-	16.88	16.96	-	110	996	9.2	48	13.7	6.6	-	34.2	17.1	-

Shoreline sector	Unmitigated																			Mitigated										
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
West Arnhem	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Whale Flat	32	18	-	38.58	39.67	-	93	359	1.2	11.1	3.1	1.5	-	7	3	-	18	4	-	58.29	60.17	-	70	134	0.3	4.7	1.6	1.3	-	4	2	-
Wyndham - East Kimberley	99	93	23	11.25	12.54	27.88	131	2206	88.1	406.7	58.1	25.9	2.6	164.9	93.5	8	97	87	6	10.71	11.71	57.88	108	1488	45.6	201.9	38.7	14.3	1.2	107.6	49.3	2
East Cape Domett - WA-NT Border (A)	49	20	-	20.83	30.17	-	79	407	1.7	14.3	3.3	2.2	-	11.1	6	-	23	8	-	30.96	34.88	-	72	252	0.5	9.9	2.3	1.5	-	6	4	-
East Cape Domett - WA-NT Border (B)	38	15	-	33.71	50.46	-	89	494	1.1	14.8	2.4	1.9	-	8	4	-	26	1	-	18.83	82.21	-	67	133	0.3	2.5	1.4	1	-	3	1	-
East Cape Domett - WA-NT Border (C)	52	35	1	15.71	26.92	90.67	97	1008	4.9	47.1	7.8	3.9	1	25.1	11.1	1	48	20	-	15.71	38.25	-	77	270	1.6	11.6	3.8	1.6	-	14.1	3	-
Bare Hill - East Cape Domett (A)	21	7	-	44.29	74.38	-	85	179	0.3	4.4	1.5	1.3	-	3	2	-	14	2	-	40.88	42.96	-	85	245	0.1	3	1	1	-	1	1	-
Bare Hill - East Cape Domett (B)	48	22	-	34.83	39.96	-	84	732	2.4	19.1	4.4	2.1	-	14.1	5	-	31	18	-	40.38	41.92	-	91	675	1.1	14.9	3.1	1.7	-	8	4	-
Bare Hill - East Cape Domett (E)	60	43	-	17.08	26	-	123	803	6.8	40.2	6.8	5	-	15.1	11.1	-	56	25	-	25.75	39.17	-	91	434	2.1	19	3.4	1.9	-	11.1	5	-
Aunty Islet - Thurburn Bluff	63	46	4	14.29	15.33	43	155	1497	10.2	79.1	7.1	5.6	1.5	17.1	13.1	2	52	36	-	14.88	15.25	-	116	867	4.1	37.6	5	3	-	14.1	9	-
Cape Bernier - Elsie Island N	84	68	15	11.71	12.54	27.88	184	2206	25.1	183.8	10.7	7.7	2.3	25.1	21.1	6	82	57	1	10.83	13.17	57.88	140	1163	14.7	95.7	8.4	6.2	1	24.1	19.1	1
Cape Rulhieres - Cape Bernier	80	54	-	11.25	12.58	-	104	870	10.9	55.7	10.1	5.4	-	23.1	13.1	-	77	49	-	10.71	11.71	-	95	552	6.6	27.9	7.9	3.7	-	22.1	10.1	-
Un-named Head - Cape Rulhieres (A)	84	72	9	12.17	14.83	39.46	170	1344	13	57.9	6.5	4	1.1	13.1	10.1	2	84	60	1	11.63	14.46	68.04	126	1076	6.9	43.7	5	2.9	1	12.1	8	1
Un-named Head - Cape Rulhieres (B)	75	49	-	12.54	16.83	-	96	453	4	28.7	4.9	2.2	-	19.1	10.1	-	68	28	-	12.67	17	-	79	268	2.2	10.2	3.9	1.4	-	17.1	3	-
Un-named Head - Cape Rulhieres (C)	76	54	3	15.17	16.08	31.5	124	1477	4.9	44.2	4.4	2.4	1	20.1	7	1	70	38	1	15.54	15.75	79	102	1438	2.9	23.1	3.3	1.7	1	10.1	5	1
Cape Talbot - Cape Londonderry (A)	35	4	-	16.71	44.75	-	63	144	0.5	5.2	1.7	1	-	5	1	-	19	-	-	24.79	-	-	64	80	0.2	4.1	1.6	-	-	5	-	-
Cape Talbot - Cape Londonderry (B)	6	-	-	53.5	-	-	58	66	< 0.1	1.6	1.3	-	-	2	-	-	4	-	-	35.17	-	-	63	73	< 0.1	0.9	1	-	-	1	-	-
Low Island Point - Anjo (A)	44	17	-	21.71	26.29	-	79	309	1.1	15.3	2.6	1.5	-	8	4	-	30	10	-	26.04	27.5	-	75	376	0.6	10.8	2.2	1.2	-	6	3	-
Low Island Point - Anjo (B)	28	4	-	23.83	37.38	-	69	143	0.4	3.9	1.6	1	-	5	1	-	19	2	-	26.92	28.54	-	70	223	0.2	4.6	1.2	1	-	3	1	-

Shoreline sector	Unmitigated																			Mitigated											
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Cape Bougainville - Low Island Point (A)	39	7	-	26.67	30.92	-	76	445	0.9	19.2	1.9	2.9	-	10.1	6	-	16	3	-	23.67	30.83	-	69	198	0.3	9.6	2.1	2	-	8	4	-
Cape Bougainville - Low Island Point (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
Cape Bougainville - Low Island Point (C)	24	4	-	31	48.5	-	69	253	0.4	6.4	1.8	1.3	-	5	2	-	15	2	-	36.08	37.04	-	68	139	0.2	2.9	1.9	1	-	4	1	-
Cape Bougainville - Low Island Point (D)	61	16	-	23.33	30.17	-	75	694	1.5	24.3	2.3	1.4	-	8	5	-	37	13	-	30.54	30.92	-	74	333	0.8	11.4	2.4	1.5	-	7	3	-
Crystal Head - Cape Bougainville	12	2	-	52.21	68.17	-	62	153	0.1	3.1	1.5	1.5	-	3	2	-	5	1	-	49.33	66.58	-	65	109	< 0.1	1.3	1.2	1	-	2	1	-
Davidsons Point - Crystal Head (A)	3	-	-	74.83	-	-	58	89	< 0.1	1.1	1	-	-	1	-	-	1	-	-	75.54	-	-	48	48	< 0.1	0.6	1	-	-	1	-	-
Davidsons Point - Crystal Head (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davidsons Point - Crystal Head (C)	13	1	-	39.92	44.88	-	60	134	0.2	3.2	1.7	1	-	4	1	-	12	-	-	47	-	-	55	65	< 0.1	1.3	1.2	-	-	2	-	-
Davidsons Point - Crystal Head (D)	47	21	2	28.54	33.75	42.54	100	1983	2	50.4	2.5	1.8	1	11.1	8	1	37	13	1	31.67	34.88	46.04	95	1488	1.1	33.8	1.9	1.5	1	9	5	1
Swift Bay - Davidsons Point (A)	8	3	-	48.33	51.83	-	69	119	0.1	4.4	1.6	1.7	-	4	3	-	1	-	-	46.42	-	-	65	65	< 0.1	0.8	1	-	-	1	-	-
Swift Bay - Davidsons Point (B)	7	3	-	46.42	47.79	-	75	169	< 0.1	2.6	1.6	1	-	2	1	-	2	-	-	52.29	-	-	52	60	< 0.1	1.1	1.5	-	-	2	-	-
Augereau Island - Combe Hill Point (A)	15	2	-	35.38	39.08	-	70	416	0.6	24.2	2.7	7	-	13.1	9	-	12	3	-	34.46	41.67	-	67	358	0.3	14.3	2.8	3	-	10.1	5	-
Augereau Island - Combe Hill Point (B)	4	1	-	43.92	50.46	-	95	173	< 0.1	2.1	1.3	1	-	2	1	-	3	-	-	45.08	-	-	57	65	< 0.1	0.8	1	-	-	1	-	-
Augereau Island - Combe Hill Point (C)	2	-	-	44.46	-	-	53	64	< 0.1	1.4	1.5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cape Wellington - Cape Torrens (A)	3	1	-	49.96	61.92	-	63	113	< 0.1	2	1.3	1	-	2	1	-	2	-	-	65.71	-	-	48	53	< 0.1	0.7	1	-	-	1	-	-

Shoreline sector	Unmitigated																Mitigated														
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Cape Wellington - Cape Torrens (B)																	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Battery Point - High Bluff (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Raft Point - Un-named Promontory (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nares Point - Un-named Peninsular (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Packer Island - Swan Island (A)	1	-	-	88.83	-	-	41	41	< 0.1	0.5	1	-	-	1	-	-	1	-	-	97.54	-	-	38	38	< 0.1	0.5	1	-	-	1	-	-
Davidsons Point - Cape Bougainville (A)	50	34	-	22.21	28.04	-	201	878	1.2	10.8	1	1	-	1	1	-	37	18	-	19.46	28.21	-	136	680	0.6	8.4	1	1	-	1	1	-
Davidsons Point - Cape Bougainville (C)	64	44	2	21.33	27.08	66.83	191	1450	3.7	46.7	2.2	1.9	1.5	3	3	2	58	35	3	24.13	25.42	66.25	159	1488	2.7	39.2	2	1.8	1.3	3	3	2
Davidsons Point - Cape Bougainville (D)	60	37	1	24.29	24.38	79	132	1164	2.6	36.4	2.3	1.9	2	4	3	2	47	26	-	24.71	32.71	-	112	935	1.6	30.7	2.1	1.4	-	4	4	-
Augereau Island - Combe Hill Point (D)	43	25	2	28.21	35.08	41	96	1580	2.3	55.8	3.5	2.4	1	12.1	11.1	1	36	18	-	31.04	32.5	-	86	598	1.4	29.5	3	2.4	-	11.1	10.1	-
Augereau Island - Davidsons Point	35	13	-	31.08	32.54	-	81	550	1.3	27.8	2.9	3.2	-	13.1	11.1	-	27	6	-	31.58	34	-	77	644	1.1	30.1	2.8	4.2	-	13.1	10.1	-
Cape Wellington - Cape Torrens (C)	5	2	-	45.96	59.71	-	63	172	0.1	4.8	2.6	1	-	5	1	-	4	-	-	54.58	-	-	57	62	< 0.1	3.6	2.3	-	-	5	-	-
Battery Point - High Bluff (C)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	68.54	-	-	52	52	< 0.1	0.6	1	-	-	1	-	-
Marnebulorgne Community N Point - Battery Point (A)	1	-	-	96.17	-	-	38	38	< 0.1	0.5	1	-	-	1	-	-																
Marnebulorgne Community N Point - Battery Point (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Point Usborne - Marnebulorgne	2	2	-	69.29	70.08	-	231	461	0.1	7.6	2.5	1.5	-	3	2	-	3	1	-	67	71.42	-	66	157	< 0.1	3.2	2.3	1	-	3	1	-

Shoreline sector	Unmitigated																Mitigated														
	Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)			Maximum probability of shoreline loading (%)			Minimum time before shoreline accumulation (days)			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline contacted (km)			Maximum length of shoreline contacted (km)		
	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Low	Mod.	High	Mean	Peak	Mean	Peak	Low	Mod.	High	Low	Mod.	High
Community N Point																															
Point Usborne - Nares Point (A)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Point Usborne - Nares Point (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	87.5	-	-	42	42	< 0.1	0.5	1	-	-	1	-	-
Marnebulorgne Community N Point - Augereau Island (B)	22	11	-	37.04	37.92	-	114	444	0.8	14.3	2.1	2.6	-	4	4	-	16	3	-	44.08	52.88	-	72	251	0.3	8.2	1.7	3.4	-	4	4	-
Augereau Island - Cape Londonderry	2	-	-	56.54	-	-	54	57	< 0.1	0.7	1	-	-	1	-	-	3	-	-	82.96	-	-	44	46	< 0.1	0.6	1	-	-	1	-	-
Ashmore Reef	6	-	-	63.79	-	-	43	53	< 0.1	3	2.7	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Seringapatam Reef	6	-	-	74.75	-	-	55	99	< 0.1	2.5	1.8	-	-	4	-	-	3	-	-	87.58	-	-	42	44	< 0.1	0.5	1	-	-	1	-	-
Red Bluff - Chimney Rocks (B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

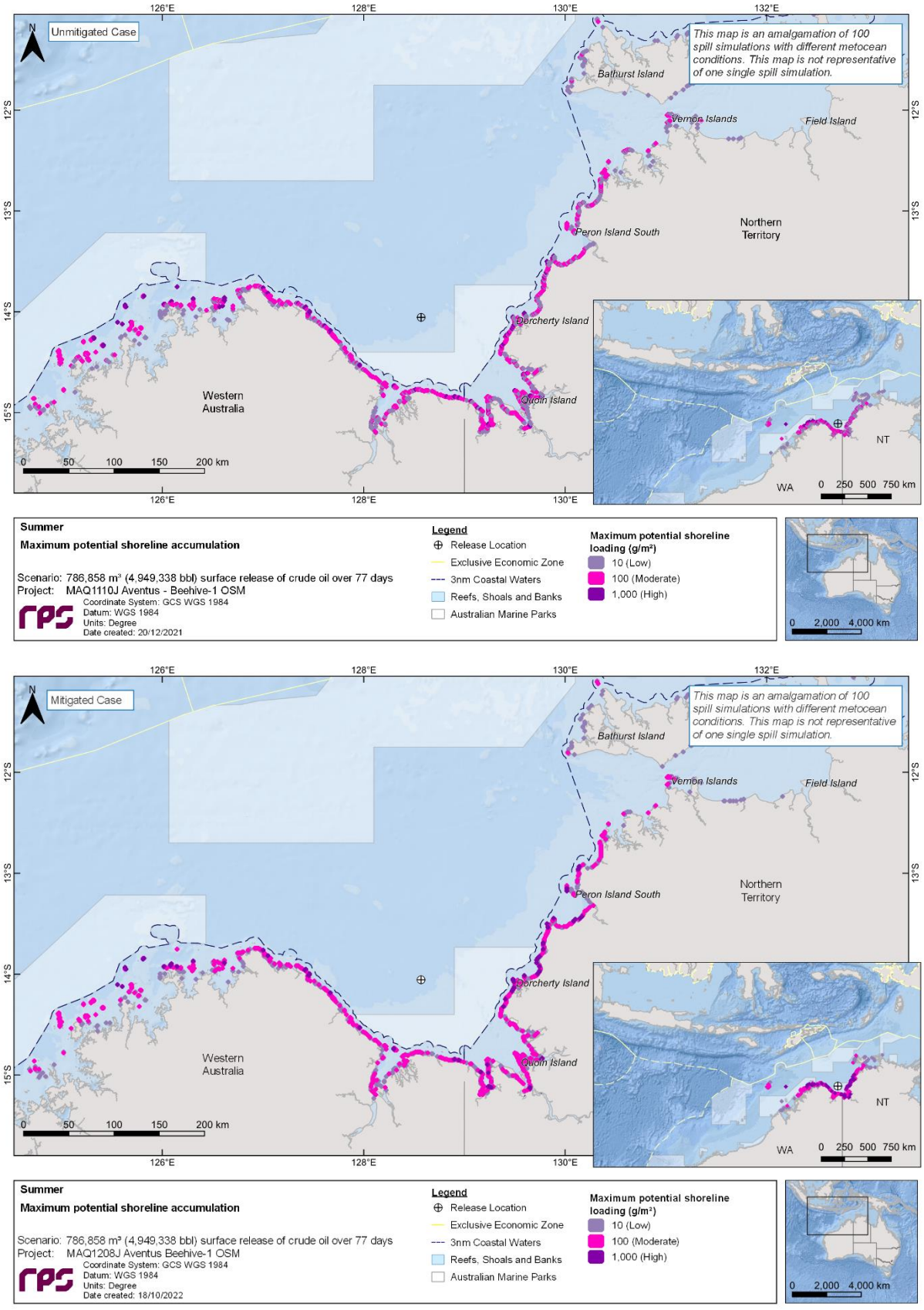


Figure 10.10 Maximum potential shoreline loading for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days during summer conditions. The results were calculated from 100 spill trajectories.

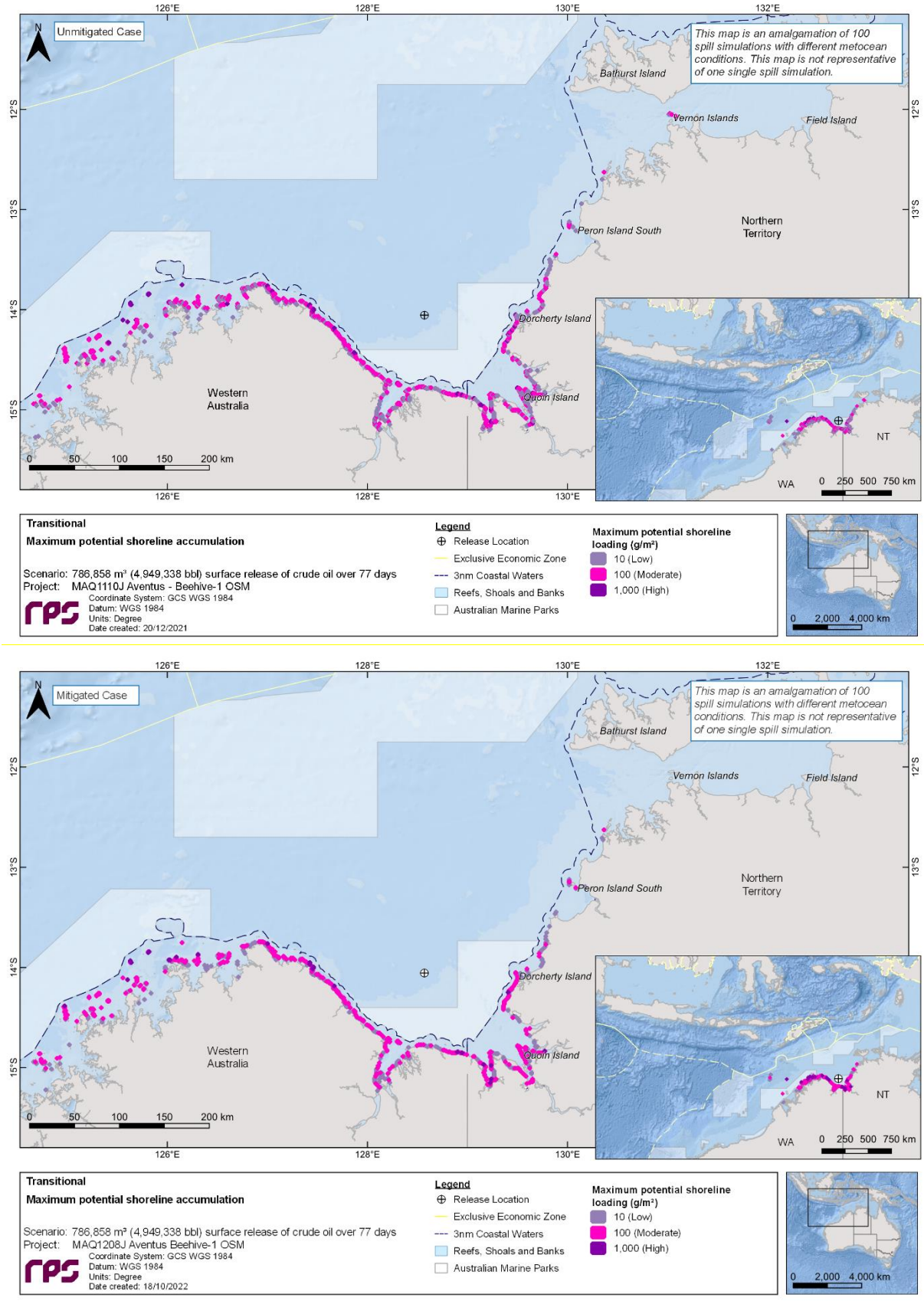


Figure 10.11 Maximum potential shoreline loading for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days during transitional conditions. The results were calculated from 100 spill trajectories.

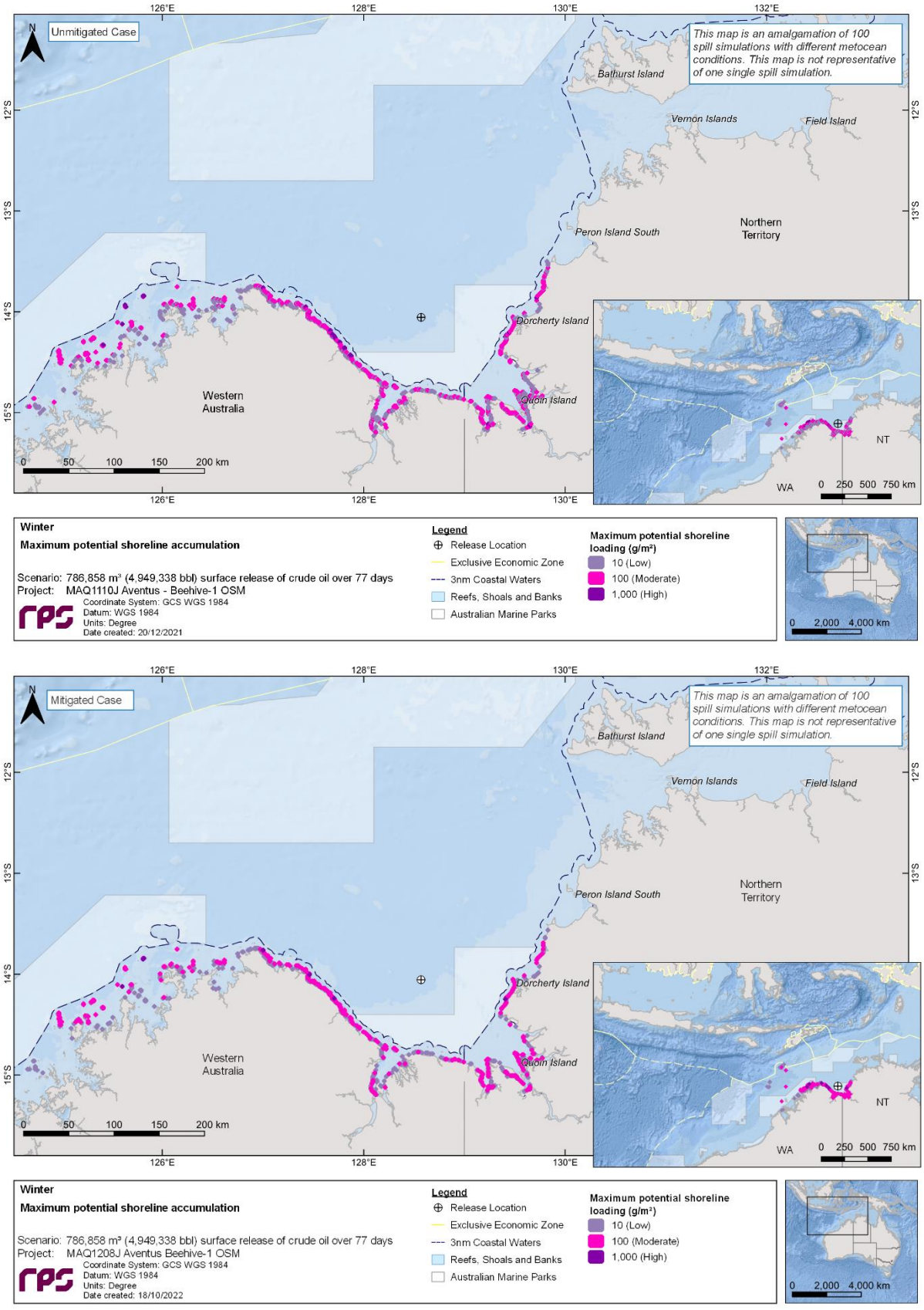


Figure 10.12 Maximum potential shoreline loading for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days during winter conditions. The results were calculated from 100 spill trajectories.

10.1.3 In-water exposure

10.1.3.1 Dissolved Hydrocarbons

Figure 10.13 to Figure 10.15 present sorted bar plots of the predicted area of the low, moderate and high zones of dissolved hydrocarbon exposure for the unmitigated and mitigated cases from 100 spill trajectories per season and case.

Table 10.9 to Table 10.11 summarises the probability of exposure to individual receptors from dissolved hydrocarbons in the 0-10 m depth layer during seasonal conditions for the unmitigated and mitigated cases.

For the unmitigated case, in the surface (0-10 m) depth layer, low, moderate and high exposure to dissolved hydrocarbons was recorded for a range of receptors. The highest dissolved hydrocarbon concentrations were predicted for the Joseph Bonaparte Gulf AMP and the Carbonate bank and terrace system of the Sahul Shelf KEF, followed by the North Kimberley MP and Kimberley AMP during all seasonal conditions. In addition, the nearshore waters of the Thamarrurr, Wyndham-East Kimberley, Dorcherty Island, Clump Island, Quoin Island, Daly, Victoria Daly shorelines and Ord River floodplain (Ramsar) were some of the receptors with the highest entrained hydrocarbons concentrations for all seasonal conditions.

Additionally, for the mitigated case for the surface depth layer the highest dissolved hydrocarbon concentrations were predicted for the Joseph Bonaparte Gulf and Kimberly AMPs, the Carbonate bank and terrace system of the Sahul Shelf KEF, the North Kimberley MP, and the East Cape Domett - WA-NT Border (C), Bare Hill - East Cape Domett (E), Cape Rulhieres - Cape Bernier, Un-named Head - Cape Rulhieres (B) and Un-named Head - Cape Rulhieres (C) Nearshore Waters (DoT Shoreline Cells) during the seasonal conditions. Additionally, Thamarrurr, Wyndham-East Kimberley, Dorcherty Island, Clump Island, Quoin Island, Daly, Victoria Daly shorelines and were some of the receptors with elevated entrained hydrocarbons concentrations for all seasonal conditions, coinciding with the same predicted receptors for the unmitigated case.

Figure 10.16 to Figure 10.18 presents the zones of potential dissolved hydrocarbon exposure in the 0-10 m depth layer for the low, moderate and high exposure levels for each season and case.

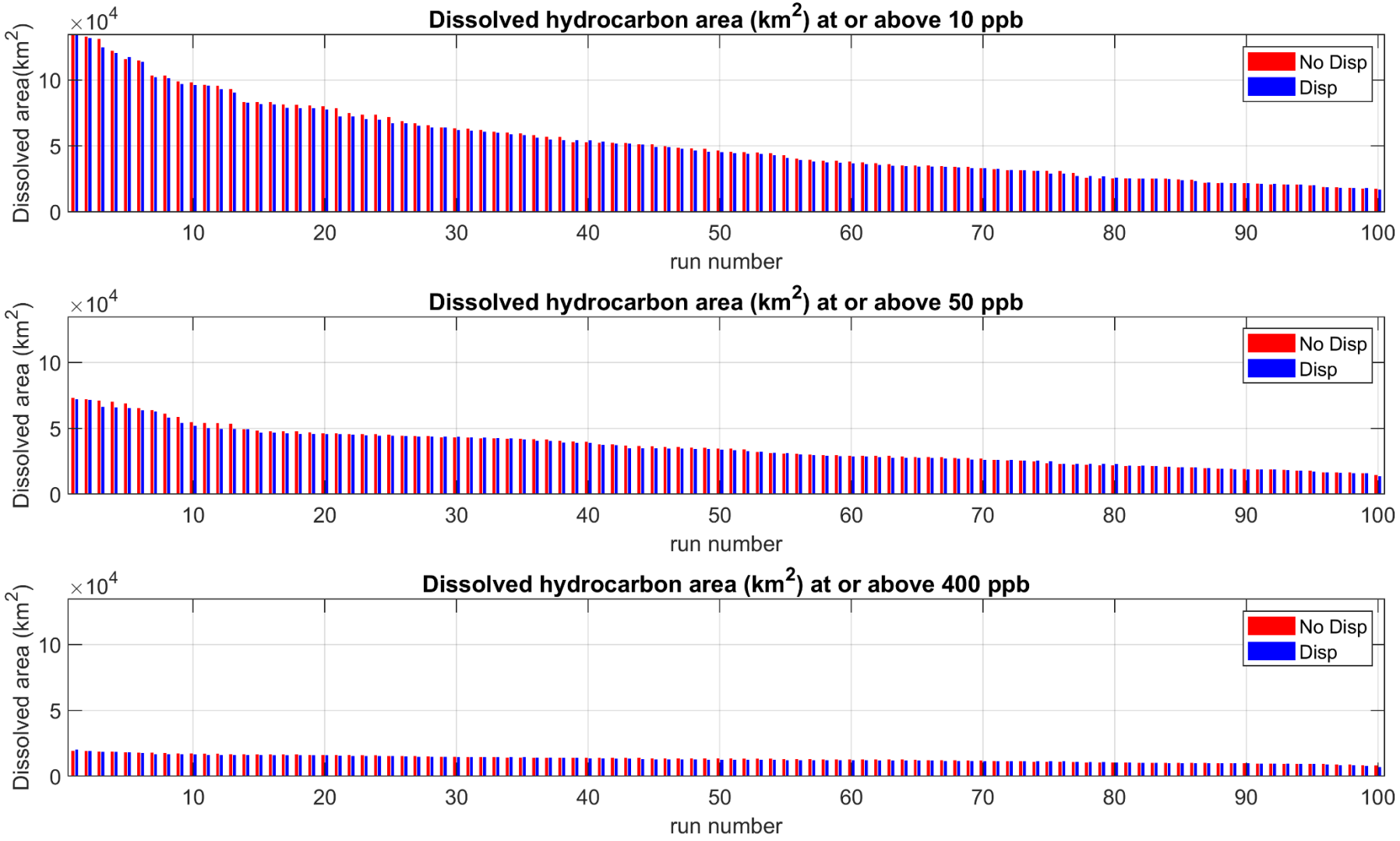


Figure 10.13 Sorted bar plots of the predicted area of the low, moderate and high zones of dissolved hydrocarbon exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m³ of crude oil over 77 days, tracked for 98 days during summer conditions. The results from 100 spill trajectories are presented.

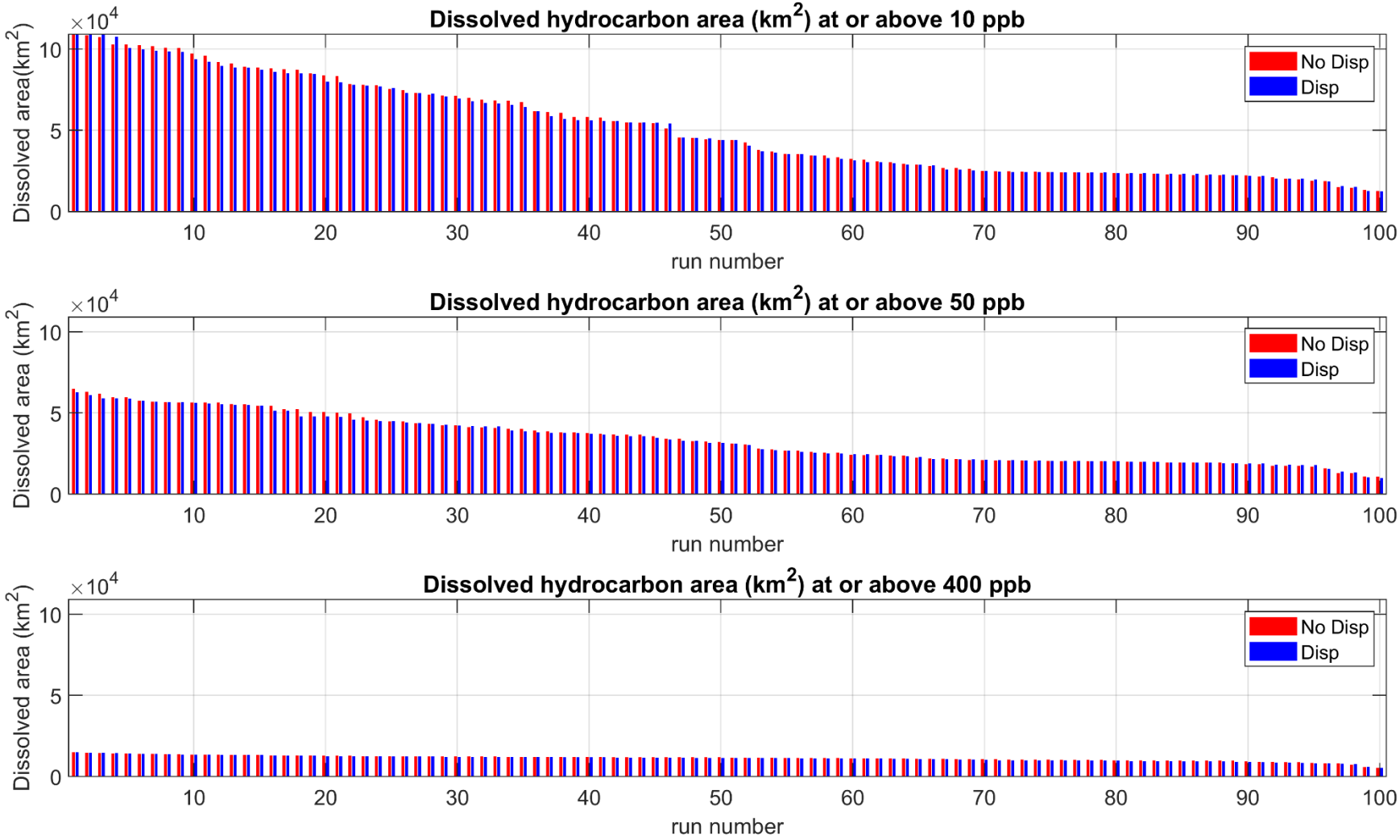


Figure 10.14 Sorted bar plots of the predicted area of the low, moderate and high zones of dissolved hydrocarbon exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m³ of crude oil over 77 days, tracked for 98 days during transitional conditions. The results from 100 spill trajectories are presented.

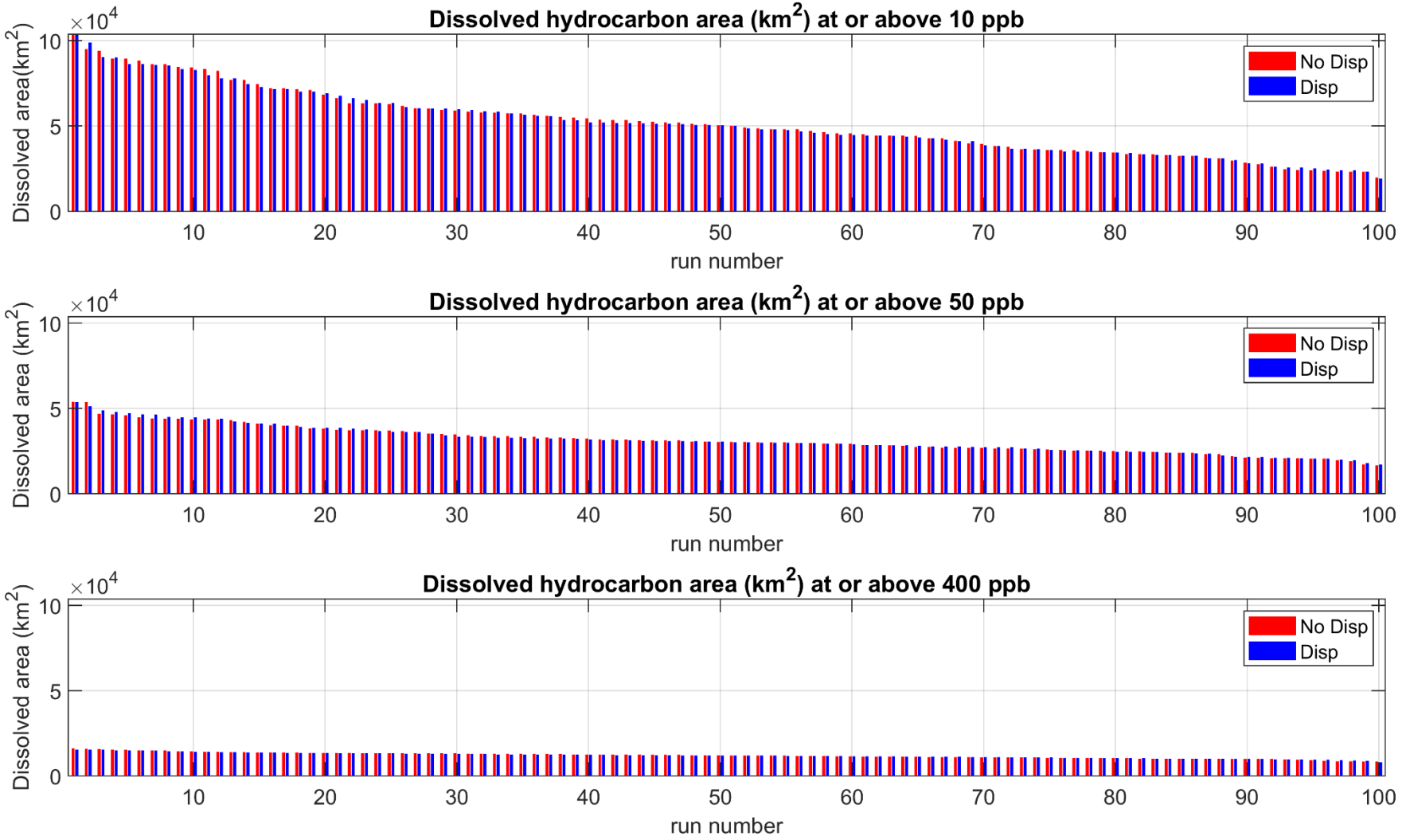


Figure 10.15 Sorted bar plots of the predicted area of the low, moderate and high zones of dissolved hydrocarbon exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during winter conditions. The results from 100 spill trajectories are presented.

Table 10.9 Probability of exposure to individual receptors from dissolved hydrocarbons in the 0–10 m depth layer, for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days during summer conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
AMP	Arafura	19	1	-	-	21	2	-	-
	Argo-Rowley Terrace	59	3	1	-	42	3	-	-
	Joseph Bonaparte Gulf	9,955	100	97	89	11,607	100	98	92
	Kimberley	5,086	49	47	24	4,041	49	45	22
	Oceanic Shoals	570	15	12	1	841	18	12	1
EEZ	Indonesian Exclusive Economic Zone	32	1	-	-	15	1	-	-
KEF	Ancient coastline at 125 m depth contour	679	24	16	1	823	23	13	2
	Carbonate bank and terrace system of the Sahul Shelf	5,161	92	85	63	8,061	87	81	57
	Carbonate bank and terrace system of the Van Diemen Rise	231	14	6	-	229	14	5	-
	Continental Slope Demersal Fish Communities	484	21	8	1	596	19	8	1
	Pinnacles of the Bonaparte Basin	524	8	8	1	296	8	7	-
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	107	3	2	-	94	3	1	-
MP	Garig Gunak Barlu	24	1	-	-	23	1	-	-
	Lalang-garram / Camden Sound	89	6	1	-	69	5	1	-
	North Kimberley	4,874	68	55	33	4,424	68	55	33
	North Lalang-garram	353	9	6	-	186	9	4	-
NR	Scott Reef	107	3	1	-	49	3	-	-
Ramsar	Cobourg Peninsula	13	1	-	-	14	1	-	-
	Ord River Floodplain	774	33	18	1	757	28	15	2
RSB	Abbott Shoal	73	4	1	-	72	4	3	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Afghan Shoal	85	10	1	-	93	9	2	-
	Albert Reef	144	6	6	-	62	5	2	-
	Ann Shoals	10	1	-	-	14	1	-	-
	Baldwin Bank	418	26	15	1	551	25	14	1
	Barbara Shoal	61	2	1	-	32	3	-	-
	Barcoo Shoal	10	-	-	-	14	2	-	-
	Bass Reef	1,109	15	10	4	774	14	12	4
	Bassett-Smith Shoal	491	29	18	1	899	28	18	2
	Beagle Shoals	129	5	2	-	88	5	3	-
	Beagle and Dingo Reefs	141	7	4	-	62	6	2	-
	Bill Shoal	225	6	4	-	156	6	4	-
	Branch Banks	1,947	45	40	20	2,037	44	38	15
	Brue Reef	21	3	-	-	30	2	-	-
	Calder Shoal	26	2	-	-	12	1	-	-
	Christine Reef	7	-	-	-	13	1	-	-
	Churchill Reef	101	6	1	-	72	5	1	-
	Cootamundra Shoal	14	2	-	-	9	-	-	-
	Deep Shoal 1	90	4	4	-	163	4	3	-
	Deep Shoal 2	72	4	1	-	81	4	2	-
	Draytons Reef	752	6	5	2	543	5	5	1
	East Holothuria Reef	1,979	43	38	16	1,985	41	36	12
	Echuca Shoal	564	24	15	1	392	21	12	-
	Elizabeth Reef	693	6	5	2	590	6	5	2
	Elphinstone Reef	12	2	-	-	11	1	-	-
	Emu Reefs	2,932	77	74	35	2,938	79	74	38

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Eugene McDermott Shoal	109	6	1	-	41	7	-	-
	Favell Bank	247	14	9	-	545	14	11	1
	Fish Reef	1,458	16	10	5	1,219	14	12	4
	Fitzpatrick Shoal	15	1	-	-	9	-	-	-
	Flat Top Bank	161	14	4	-	212	15	3	-
	Foelsche Bank	567	18	6	2	391	15	6	-
	Gale Bank	152	14	7	-	281	13	7	-
	Giles Shoal	14	1	-	-	15	1	-	-
	Goodrich Bank	64	3	1	-	35	3	-	-
	Hancox Shoal	392	15	5	-	379	14	6	-
	Harris Reef	429	13	4	1	151	14	5	-
	Heritage Reef	707	27	22	3	735	26	21	1
	Heywood Shoal	74	9	1	-	73	7	1	-
	Hinkler Patches	13	2	-	-	22	2	-	-
	Holothuria Banks	3,206	46	40	19	2,813	44	38	18
	Howland Shoals	2,331	75	72	27	1,571	77	72	22
	Hunt Patch	146	6	3	-	112	5	4	-
	Ingram Reef	638	28	22	2	624	27	22	1
	Jamieson Reef	927	31	25	5	675	31	23	2
	Jones Bank	1,020	12	9	4	684	13	11	4
	Kelleway Reef	467	9	6	3	582	12	6	3
	Knight Reef	719	12	5	1	397	11	5	-
	Long Reef	1,863	42	33	19	2,094	41	33	13
	Lowry Shoal	98	13	3	-	74	14	2	-
	Lyne Reef	533	14	6	2	449	15	6	1

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Marie Shoal	54	3	1	-	49	3	-	-
	Marsh Shoal	504	16	7	3	338	15	6	-
	Mataram Shoal	13	1	-	-	18	1	-	-
	Mavis Reef	108	7	6	-	86	6	2	-
	Mermaid Shoal	136	3	3	-	98	3	2	-
	Middle Reef	1,434	12	8	5	1,130	12	8	3
	Moira Reef	343	12	8	-	497	12	9	1
	Money Shoal	9	-	-	-	14	1	-	-
	Moresby Shoals	63	11	1	-	60	12	1	-
	Moss Shoal	51	3	1	-	28	4	-	-
	Newby Shoal	73	5	2	-	176	4	2	-
	Oliver Reef	380	16	5	-	261	13	6	-
	Oliver Rock	846	34	27	9	727	34	28	6
	Ommaney Shoals	12	1	-	-	21	2	-	-
	Osborn Reefs	46	7	-	-	41	4	-	-
	Otway Bank	1,577	43	38	17	1,612	42	36	14
	Parry Shoal	66	4	2	-	61	5	1	-
	Parsons Bank	17	3	-	-	22	4	-	-
	Penguin Shoal	703	31	24	3	1,125	27	23	4
	Rainbow Shoals	16	2	-	-	23	1	-	-
	Renard Shoals	84	1	1	-	41	2	-	-
	Robroy Reefs	561	24	21	3	440	24	18	2
	Rothery Reef	1,323	41	33	11	1,237	40	32	10
	Shepparton Shoal	218	15	9	-	366	16	6	-
	Skottowe Shoal	219	16	6	-	125	15	5	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Tait Bank	2,150	42	36	14	1,669	41	36	15
	Taiyun Shoal	147	8	4	-	149	7	4	-
	Taylor Patches	604	6	4	1	386	6	5	-
	The Boxers	13	1	-	-	20	1	-	-
	Tregenna Reef	297	10	4	-	226	10	5	-
	Van Cloon Shoal	196	15	8	-	330	14	10	-
	Victoria Shoal	13	1	-	-	10	1	-	-
	Wells Shoal	17	2	-	-	14	1	-	-
	West Holothuria Reef	871	32	29	3	513	31	24	2
	Wildcat Reefs	19	5	-	-	25	4	-	-
Nearshore Waters	Adele Island	82	6	1	-	47	5	-	-
	Bathurst Island	88	6	2	-	97	5	3	-
	Browse Island	532	20	11	1	233	18	7	-
	Burford Island	15	1	-	-	9	-	-	-
	Clump Island	2,404	54	43	18	1,683	56	45	18
	Cox-Finniss	1,025	38	20	5	1,137	39	18	3
	Daly	1,186	57	43	5	1,007	59	41	3
	Darwin	497	12	5	1	318	10	5	-
	Dorcherty Island	1,916	74	64	30	2,367	73	67	33
	Greenhill Island	8	-	-	-	14	1	-	-
	Litchfield	685	13	6	2	437	13	6	1
	Melville Island	124	7	2	-	69	8	1	-
	Morse Island	4	-	-	-	14	1	-	-
	Peron Island North	769	41	33	4	997	41	36	3
	Peron Island South	338	38	16	-	488	39	18	2

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Quoin Island	2,806	56	42	16	1,950	60	44	16
	Sandy Islet	73	3	1	-	38	3	-	-
	Scott Reef North	72	3	2	-	50	3	-	-
	Scott Reef South	107	3	1	-	91	3	1	-
	South Alligator	543	6	5	2	663	7	5	2
	Thamarrurr	2,327	74	63	34	2,866	72	64	27
	Turtle Point	1,226	61	50	10	2,392	65	49	9
	Vernon Islands	844	16	6	3	537	14	6	2
	Victoria Daly	2,472	59	49	19	1,915	65	49	16
	West Arnhem	18	1	-	-	10	-	-	-
	Whale Flat	1,003	58	48	8	1,239	57	49	8
	Wyndham - East Kimberley	4,819	61	49	27	3,450	58	48	26
State Waters	Northern Territory Sate Waters	4,113	79	72	38	4,629	80	73	38
	Western Australia State Waters	4,874	68	55	33	4,424	66	54	33
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	1,992	55	35	6	1,737	47	32	7
	East Cape Domett - WA-NT Border (B)	1,576	53	37	8	1,466	49	35	8
	East Cape Domett - WA-NT Border (C)	1,891	65	46	14	2,039	54	42	14
	Bare Hill - East Cape Domett (A)	218	17	8	-	260	16	5	-
	Bare Hill - East Cape Domett (B)	529	16	9	1	468	17	7	1
	Bare Hill - East Cape Domett (E)	2,736	66	52	17	2,671	64	47	18
	Aunty Islet - Thurburn Bluff	1,983	65	43	10	2,420	65	48	12
	Cape Bernier - Elsie Island N	2,517	68	57	31	4,052	70	60	29
	Cape Rulhieres - Cape Bernier	2,892	63	57	32	4,083	63	60	30
	Un-named Head - Cape Rulhieres (A)	2,879	59	55	36	4,965	57	53	32
	Un-named Head - Cape Rulhieres (B)	3,614	58	52	30	4,424	56	50	29

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Un-named Head - Cape Rulhieres (C)	4,874	55	51	30	3,551	53	49	32
	Cape Talbot - Cape Londonderry (A)	4,464	51	45	23	3,546	50	47	24
	Cape Talbot - Cape Londonderry (B)	2,754	44	38	14	1,761	44	34	11
	Low Island Point - Anjo (A)	2,700	38	30	10	1,674	37	29	7
	Low Island Point - Anjo (B)	1,910	38	30	8	1,835	40	31	8
	Cape Bougainville - Low Island Point (A)	1,104	37	29	4	2,175	37	31	4
	Cape Bougainville - Low Island Point (B)	96	20	4	-	369	19	6	-
	Cape Bougainville - Low Island Point (C)	1,509	39	34	12	1,722	39	34	14
	Cape Bougainville - Low Island Point (D)	2,017	39	33	17	1,805	38	34	13
	Crystal Head - Cape Bougainville	861	28	18	2	763	25	18	3
	Davidsons Point - Crystal Head (A)	124	7	2	-	66	4	1	-
	Davidsons Point - Crystal Head (B)	137	8	3	-	245	6	2	-
	Davidsons Point - Crystal Head (C)	503	24	17	1	789	23	18	2
	Davidsons Point - Crystal Head (D)	1,880	32	25	11	1,731	31	23	9
	Swift Bay - Davidsons Point (A)	1,741	32	21	8	1,162	29	21	8
	Swift Bay - Davidsons Point (B)	315	16	10	-	446	13	10	1
	Augereau Island - Combe Hill Point (A)	620	20	16	2	861	20	16	2
	Augereau Island - Combe Hill Point (B)	422	18	13	1	364	17	12	-
	Augereau Island - Combe Hill Point (C)	297	16	10	-	375	15	12	-
	Cape Torrens - Anderdon Islands Point	62	2	1	-	111	3	2	-
	Cape Wellington - Cape Torrens (A)	176	11	2	-	153	10	2	-
	Cape Wellington - Cape Torrens (B)	49	7	-	-	51	5	1	-
	High Bluff - Cape Wellington (B)	37	5	-	-	23	2	-	-
	Low Island Point - Anjo (C)	2,545	47	38	16	2,890	45	40	16
	Davidsons Point - Cape Bougainville (A)	2,245	45	39	20	2,157	44	39	19

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Davidsons Point - Cape Bougainville (B)	1,979	41	38	17	2,468	42	36	14
	Davidsons Point - Cape Bougainville (C)	2,172	43	34	19	2,517	41	34	13
	Davidsons Point - Cape Bougainville (D)	2,243	40	32	17	2,511	39	32	12
	Augereau Island - Combe Hill Point (D)	1,413	27	22	8	1,068	27	21	7
	Augereau Island - Davidsons Point	2,399	24	22	7	915	24	20	6
	Cape Wellington - Cape Torrens (C)	727	13	8	1	346	12	8	-
	Cape Wellington - Cape Torrens (D)	462	11	8	1	429	10	7	1
	Battery Point - High Bluff (B)	353	8	6	-	158	9	4	-
	Battery Point - Cape Wellington	100	10	2	-	117	9	3	-
	Battery Point - High Bluff (C)	76	4	1	-	27	2	-	-
	Marnebulorgne Community N Point - Battery Point (A)	31	4	-	-	53	3	1	-
	Marnebulorgne Community N Point - Battery Point (B)	31	4	-	-	52	3	1	-
	Marnebulorgne Community N Point - Augereau Island (A)	147	7	6	-	109	6	3	-
	Point Usborne - Marnebulorgne Community N Point	97	6	2	-	74	5	1	-
	Marnebulorgne Community N Point - Augereau Island (B)	558	22	13	1	311	21	9	-
	Ashmore Reef	72	3	2	-	56	3	1	-
	Seringapatam Reef	107	3	2	-	91	3	1	-

Table 10.10 Probability of exposure to individual receptors from dissolved hydrocarbons in the 0–10 m depth layer, for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days during transitional conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
AMP	Argo-Rowley Terrace	297	7	5	-	192	7	3	-
	Joseph Bonaparte Gulf	8,712	90	79	66	10,453	89	80	67
	Kimberley	3,271	62	58	20	3,840	62	57	21
	Mermaid Reef	195	3	2	-	76	2	1	-
	Oceanic Shoals	34	3	-	-	71	3	1	-
EEZ	Indonesian Exclusive Economic Zone	103	7	2	-	114	7	2	-
KEF	Ancient coastline at 125 m depth contour	1,479	45	29	2	979	45	27	2
	Carbonate bank and terrace system of the Sahul Shelf	7,293	89	86	79	8,448	90	86	79
	Continental Slope Demersal Fish Communities	562	28	16	1	456	26	14	1
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	195	3	2	-	124	2	1	-
	Pinnacles of the Bonaparte Basin	335	7	5	-	368	8	5	-
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	18	1	-	-	15	1	-	-
MP	Lalang-garram / Camden Sound	127	9	2	-	150	8	2	-
	North Kimberley	6,842	85	78	44	5,529	85	78	44
	North Lalang-garram	260	18	8	-	268	19	8	-
	Rowley Shoals	23	3	-	-	88	1	1	-
Ramsar	Ord Floodplain	1,000	36	25	5	671	35	26	3
RSB	Albert Reef	198	6	4	-	212	7	5	-
	Baldwin Bank	188	10	4	-	206	13	5	-
	Barcoo Shoal	37	4	-	-	35	6	-	-
	Bass Reef	809	2	2	1	326	2	2	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Bassett-Smith Shoal	877	34	23	6	769	32	24	5
	Beagle and Dingo Reefs	325	11	4	-	116	9	3	-
	Branch Banks	2,766	60	57	16	1,645	60	55	16
	Brue Reef	54	4	1	-	65	4	1	-
	Churchill Reef	205	6	4	-	224	8	4	-
	Clerke Reef	23	3	-	-	49	1	-	-
	East Holothuria Reef	1,882	61	56	15	2,450	59	55	17
	Echuca Shoal	523	36	23	1	620	35	22	2
	Emu Reefs	1,237	26	24	6	1,498	25	17	7
	Eugene McDermott Shoal	18	3	-	-	26	1	-	-
	Favell Bank	15	2	-	-	70	3	1	-
	Fish Reef	669	2	2	1	711	2	2	1
	Flat Top Bank	62	1	1	-	16	1	-	-
	Foelsche Bank	111	1	1	-	186	1	1	-
	Hancox Shoal	52	1	1	-	56	1	1	-
	Harris Reef	32	1	-	-	16	1	-	-
	Heritage Reef	532	55	39	2	778	55	40	4
	Heywood Shoal	69	13	4	-	107	11	1	-
	Holothuria Banks	2,993	60	57	18	2,952	60	55	17
	Howland Shoals	1,306	39	30	9	1,940	37	31	10
	Imperieuse Reef	15	1	-	-	4	-	-	-
	Ingram Reef	769	56	48	4	794	56	48	4
	Jamieson Reef	785	57	51	7	837	57	51	6
	Jones Bank	538	2	2	1	303	2	1	-
	Kelleway Reef	117	2	2	-	196	1	1	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Knight Reef	88	1	1	-	16	1	-	-
	Long Reef	1,337	59	54	16	1,949	59	52	17
	Lowry Shoal	14	1	-	-	22	1	-	-
	Lyne Reef	90	1	1	-	54	1	1	-
	Marsh Shoal	86	1	1	-	120	1	1	-
	Mavis Reef	146	9	3	-	99	10	2	-
	Mermaid Reef	73	3	2	-	60	1	1	-
	Middle Reef	309	2	1	-	469	2	2	1
	Moira Reef	131	1	1	-	157	2	1	-
	Moresby Shoals	4	-	-	-	18	1	-	-
	Oliver Reef	43	1	-	-	48	1	-	-
	Oliver Rock	784	57	52	10	909	57	51	12
	Osborn Reefs	65	11	1	-	43	10	-	-
	Otway Bank	1,758	60	57	16	1,212	59	56	16
	Penguin Shoal	809	22	18	4	724	20	14	4
	Rainbow Shoals	17	3	-	-	16	6	-	-
	Robroy Reefs	415	46	32	1	458	49	32	1
	Rothery Reef	1,307	59	55	19	1,297	59	57	15
	Skottowe Shoal	74	1	1	-	67	1	1	-
	Tait Bank	1,436	58	47	12	1,136	60	51	16
	Tregenna Reef	24	1	-	-	4	-	-	-
	Van Cloon Shoal	25	1	-	-	14	2	-	-
	West Holothuria Reef	804	57	39	5	706	55	41	4
	Wildcat Reefs	25	4	-	-	24	4	-	-
	Adele Island	159	6	4	-	136	7	2	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
Nearshore Waters	Browse Island	305	30	13	-	315	31	14	-
	Clerke Reef	17	3	-	-	49	1	-	-
	Clump Island	2,122	46	42	17	1,840	46	42	17
	Cox-Finniss	727	2	2	1	375	2	2	-
	Cunningham Island	10	1	-	-	3	-	-	-
	Daly	359	16	9	-	138	14	8	-
	Darwin	45	1	-	-	22	1	-	-
	Dorcherty Island	2,443	40	33	23	3,147	37	31	22
	Imperieuse Reef	11	1	-	-	4	-	-	-
	Litchfield	81	1	1	-	77	1	1	-
	Mermaid Reef	73	3	2	-	38	1	-	-
	Peron Island North	205	2	1	-	54	2	1	-
	Peron Island South	35	2	-	-	9	-	-	-
	Quoin Island	1,598	47	41	16	1,797	47	43	16
	Scott Reef North	9	-	-	-	10	1	-	-
	Scott Reef South	14	1	-	-	9	-	-	-
	Thamarrurr	2,934	48	46	28	2,330	51	45	27
	Turtle Point	1,115	45	39	8	1,159	45	39	7
	Vernon Islands	123	1	1	-	85	1	1	-
	Victoria Daly	2,274	46	39	18	1,978	46	40	16
	Whale Flat	2,181	46	39	11	1,106	46	37	8
	Wyndham - East Kimberley	3,767	79	68	40	4,328	81	72	41
State Waters	Northern Territory Sate Waters	3,694	58	53	31	3,765	61	54	29
	Western Australia State Waters	6,842	85	78	44	5,529	85	78	44
	East Cape Domett - WA-NT Border (A)	1,850	44	35	13	2,030	42	34	14

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (B)	2,098	37	33	15	2,561	40	33	15
	East Cape Domett - WA-NT Border (C)	5,447	44	40	23	4,603	44	39	22
	Bare Hill - East Cape Domett (A)	366	29	16	-	290	30	13	-
	Bare Hill - East Cape Domett (B)	464	30	18	1	542	31	16	1
	Bare Hill - East Cape Domett (E)	4,499	53	40	25	4,427	57	42	25
	Aunty Islet - Thurburn Bluff	4,374	73	60	22	2,347	67	58	21
	Cape Bernier - Elsie Island N	2,861	84	81	42	4,103	85	82	40
	Cape Rulhieres - Cape Bernier	3,108	86	81	45	4,614	86	83	42
	Un-named Head - Cape Rulhieres (A)	6,842	85	77	48	3,905	85	79	47
	Un-named Head - Cape Rulhieres (B)	4,471	81	74	41	4,856	80	76	43
	Un-named Head - Cape Rulhieres (C)	5,310	75	63	42	5,529	73	65	40
	Cape Talbot - Cape Londonderry (A)	3,137	69	63	37	3,525	69	63	37
	Cape Talbot - Cape Londonderry (B)	3,259	57	47	24	2,380	56	47	22
	Low Island Point - Anjo (A)	1,986	53	43	19	2,205	50	44	19
	Low Island Point - Anjo (B)	2,323	52	47	17	2,442	53	44	15
	Cape Bougainville - Low Island Point (A)	1,661	50	43	8	2,529	50	45	9
	Cape Bougainville - Low Island Point (B)	548	27	13	1	216	28	11	-
	Cape Bougainville - Low Island Point (C)	2,338	54	47	15	1,680	54	49	16
	Cape Bougainville - Low Island Point (D)	2,173	52	47	16	1,696	53	48	15
	Crystal Head - Cape Bougainville	587	39	23	2	583	39	22	2
	Davidsons Point - Crystal Head (A)	122	6	1	-	99	8	1	-
	Davidsons Point - Crystal Head (B)	296	7	3	-	161	11	4	-
	Davidsons Point - Crystal Head (C)	660	37	19	1	922	39	17	1
	Davidsons Point - Crystal Head (D)	1,324	49	44	7	1,392	49	46	7
	Swift Bay - Davidsons Point (A)	1,121	48	42	6	930	49	42	5

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Swift Bay - Davidsons Point (B)	397	20	6	-	443	21	6	2
	Augereau Island - Combe Hill Point (A)	589	38	17	1	573	39	20	1
	Augereau Island - Combe Hill Point (B)	368	32	15	-	781	32	19	2
	Augereau Island - Combe Hill Point (C)	390	28	16	-	511	27	20	1
	Cape Torrens - Anderdon Islands Point	119	9	2	-	99	8	2	-
	Cape Wellington - Cape Torrens (A)	217	18	10	-	250	18	10	-
	Cape Wellington - Cape Torrens (B)	136	13	4	-	150	12	2	-
	High Bluff - Cape Wellington (A))	14	1	-	-	42	1	-	-
	High Bluff - Cape Wellington (B)	45	9	-	-	64	8	1	-
	Battery Point - High Bluff (A)	12	1	-	-	13	1	-	-
	Un-named Promontory - Battery Point	5	-	-	-	11	1	-	-
	Low Island Point - Anjo (C)	2,019	60	52	16	2,135	60	55	16
	Davidsons Point - Cape Bougainville (A)	2,680	60	56	17	3,280	60	55	17
	Davidsons Point - Cape Bougainville (B)	1,957	61	57	16	2,450	59	55	18
	Davidsons Point - Cape Bougainville (C)	2,056	59	55	17	1,949	59	55	18
	Davidsons Point - Cape Bougainville (D)	1,499	59	56	15	1,487	59	56	16
	Augereau Island - Combe Hill Point (D)	1,122	49	39	4	1,185	50	38	5
	Augereau Island - Davidsons Point	886	46	35	3	1,014	49	34	3
	Cape Wellington - Cape Torrens (C)	272	25	17	-	291	23	17	-
	Cape Wellington - Cape Torrens (D)	340	22	18	-	320	21	17	-
	Battery Point - High Bluff (B)	144	18	7	-	268	17	8	-
	Battery Point - Cape Wellington	315	16	7	-	187	18	7	-
	Battery Point - High Bluff (C)	75	8	1	-	67	9	1	-
	Marnebulorgne Community N Point - Battery Point (A)	26	6	-	-	49	6	-	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Marnebulorgne Community N Point - Battery Point (B)	33	3	-	-	23	3	-	-
	Marnebulorgne Community N Point - Augereau Island (A)	325	11	4	-	154	10	3	-
	Point Usborne - Marnebulorgne Community N Point	276	8	4	-	213	8	3	-
	Point Usborne - Nares Point (A)	10	1	-	-	7	-	-	-
	Marnebulorgne Community N Point - Augereau Island (B)	480	37	17	1	550	35	18	1
	Augereau Island - Cape Londonderry	14	1	-	-	11	1	-	-
	Ashmore Reef	10	-	-	-	10	1	-	-
	Seringapatam Reef	14	1	-	-	12	1	-	-
	Mermaid Reef	61	3	2	-	82	2	1	-
	Clerke Reef	23	3	-	-	88	1	1	-
	Imperieuse Reef	17	2	-	-	6	-	-	-

Table 10.11 Probability of exposure to individual receptors from dissolved hydrocarbons in the 0–10 m depth layer, for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days during winter conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
AMP	Argo-Rowley Terrace	66	2	1	-	62	2	1	-
	Ashmore Reef	49	5	-	-	72	5	2	-
	Cartier Island	37	4	-	-	42	3	-	-
	Joseph Bonaparte Gulf	6,659	98	95	73	10,044	98	97	73
	Kimberley	1,705	84	67	15	2,117	85	73	14
	Mermaid Reef	46	2	-	-	28	2	-	-
	Oceanic Shoals	798	34	21	2	786	34	20	2
EEZ	Australian Exclusive Economic Zone	12,417	100	100	100	17,724	100	100	100
	East Timorian Exclusive Economic Zone	28	2	-	-	45	1	-	-
	Indonesian Exclusive Economic Zone	141	11	2	-	138	10	1	-
KEF	Ancient coastline at 125 m depth contour	496	21	9	1	670	21	10	1
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	69	5	1	-	72	6	2	-
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	14	1	-	-	10	-	-	-
	Carbonate bank and terrace system of the Sahul Shelf	7,462	100	98	95	9,584	100	99	95
	Carbonate bank and terrace system of the Van Diemen Rise	23	1	-	-	4	-	-	-
	Continental Slope Demersal Fish Communities	237	13	5	-	370	13	7	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	56	2	1	-	37	2	-	-
	Pinnacles of the Bonaparte Basin	1,187	16	8	3	977	18	8	3
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	66	4	1	-	48	4	-	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
MP	Lalang-garram / Camden Sound	67	3	1	-	68	4	1	-
	North Kimberley	6,741	97	96	88	5,040	97	97	90
	North Lalang-garram	129	5	2	-	251	5	2	-
	Rowley Shoals	56	2	1	-	31	2	-	-
NR	Scott Reef	10	-	-	-	25	2	-	-
Ramsar	Ashmore Reef National Nature Reserve	49	5	-	-	72	5	2	-
	Ord River Floodplain	689	50	27	2	1,580	46	25	5
RSB	Albert Reef	180	5	3	-	141	4	2	-
	Baldwin Bank	496	31	12	1	238	28	10	-
	Barcoo Shoal	99	2	1	-	72	2	1	-
	Barracouta Shoal	50	8	-	-	33	5	-	-
	Bassett-Smith Shoal	568	38	21	1	873	36	23	3
	Beagle and Dingo Reefs	140	5	3	-	87	3	2	-
	Branch Banks	1,461	80	59	6	1,069	78	65	8
	Brue Reef	95	2	1	-	69	2	1	-
	Churchill Reef	150	5	3	-	247	5	2	-
	Clerke Reef	54	1	1	-	27	2	-	-
	Deep Shoal 1	170	16	6	-	79	10	4	-
	Deep Shoal 2	92	8	2	-	52	7	1	-
	East Holothuria Reef	1,111	74	54	7	1,240	74	46	9
	Echuca Shoal	267	16	6	-	206	17	5	-
	Emu Reefs	1,403	23	19	3	1,030	21	14	2
	Eugene McDermott Shoal	140	17	6	-	138	14	5	-
	Fantome Shoal	28	2	-	-	17	1	-	-
	Favell Bank	294	18	10	-	157	20	10	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Gale Bank	214	16	7	-	164	16	5	-
	Goeree Shoal	98	8	2	-	102	7	3	-
	Heritage Reef	575	44	15	1	482	43	19	3
	Heywood Shoal	108	15	2	-	173	15	5	-
	Holothuria Banks	1,529	78	55	8	2,016	77	57	10
	Howland Shoals	1,205	24	24	9	992	23	22	6
	Imperieuse Reef	26	1	-	-	20	2	-	-
	Ingram Reef	383	48	25	-	435	47	25	1
	Jamieson Reef	804	56	30	3	971	55	32	2
	Johnson Bank	24	3	-	-	45	3	-	-
	Long Reef	1,223	72	50	5	1,186	72	53	5
	Mavis Reef	115	5	2	-	64	4	1	-
	Mermaid Reef	46	2	-	-	16	2	-	-
	Oliver Rock	541	61	43	3	640	61	36	3
	Osborn Reefs	47	4	-	-	137	3	1	-
	Otway Bank	931	77	53	6	1,088	76	55	6
	Penguin Shoal	617	34	16	1	489	32	17	1
	Rainbow Shoals	26	2	-	-	16	1	-	-
	Robroy Reefs	657	29	10	1	348	30	11	-
	Rothery Reef	901	68	45	6	776	70	49	5
	Tait Bank	1,355	83	62	8	1,374	82	66	4
	Van Cloon Shoal	545	26	14	1	409	27	14	1
	Vee Shoal	32	3	-	-	26	2	-	-
	Vulcan Shoal	115	9	3	-	93	7	4	-
	West Holothuria Reef	1,114	46	24	2	378	46	24	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Wildcat Reefs	18	3	-	-	31	3	-	-
	Woodbine Bank	33	3	-	-	12	1	-	-
Nearshore Waters	Adele Island	99	3	2	-	147	4	2	-
	Ashmore Reef	38	5	-	-	72	5	2	-
	Broome	-	-	-	-	43	1	-	-
	Browse Island	311	13	5	-	113	12	4	-
	Cartier Island	22	3	-	-	37	1	-	-
	Clerke Reef	27	1	-	-	21	1	-	-
	Clump Island	1,656	45	35	13	2,365	45	37	15
	Cunningham Island	15	1	-	-	14	1	-	-
	Daly	153	9	3	-	77	6	1	-
	Derby - West Kimberely	8	-	-	-	29	1	-	-
	Dorcherty Island	2,207	27	24	20	2,414	27	25	21
	Hibernia Reef	24	2	-	-	32	3	-	-
	Imperieuse Reef	12	1	-	-	12	1	-	-
	Mermaid Reef	26	1	-	-	11	1	-	-
	Quoin Island	1,963	46	37	14	1,798	46	37	15
	Sandy Islet	14	1	-	-	24	2	-	-
	Scott Reef North	31	3	-	-	22	2	-	-
	Scott Reef South	15	1	-	-	44	3	-	-
	Seringapatam Reef	26	3	-	-	24	3	-	-
	Thamarrurr	2,363	49	41	21	2,129	42	36	20
	Turtle Point	1,736	52	41	13	1,283	50	40	13
	Victoria Daly	3,922	50	42	21	2,910	49	41	20
	Whale Flat	893	41	30	6	1,149	42	30	6

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Wyndham - East Kimberley	4,223	97	95	82	3,619	97	97	84
State Waters	Northern Territory Sate Waters	3,922	61	56	28	4,298	61	55	24
	Western Australia State Waters	6,741	97	96	88	5,040	97	97	90
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	1,541	50	33	7	1,020	49	30	6
	East Cape Domett - WA-NT Border (B)	1,331	54	36	5	1,037	54	38	4
	East Cape Domett - WA-NT Border (C)	3,113	68	59	24	3,242	69	61	25
	Bare Hill - East Cape Domett (A)	807	45	21	1	510	41	24	3
	Bare Hill - East Cape Domett (B)	988	46	26	2	853	44	28	4
	Bare Hill - East Cape Domett (C)	8	-	-	-	16	1	-	-
	Bare Hill - East Cape Domett (E)	3,482	86	78	30	3,626	88	83	33
	Aunty Islet - Thurburn Bluff	4,267	96	95	58	3,532	96	94	67
	Cape Bernier - Elsie Island N	5,870	97	97	92	4,370	97	97	91
	Cape Rulhieres - Cape Bernier	6,235	96	96	92	4,845	97	97	91
	Un-named Head - Cape Rulhieres (A)	6,741	96	95	88	4,062	96	95	85
	Un-named Head - Cape Rulhieres (B)	5,735	96	95	80	5,040	96	93	77
	Un-named Head - Cape Rulhieres (C)	3,416	95	93	74	4,056	96	92	68
	Cape Talbot - Cape Londonderry (A)	2,569	93	88	43	3,235	92	89	45
	Cape Talbot - Cape Londonderry (B)	1,555	90	81	21	1,774	89	81	24
	Low Island Point - Anjo (A)	1,144	88	73	16	1,491	88	75	15
	Low Island Point - Anjo (B)	1,407	89	71	13	1,608	88	77	14
	Cape Bougainville - Low Island Point (A)	748	81	45	2	1,428	84	54	3
	Cape Bougainville - Low Island Point (B)	84	33	3	-	110	40	5	-
	Cape Bougainville - Low Island Point (C)	1,484	81	58	6	1,476	80	57	5
	Cape Bougainville - Low Island Point (D)	1,277	78	50	5	1,253	76	50	4
	Crystal Head - Cape Bougainville	300	45	16	-	243	46	13	-

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Davidsons Point - Crystal Head (A)	75	7	1	-	32	4	-	-
	Davidsons Point - Crystal Head (B)	163	9	1	-	97	8	2	-
	Davidsons Point - Crystal Head (C)	805	36	9	1	383	39	7	-
	Davidsons Point - Crystal Head (D)	988	61	32	2	477	60	30	1
	Swift Bay - Davidsons Point (A)	838	55	25	1	541	54	29	1
	Swift Bay - Davidsons Point (B)	136	11	3	-	225	16	6	-
	Augereau Island - Combe Hill Point (A)	193	29	12	-	447	31	14	1
	Augereau Island - Combe Hill Point (B)	217	24	8	-	312	26	8	-
	Augereau Island - Combe Hill Point (C)	291	18	4	-	395	18	7	-
	Cape Torrens - Anderdon Islands Point	57	1	1	-	277	2	1	-
	Cape Wellington - Cape Torrens (A)	178	8	2	-	229	11	2	-
	Cape Wellington - Cape Torrens (B)	80	3	1	-	42	3	-	-
	High Bluff - Cape Wellington (A))	12	1	-	-	2	-	-	-
	High Bluff - Cape Wellington (B)	41	2	-	-	64	3	1	-
	Battery Point - High Bluff (A)	15	1	-	-	7	-	-	-
	Point Usborne - Sir Richard Island (A)	-	-	-	-	19	1	-	-
	Point Usborne - Sir Richard Island (B)	-	-	-	-	24	1	-	-
	Packer Island - Swan Island (A)	-	-	-	-	46	1	-	-
	Packer Island - Swan Island (B)	1	-	-	-	50	1	1	-
	Low Island Point - Anjo (C)	1,677	86	67	13	2,179	87	71	12
	Davidsons Point - Cape Bougainville (A)	1,412	82	64	7	1,678	81	67	9
	Davidsons Point - Cape Bougainville (B)	1,343	75	47	8	1,240	73	46	9
	Davidsons Point - Cape Bougainville (C)	1,223	74	50	6	1,186	73	54	5
	Davidsons Point - Cape Bougainville (D)	1,576	67	48	7	1,229	68	44	8
	Augereau Island - Combe Hill Point (D)	474	45	19	1	1,159	45	25	4

Receptor		Unmitigated				Mitigated			
		Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure			Maximum instantaneous dissolved hydrocarbon exposure	Probability of instantaneous dissolved hydrocarbon exposure		
			Low	Moderate	High		Low	Moderate	High
	Augereau Island - Davidsons Point	435	33	15	1	730	38	15	2
	Cape Wellington - Cape Torrens (C)	168	10	4	-	128	12	3	-
	Cape Wellington - Cape Torrens (D)	191	7	4	-	161	7	3	-
	Battery Point - High Bluff (B)	129	4	2	-	87	5	1	-
	Battery Point - Cape Wellington	104	5	2	-	327	5	2	-
	Battery Point - High Bluff (C)	67	3	1	-	50	3	-	-
	Marnebulorgne Community N Point - Battery Point (A)	43	3	-	-	39	4	-	-
	Marnebulorgne Community N Point - Battery Point (B)	6	-	-	-	15	1	-	-
	Marnebulorgne Community N Point - Augereau Island (A)	193	5	3	-	116	4	2	-
	Point Usborne - Marnebulorgne Community N Point	231	3	3	-	297	4	2	-
	Point Usborne - Nares Point (A)	7	-	-	-	29	1	-	-
	Point Usborne - Nares Point (B)	-	-	-	-	33	1	-	-
	Marnebulorgne Community N Point - Augereau Island (B)	372	14	6	-	181	14	6	-
	Augereau Island - Cape Londonderry	37	4	-	-	34	3	-	-
	Ashmore Reef	31	3	-	-	20	2	-	-
	Seringapatam Reef	15	1	-	-	44	3	-	-
	Mermaid Reef	46	2	-	-	27	2	-	-
	Clerke Reef	56	2	1	-	31	2	-	-
	Imperieuse Reef	26	1	-	-	20	2	-	-

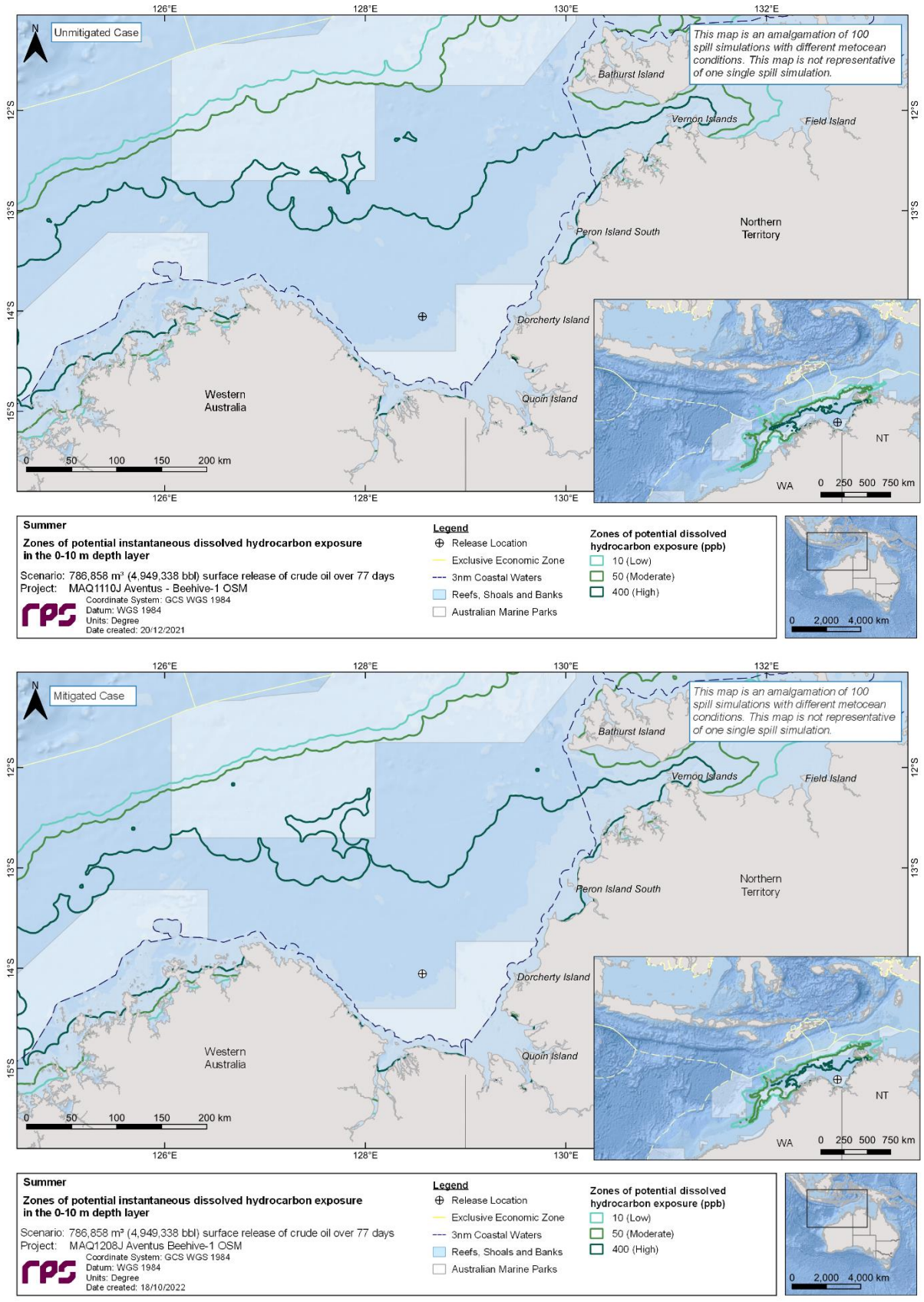


Figure 10.16 Zones of potential dissolved hydrocarbon exposure at 0-10 m below the sea surface for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories.

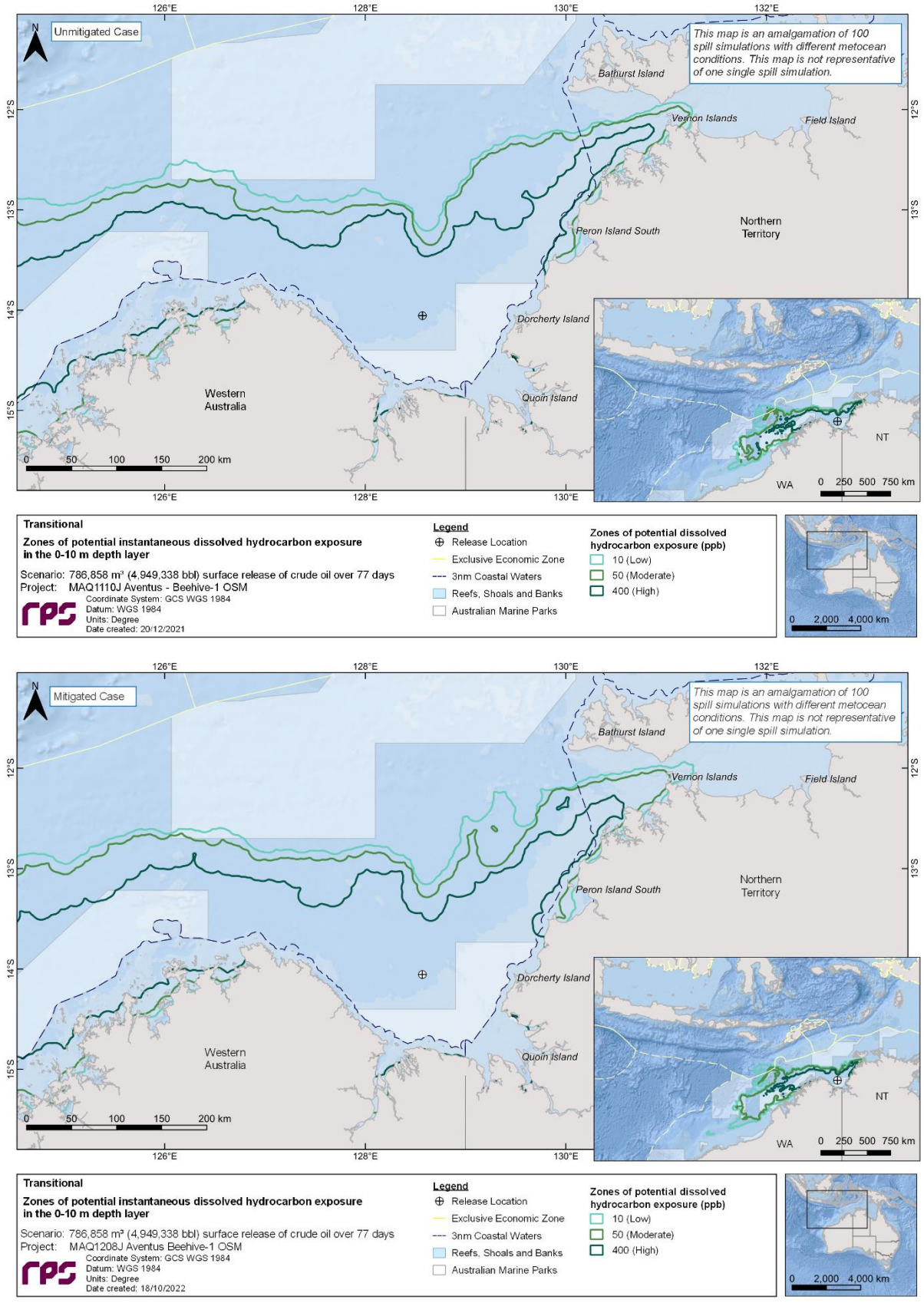


Figure 10.17 Zones of potential dissolved hydrocarbon exposure at 0-10 m below the sea surface for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories.

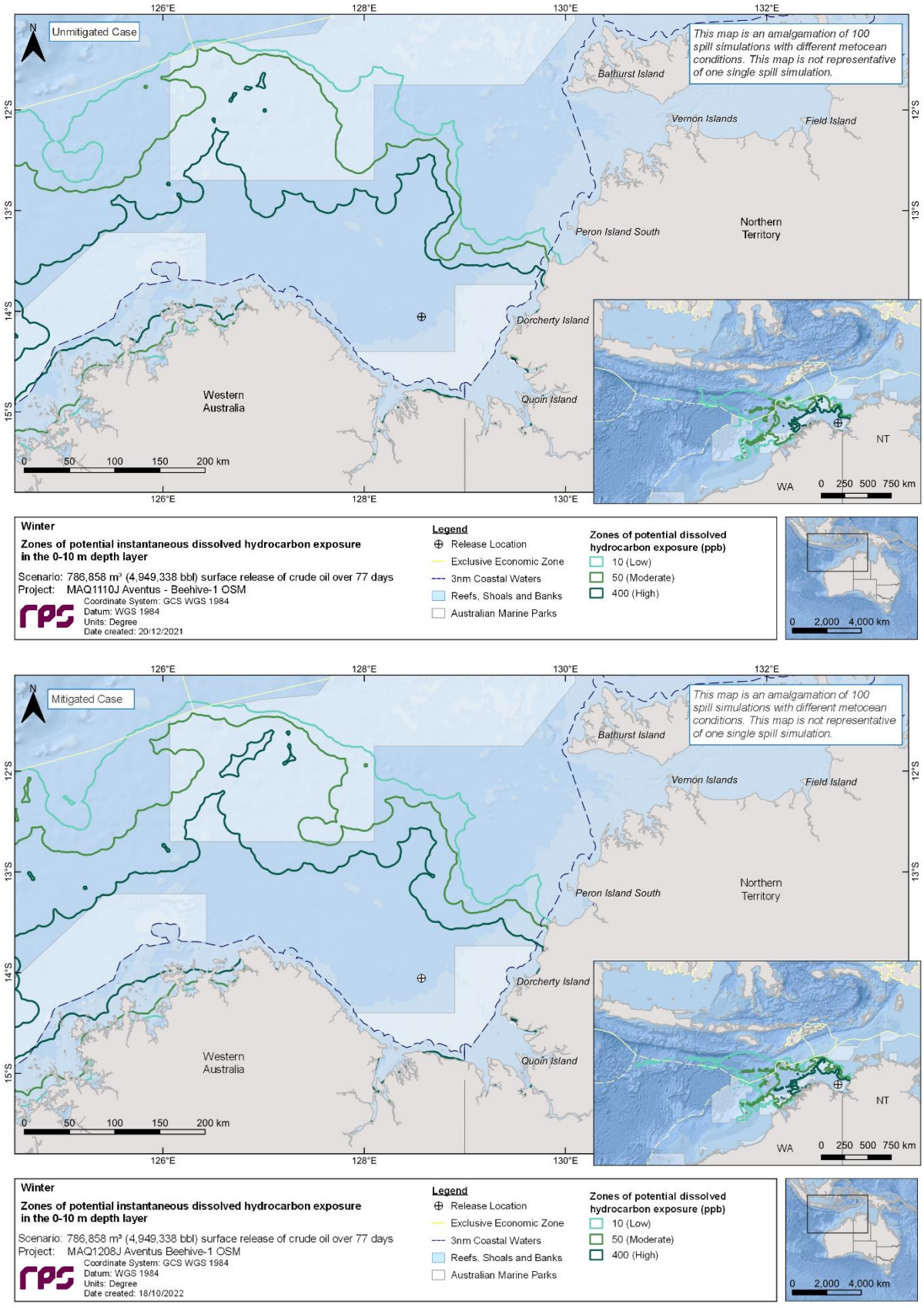


Figure 10.18 Zones of potential dissolved hydrocarbon exposure at 0-10 m below the sea surface for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories.

10.1.3.2 Entrained Hydrocarbons

Figure 10.19 to Figure 10.21present sorted bar plots of the predicted area of the low and high zones of entrained hydrocarbon exposure for the unmitigated and mitigated cases from 100 spill trajectories per season and case.

Table 10.12 to Table 10.14 presents the probability of exposure to individual receptors from entrained hydrocarbons at the low (10-100 ppb) and high (≥ 100 ppb) exposure levels in the 0-10 m depth layers for all seasonal conditions for the unmitigated and mitigated cases.

For the unmitigated case, in the surface (0-10 m) depth layer, low and high exposure by entrained hydrocarbons was predicted for a large range of receptors. The Carbonate bank and terrace system of the Sahul Shelf KEF, Joseph Bonaparte Gulf AMP, Kimberley AMP, North Kimberley MP and nearshore waters of the Thamarrurr, Wyndham - East Kimberley, Dorcherty Island, Clump Island, Quoin Island, Daly, Victoria Daly shorelines and Ord River floodplain (Ramsar) were some of the receptors predicted with the highest entrained hydrocarbons concentrations for all three seasons.

Similar to the unmitigated case, the surface (0-10 m) depth layer model results for the mitigated case demonstrated low and high exposure by entrained hydrocarbons was predicted for a large range of receptors. Furthermore, the identified receptors with the highest predicted entrained hydrocarbons concentrations for the mitigated case for all three seasons (e.g. Carbonate bank and terrace system of the Sahul Shelf KEF, Joseph Bonaparte Gulf AMP, Kimberley AMP, North Kimberley MP and nearshore waters of the Thamarrurr, Wyndham - East Kimberley, Dorcherty Island, Clump Island, Quoin Island, Victoria Daly shorelines and RSB receptors, Bassett-Smith Shoal, Branch Banks, East Holothuria Reef, Emu Reefs, Holothuria Banks, Howland Shoals, Otway Bank and Tait Bank) were very similar between the mitigated and unmitigated cases.

Figure 10.22 to Figure 10.24 illustrate the zones of potential entrained hydrocarbon exposure for the 0-10 m depth layers at the low and high exposure levels, for each season and case.

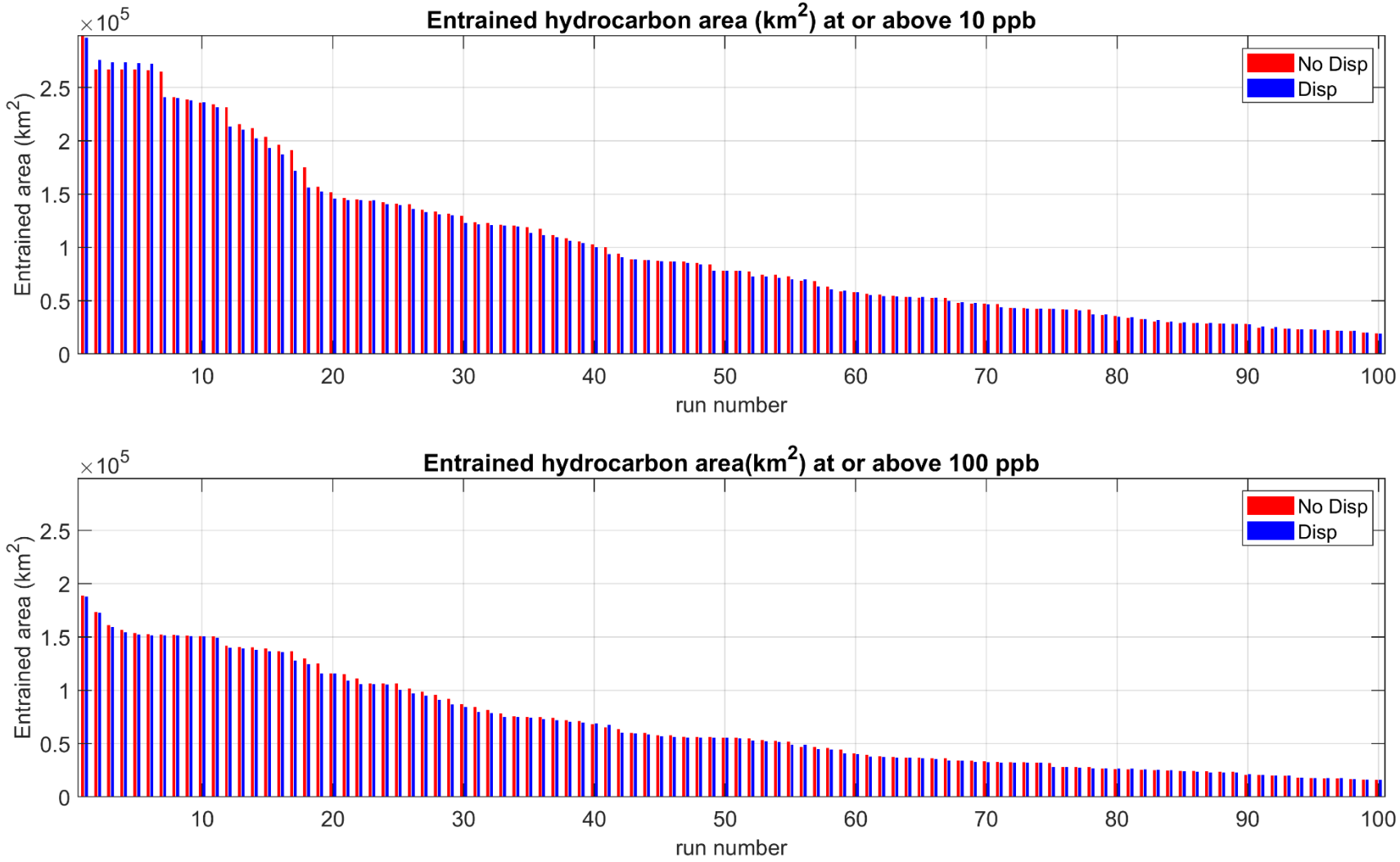


Figure 10.19 Sorted bar plots of the predicted area of the low and high zones of entrained hydrocarbon exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m³ of crude oil over 77 days, tracked for 98 days during summer conditions. The results from 100 spill trajectories are presented.

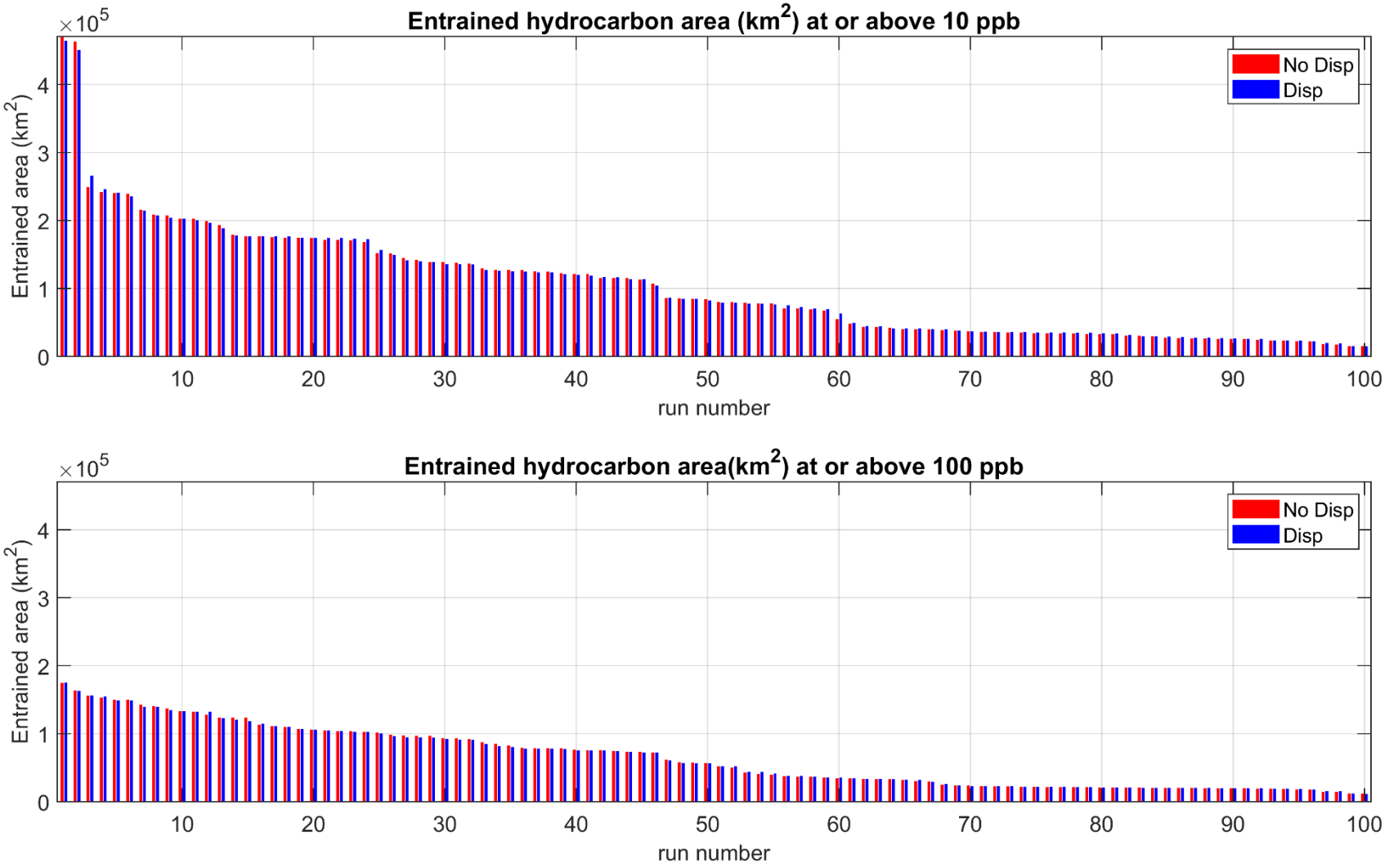


Figure 10.20 Sorted bar plots of the predicted area of the low and high zones of entrained hydrocarbon exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during transitional conditions. The results from 100 spill trajectories are presented.

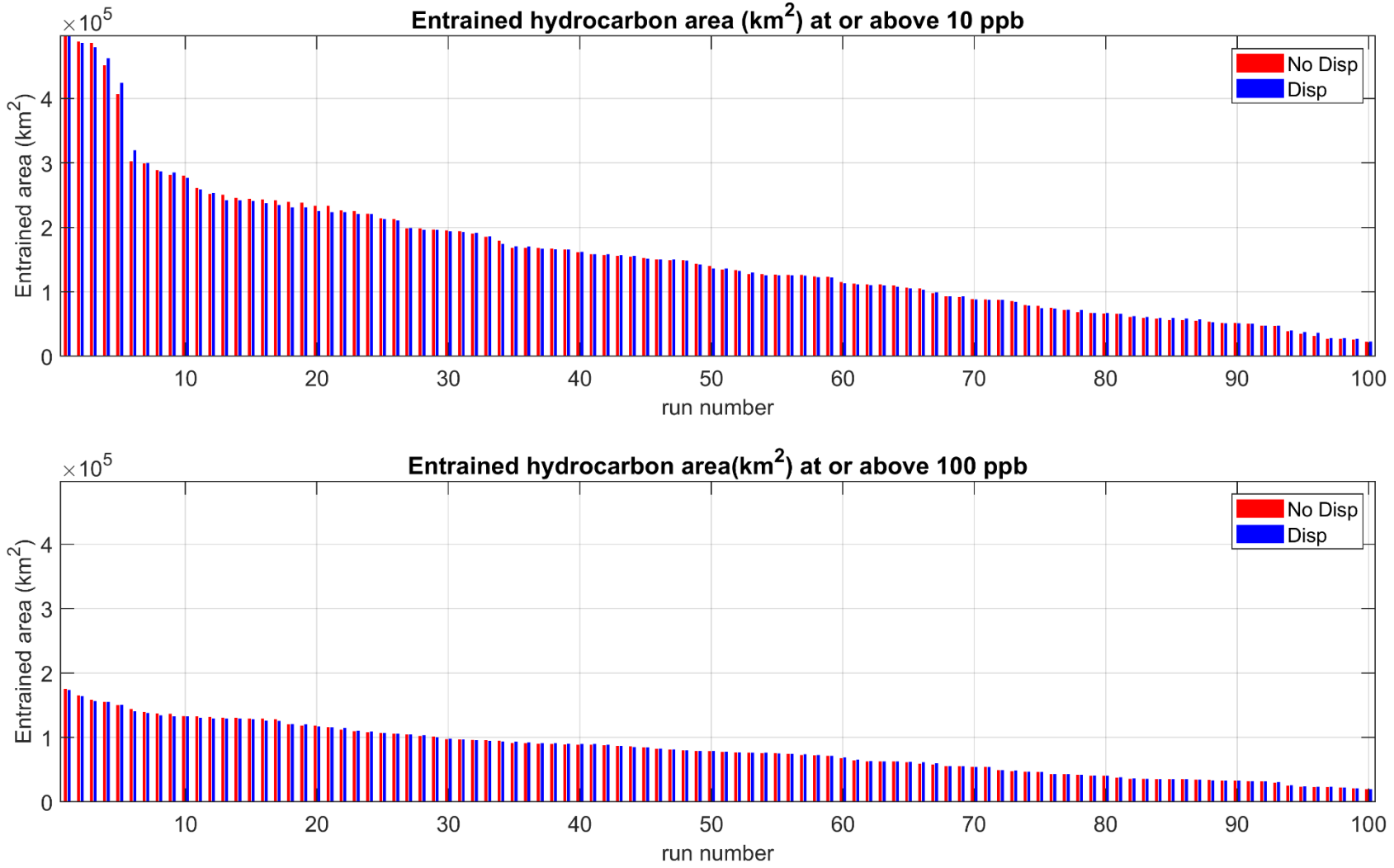


Figure 10.21 Sorted bar plots of the predicted area of the low and high zones of entrained hydrocarbon exposure for the unmitigated (red) and mitigated (blue) cases, in the event of a 786,858 m^3 of crude oil over 77 days, tracked for 98 days during winter conditions. The results from 100 spill trajectories are presented.

Table 10.12 Probability of entrained hydrocarbons exposure to marine based receptors in the 0–10 m depth layer, for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
AMP	Arafura	167	8	3	164	8	3
	Argo-Rowley Terrace	335	10	9	278	8	8
	Arnhem	36	6	-	42	6	-
	Joseph Bonaparte Gulf	19,580	100	100	18,278	100	99
	Kimberley	8,810	56	48	9,073	55	47
	Mermaid Reef	62	7	-	63	6	-
	Oceanic Shoals	2,144	35	21	2,116	34	19
EEZ	East Timorian Exclusive Economic Zone	8	-	-	11	1	-
	Indonesian Exclusive Economic Zone	359	6	1	349	6	1
KEF	Ancient coastline at 125 m depth contour	3,866	27	26	3,795	26	25
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	37	7	-	37	6	-
	Carbonate bank and terrace system of the Sahul Shelf	22,011	99	87	21,457	100	88
	Carbonate bank and terrace system of the Van Diemen Rise	1,729	28	20	1,739	28	20
	Continental Slope Demersal Fish Communities	3,341	24	24	2,995	23	23
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	65	7	-	63	6	-
	Pinnacles of the Bonaparte Basin	4,399	24	14	4,342	24	14
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	857	13	4	652	12	4
	Shelf break and slope of the Arafura Shelf	32	7	-	37	7	-
	Tributary Canyons of the Arafura Depression	81	5	-	82	5	-

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
MP	Garig Gunak Barlu	335	18	9	265	18	8
	Lalang-garram / Camden Sound	454	17	9	374	14	8
	Lalang-garram / Horizontal Falls	56	2	-	44	2	-
	North Kimberley	14,706	86	71	13,858	88	73
	North Lalang-garram	923	23	14	975	22	11
	Rowley Shoals	26	7	-	28	6	-
NR	Scott Reef	628	13	3	462	12	3
Ramsar	Cobourg Peninsula	278	18	6	255	17	6
	Kakadu National Park	88	6	-	100	6	-
	Ord River Floodplain	2,197	67	37	2,137	59	34
RSB	Abbott Shoal	640	23	13	617	23	14
	Afghan Shoal	1,126	28	18	1,128	28	18
	Albert Reef	613	9	9	582	8	8
	Ann Shoals	246	7	6	255	7	4
	Baldwin Bank	2,630	39	33	2,589	38	32
	Barbara Shoal	531	18	9	525	18	10
	Barcoo Shoal	268	11	9	295	11	8
	Bass Reef	3,607	36	30	3,237	38	32
	Bassett-Smith Shoal	4,942	35	30	4,288	35	29
	Beagle Shoals	499	26	20	474	24	20
	Beagle and Dingo Reefs	765	13	11	670	12	9
	Beatrice Reef	174	7	5	209	7	5
	Bill Shoal	1,110	23	15	1,193	23	14
	Branch Banks	5,863	46	43	6,189	48	42
	Britomart Shoal	47	8	-	55	8	-

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Brue Reef	264	9	9	275	8	7
Calder Shoal	58	9	-	50	9	-
Campbell Reef	9	-	-	12	1	-
Christine Reef	284	16	7	309	16	7
Churchill Reef	569	10	9	477	10	8
Clerke Reef	21	7	-	22	6	-
Cockell and Nicolle Reefs	32	9	-	37	8	-
Cootamundra Shoal	38	10	-	35	9	-
Deep Shoal 1	660	18	4	648	17	5
Deep Shoal 2	536	6	4	510	6	4
Draytons Reef	2,523	24	15	2,302	25	15
East Holothuria Reef	6,890	44	43	7,246	44	42
Echuca Shoal	3,814	24	24	3,491	23	23
Elizabeth Reef	2,547	27	15	2,307	25	16
Elphinstone Reef	87	11	-	88	11	-
Emu Reefs	9,285	84	81	8,799	85	82
Eugene McDermott Shoal	1,046	21	15	1,053	20	13
Evans Shoal	7	-	-	10	1	-
Favell Bank	1,835	32	20	1,715	32	19
Fish Reef	3,144	33	29	3,121	34	29
Fitzpatrick Shoal	231	18	9	221	15	8
Flat Top Bank	1,053	29	14	1,087	30	15
Foelsche Bank	2,472	28	24	2,548	28	24
Gale Bank	1,105	24	17	1,131	22	19
Giles Shoal	452	19	11	445	19	10

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Goeree Shoal	47	13	-	43	12	-
	Goodrich Bank	133	13	3	147	13	3
	Hancox Shoal	1,743	28	24	1,759	28	24
	Harris Reef	1,442	28	24	1,329	28	23
	Heritage Reef	2,234	36	30	2,214	35	29
	Heywood Shoal	1,084	23	21	1,087	21	19
	Hinkler Patches	181	21	7	245	19	4
	Holothuria Banks	8,579	51	45	8,546	51	44
	Howland Shoals	7,657	83	76	8,931	83	78
	Hunt Patch	489	26	20	578	25	20
	Imperieuse Reef	16	4	-	17	4	-
	Ingram Reef	2,165	38	33	2,450	35	31
	Jamieson Reef	2,734	38	35	3,188	37	32
	Jones Bank	3,316	33	29	3,143	32	30
	Jones Shoal	59	11	-	65	10	-
	Kelleway Reef	1,442	29	26	1,277	29	25
	Knight Reef	2,305	28	24	2,347	28	23
	Long Reef	3,767	43	43	3,856	42	42
	Lowry Shoal	700	29	22	675	28	23
	Lyne Reef	2,762	28	24	2,716	28	24
	Lynedoch Bank	22	3	-	25	3	-
	Margaret Shoal	154	7	2	170	7	2
	Marie Shoal	204	14	6	202	13	4
	Marsh Shoal	2,445	28	24	2,573	28	24
	Mataram Shoal	392	17	9	370	17	9

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Mavis Reef	519	11	10	477	10	9
	Mermaid Reef	45	6	-	40	5	-
	Mermaid Shoal	262	15	9	259	15	9
	Middle Reef	1,984	31	27	2,008	32	27
	Moira Reef	1,395	31	26	1,312	32	26
	Money Shoal	118	6	2	112	6	2
	Moresby Shoals	733	29	22	674	29	22
	Moss Shoal	234	16	9	235	14	9
	Newby Shoal	467	12	7	460	12	7
	Oliver Reef	2,213	28	24	2,220	28	24
	Oliver Rock	2,585	39	37	2,583	39	36
	Ommaney Shoals	197	21	10	272	20	9
	Orontes Reef	53	11	-	57	12	-
	Osborn Reefs	537	19	8	459	16	6
	Otway Bank	6,204	43	43	6,375	42	42
	Parry Shoal	251	15	8	257	15	8
	Parsons Bank	347	28	16	316	28	15
	Penguin Shoal	4,426	40	29	4,375	38	28
	Rainbow Shoals	188	14	7	175	12	6
	Renard Shoals	202	22	11	242	23	10
	Robroy Reefs	2,091	33	27	1,950	33	26
	Rothery Reef	3,203	43	43	4,036	42	42
	Shepparton Shoal	1,377	30	21	1,376	30	21
	Skottowe Shoal	908	29	24	836	30	24
	Tait Bank	5,389	50	43	5,181	48	41

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Taiyun Shoal	753	25	20	727	24	20
	Tassie Shoal	7	-	-	11	1	-
	Taylor Patches	1,892	24	18	1,761	25	19
	The Boxers	123	3	3	134	3	3
	Tregenna Reef	1,286	28	22	1,088	28	21
	Van Cloon Shoal	1,839	35	18	1,789	34	18
	Victoria Shoal	261	11	6	310	12	7
	Vulcan Shoal	23	13	-	26	11	-
	Wells Shoal	520	20	11	540	20	11
	West Holothuria Reef	2,670	44	34	2,125	43	33
	Wildcat Reefs	289	15	8	284	13	7
Nearshore Waters	Adele Island	431	11	9	404	11	8
	Bathurst Island	413	20	12	501	19	12
	Broome	35	2	-	36	2	-
	Browse Island	3,042	24	24	2,932	23	22
	Burford Island	290	13	7	229	13	7
	Clerke Reef	20	7	-	22	6	-
	Clump Island	9,454	75	70	9,107	76	70
	Cox-Finniss	4,105	57	44	3,157	56	44
	Cunningham Island	14	4	-	14	4	-
	Daly	5,442	73	64	5,647	72	64
	Darch Island	9	-	-	11	1	-
	Darwin	1,354	28	22	1,228	28	19
	Derby - West Kimberely	93	8	-	72	7	-
	Dorcherty Island	9,502	82	79	10,233	84	80

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Field Island	104	7	1	104	7	1
Grant Island	17	4	-	20	3	-
Greenhill Island	311	10	6	265	11	6
Imperieuse Reef	16	4	-	17	3	-
King Leopold Ranges	9	-	-	13	2	-
Kingfisher Islands	33	2	-	38	2	-
Lacepede Islands	27	1	-	30	1	-
Lawson Island	30	6	-	33	4	-
Litchfield	2,345	28	24	2,198	28	24
McCluer Island	28	7	-	26	5	-
Melville Island	308	28	19	301	28	19
Mermaid Reef	41	6	-	36	5	-
Minjilang	53	8	-	40	8	-
Mogogout Island	155	6	1	149	6	2
Morse Island	156	7	2	157	7	2
New Year Island	39	6	-	45	6	-
Oxley Island	49	8	-	47	8	-
Peron Island North	3,934	59	49	4,010	60	50
Peron Island South	2,769	58	45	2,866	59	45
Quoin Island	9,021	75	70	8,830	76	71
Sandy Islet	279	10	3	202	9	3
Scott Reef North	428	13	3	348	11	3
Scott Reef South	688	13	3	537	12	3
Seringapatam Reef	72	12	-	64	11	-
South Alligator	2,496	28	19	2,463	27	19

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Thamarrurr	13,795	82	77	13,112	82	78
	Turtle Point	3,687	77	66	5,236	79	67
	Vernon Islands	3,139	28	24	3,085	28	24
	Victoria Daly	9,021	80	70	9,075	83	72
	West Arnhem	234	18	7	201	18	6
	Whale Flat	4,419	74	70	4,630	76	69
	Wunmiyi Island	103	7	1	110	7	1
	Wyndham - East Kimberley	13,432	82	62	12,459	84	62
State Waters	Northern Territory Sate Waters	13,975	85	81	13,328	88	80
	Western Australia State Waters	14,706	86	71	13,858	88	71
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	6,340	72	56	6,073	74	56
	East Cape Domett - WA-NT Border (B)	6,187	74	55	5,924	77	57
	East Cape Domett - WA-NT Border (C)	6,452	75	54	5,269	76	55
	Bare Hill - East Cape Domett (A)	1,422	46	17	1,442	44	17
	Bare Hill - East Cape Domett (B)	1,447	53	18	1,619	48	17
	Bare Hill - East Cape Domett (C)	24	10	-	28	12	-
	Bare Hill - East Cape Domett (E)	7,791	82	70	6,530	82	68
	Aunty Islet - Thurburn Bluff	4,797	87	76	4,243	87	76
	Cape Bernier - Elsie Island N	11,024	86	67	10,017	86	67
	Cape Rulhieres - Cape Bernier	11,702	74	63	10,637	77	61
	Un-named Head - Cape Rulhieres (A)	11,448	64	58	12,143	64	58
	Un-named Head - Cape Rulhieres (B)	14,706	62	54	13,858	62	54
	Un-named Head - Cape Rulhieres (C)	14,325	59	52	13,326	60	51
	Cape Talbot - Cape Londonderry (A)	8,532	58	52	8,293	57	51
	Cape Talbot - Cape Londonderry (B)	5,373	58	46	5,329	57	46

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Low Island Point - Anjo (A)	4,623	53	41	4,844	52	41
Low Island Point - Anjo (B)	4,755	51	42	4,903	51	41
Cape Bougainville - Low Island Point (A)	4,409	46	40	4,057	44	39
Cape Bougainville - Low Island Point (B)	1,639	39	25	1,263	39	22
Cape Bougainville - Low Island Point (C)	4,972	42	40	5,269	40	39
Cape Bougainville - Low Island Point (D)	5,242	41	40	5,684	39	39
Crystal Head - Cape Bougainville	2,489	40	28	2,244	39	28
Davidsons Point - Crystal Head (A)	468	24	2	552	24	2
Davidsons Point - Crystal Head (B)	722	28	2	794	27	2
Davidsons Point - Crystal Head (C)	2,523	38	27	2,442	37	25
Davidsons Point - Crystal Head (D)	3,609	40	36	3,269	39	33
Swift Bay - Davidsons Point (A)	3,281	38	34	3,045	36	32
Swift Bay - Davidsons Point (B)	2,379	31	18	2,342	28	18
Augereau Island - Combe Hill Point (A)	2,476	34	23	2,407	32	22
Augereau Island - Combe Hill Point (B)	1,594	30	20	1,516	30	19
Augereau Island - Combe Hill Point (C)	1,615	27	20	1,480	26	19
Cape Torrens - Anderdon Islands Point	977	15	4	834	12	6
Cape Wellington - Cape Torrens (A)	1,038	24	13	926	23	11
Cape Wellington - Cape Torrens (B)	163	14	7	168	12	5
High Bluff - Cape Wellington (A))	13	4	-	12	1	-
High Bluff - Cape Wellington (B)	113	11	5	118	9	5
Battery Point - High Bluff (A)	34	8	-	40	7	-
Un-named Promontory - Battery Point	36	3	-	44	2	-
Raft Point - Un-named Promontory (A)	22	1	-	29	2	-
Raft Point - Un-named Promontory (B)	12	1	-	10	-	-

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Marnebulorgne Community N point - Shale Island (D)	30	2	-	26	2	-
	Nares Point - Un-named Peninsular (A)	28	2	-	30	2	-
	Nares Point - Un-named Peninsular (B)	81	8	-	74	7	-
	Point Usborne - Sir Richard Island (A)	31	2	-	31	2	-
	Point Usborne - Sir Richard Island (B)	21	2	-	23	2	-
	Point Usborne - Sir Richard Island (C)	21	2	-	19	2	-
	Meda River mouth spit SW - Helpman Island (A)	13	2	-	16	1	-
	Swan Island - Cornambie Point	13	2	-	12	1	-
	Packer Island - Swan Island (A)	59	2	-	52	2	-
	Packer Island - Swan Island (B)	59	2	-	64	2	-
	Packer Island - Swan Island (C)	21	1	-	24	1	-
	Packer Island - Swan Island (D)	17	1	-	19	1	-
	Chimney Rocks - Packer Island	13	1	-	12	1	-
	Red Bluff - Chimney Rocks (A)	10	1	-	8	-	-
	Low Island Point - Anjo (C)	5,224	55	44	5,292	55	42
	Davidsons Point - Cape Bougainville (A)	5,240	48	43	5,442	47	42
	Davidsons Point - Cape Bougainville (B)	7,120	44	43	7,265	44	42
	Davidsons Point - Cape Bougainville (C)	4,348	43	43	4,216	42	42
	Davidsons Point - Cape Bougainville (D)	3,682	43	43	4,038	42	42
	Augereau Island - Combe Hill Point (D)	2,741	36	33	2,667	35	31
	Augereau Island - Davidsons Point	2,754	34	29	2,558	33	27
	Cape Wellington - Cape Torrens (C)	1,044	26	16	1,077	25	15
	Cape Wellington - Cape Torrens (D)	1,163	23	14	1,159	22	10
	Battery Point - High Bluff (B)	627	18	9	663	16	8
	Battery Point - Cape Wellington	1,004	23	14	977	22	13

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Battery Point - High Bluff (C)	117	11	3	103	9	2
	Marnebulorgne Community N Point - Battery Point (A)	269	17	7	260	14	6
	Raft Point - Un-named Promontory (E)	12	2	-	14	1	-
	Raft Point - Un-named Promontory (F)	48	2	-	51	2	-
	Raft Point - Un-named Promontory (G)	50	2	-	52	2	-
	Marnebulorgne Community N Point - Battery Point (B)	298	9	7	258	8	6
	Marnebulorgne Community N Point - Augereau Island (A)	707	13	11	679	12	9
	Point Usborne - Marnebulorgne Community N Point	498	15	9	465	14	8
	Point Usborne - Nares Point (A)	108	8	2	88	7	-
	Point Usborne - Nares Point (B)	36	2	-	38	2	-
	Marnebulorgne Community N Point - Augereau Island (B)	3,182	24	24	2,937	23	23
	Augereau Island - Cape Londonderry	97	13	-	76	12	-
	Ashmore Reef	494	13	3	391	12	3
	Seringapatam Reef	688	13	3	530	12	3
	Red Bluff - Chimney Rocks (B)	37	1	-	42	1	-
	Mermaid Reef	45	7	-	42	6	-
	Clerke Reef	26	7	-	24	6	-
	Imperieuse Reef	16	5	-	19	5	-

Table 10.13 Probability of entrained hydrocarbons exposure to marine based receptors in the 0–10 m depth layer, for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
AMP	Argo-Rowley Terrace	629	17	10	614	16	8
	Joseph Bonaparte Gulf	17,299	94	83	17,261	94	84
	Kimberley	9,414	74	62	9,554	74	62
	Mermaid Reef	200	11	5	202	10	4
	Montebello	26	1	-	25	1	-
	Oceanic Shoals	969	18	11	895	18	11
EEZ	Australian Exclusive Economic Zone	93,401	100	100	95,163	100	100
	Indonesian Exclusive Economic Zone	378	15	8	371	14	7
KEF	Ancient coastline at 125 m depth contour	3,763	54	47	3,704	54	47
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	56	1	-	122	3	1
	Carbonate bank and terrace system of the Sahul Shelf	23,413	94	92	23,425	95	89
	Carbonate bank and terrace system of the Van Diemen Rise	14	1	-	11	1	-
	Continental Slope Demersal Fish Communities	1,819	52	44	1,705	51	44
	Glomar Shoals	35	1	-	34	1	-
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	209	15	5	216	14	5
	Pinnacles of the Bonaparte Basin	1,891	18	8	1,833	18	8
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	280	8	3	210	8	3
MP	Lalang-garram / Camden Sound	653	36	15	622	35	16
	Lalang-garram / Horizontal Falls	19	3	-	21	3	-

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	North Kimberley	15,425	86	81	14,397	86	84
	North Lalang-garram	1,037	41	19	1,107	41	20
	Rowley Shoals	180	10	4	153	9	3
NR	Scott Reef	189	5	1	137	5	1
Ramsar	Ord River Floodplain	2,812	45	39	2,686	46	38
RSB	Albert Reef	834	34	12	899	34	12
	Baldwin Bank	1,068	32	25	1,079	31	24
	Barcoo Shoal	646	27	12	657	27	13
	Bass Reef	2,681	3	2	2,229	2	2
	Bassett-Smith Shoal	5,043	62	47	4,555	62	47
	Beagle and Dingo Reefs	804	41	18	850	41	18
	Branch Banks	6,299	66	60	6,504	67	60
	Brue Reef	474	18	9	469	19	10
	Churchill Reef	1,129	35	11	1,167	35	12
	Clerke Reef	171	10	4	153	9	2
	Cockell and Nicolle Reefs	30	11	-	32	11	-
	Deep Shoal 1	44	1	-	51	1	-
	Draytons Reef	104	1	1	52	1	-
	East Holothuria Reef	7,620	63	59	7,685	64	60
	Echuca Shoal	2,091	51	47	1,974	51	47
	Elizabeth Reef	125	1	1	69	1	-
	Emu Reefs	6,442	53	35	6,523	50	32
	Eugene McDermott Shoal	743	21	9	806	19	8
	Favell Bank	852	18	11	621	17	11
	Fish Reef	2,098	3	2	2,082	2	2

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Flat Top Bank	15	1	-	13	2	-
Foelsche Bank	1,098	1	1	1,037	1	1
Gale Bank	250	8	3	211	8	4
Glomar Shoal	12	1	-	12	1	-
Goeree Shoal	185	4	1	202	3	1
Hancox Shoal	646	1	1	562	1	1
Harris Reef	481	1	1	377	1	1
Heritage Reef	2,223	60	57	2,182	60	58
Heywood Shoal	888	30	19	864	29	19
Holothuria Banks	9,350	68	60	9,554	69	60
Howland Shoals	6,081	51	47	5,152	53	47
Imperieuse Reef	108	9	1	103	8	1
Ingram Reef	2,929	60	59	3,142	60	59
Jamieson Reef	3,804	60	59	3,537	60	60
Jones Bank	2,339	2	2	2,211	2	2
Kelleway Reef	969	2	2	929	2	2
Knight Reef	794	1	1	568	1	1
Long Reef	3,891	60	60	3,854	61	60
Lowry Shoal	240	1	1	214	1	1
Lyne Reef	1,113	1	1	985	1	1
Marsh Shoal	1,022	1	1	984	1	1
Mavis Reef	709	35	15	712	35	16
Mermaid Reef	184	10	5	173	9	4
Middle Reef	1,363	2	2	1,299	2	2
Moira Reef	1,020	2	2	966	2	2

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Moresby Shoals	92	1	-	67	1	-
	Oliver Reef	765	1	1	627	1	1
	Oliver Rock	3,801	60	58	3,465	60	60
	Osborn Reefs	659	39	15	634	38	16
	Otway Bank	6,715	62	59	7,323	63	60
	Parsons Bank	31	1	-	19	1	-
	Penguin Shoal	3,852	55	31	3,809	55	31
	Rainbow Shoals	265	25	15	247	30	16
	Rankin Bank	27	2	-	25	1	-
	Robroy Reefs	2,099	60	56	1,983	60	56
	Rothery Reef	4,433	60	59	4,250	60	60
	Shepparton Shoal	16	1	-	13	1	-
	Skottowe Shoal	393	2	1	338	1	1
	Tait Bank	5,573	68	60	5,439	70	60
	Taylor Patches	94	1	-	34	1	-
	Tregenna Reef	342	1	1	228	1	1
	Van Cloon Shoal	828	18	3	855	18	3
	Vulcan Shoal	28	2	-	28	2	-
	West Holothuria Reef	3,036	63	59	2,529	63	59
	Wildcat Reefs	370	35	15	389	34	15
Nearshore Waters	Adele Island	997	29	11	947	29	11
	Broome	65	7	-	60	8	-
	Browse Island	1,542	52	46	1,527	52	46
	Clerke Reef	166	10	4	150	9	2
	Clump Island	9,459	48	46	9,449	49	47

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Cox-Finniss	2,527	4	3	2,386	4	3
Cunningham Island	92	9	-	86	7	-
Daly	3,227	23	18	2,442	21	15
Darwin	583	1	1	461	1	1
Derby - West Kimberely	101	13	1	98	14	-
Dorcherty Island	11,379	52	45	12,655	53	45
Imperieuse Reef	108	7	1	103	7	1
Kingfisher Islands	19	2	-	11	1	-
Lacepede Islands	12	2	-	16	2	-
Litchfield	867	1	1	817	1	1
Melville Island	101	1	1	78	1	-
Mermaid Reef	184	10	4	162	9	3
Peron Island North	1,333	5	4	1,214	8	3
Peron Island South	1,261	4	3	1,218	5	3
Quoin Island	8,841	49	47	8,754	49	47
Sandy Islet	103	5	1	69	5	-
Scott Reef North	151	6	1	119	7	1
Scott Reef South	238	6	1	175	6	1
Seringapatam Reef	145	8	3	145	8	2
South Alligator	243	1	1	123	1	1
Thamarrurr	16,021	57	51	15,002	57	51
Turtle Point	3,766	51	41	3,321	55	42
Vernon Islands	1,074	2	1	950	2	1
Victoria Daly	9,459	53	46	9,449	56	47
Whale Flat	4,431	47	46	4,295	48	46

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Wyndham - East Kimberley	13,506	86	72	12,810	86	74
State Waters	Northern Territory Sate Waters	16,670	62	57	15,532	65	57
	Western Australia State Waters	15,425	86	81	14,397	86	84
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	6,516	53	41	6,246	53	41
	East Cape Domett - WA-NT Border (B)	6,335	54	49	6,159	56	51
	East Cape Domett - WA-NT Border (C)	9,085	57	48	9,277	59	47
	Bare Hill - East Cape Domett (A)	3,235	46	40	3,718	48	39
	Bare Hill - East Cape Domett (B)	3,843	47	41	4,757	50	41
	Bare Hill - East Cape Domett (C)	65	19	-	70	22	-
	Bare Hill - East Cape Domett (E)	8,967	62	56	9,016	63	56
	Aunty Islet - Thurburn Bluff	8,664	81	74	9,135	82	74
	Cape Bernier - Elsie Island N	11,055	86	83	9,470	86	84
	Cape Rulhieres - Cape Bernier	11,970	86	85	10,808	86	85
	Un-named Head - Cape Rulhieres (A)	11,956	86	81	11,495	86	85
	Un-named Head - Cape Rulhieres (B)	15,425	86	72	14,397	86	73
	Un-named Head - Cape Rulhieres (C)	14,626	82	67	13,771	82	67
	Cape Talbot - Cape Londonderry (A)	9,219	78	64	8,503	80	64
	Cape Talbot - Cape Londonderry (B)	4,708	75	57	4,827	76	57
	Low Island Point - Anjo (A)	3,819	73	51	4,023	73	51
	Low Island Point - Anjo (B)	3,828	73	53	4,067	73	53
	Cape Bougainville - Low Island Point (A)	4,207	68	53	3,612	70	53
	Cape Bougainville - Low Island Point (B)	1,337	50	40	1,052	52	41
	Cape Bougainville - Low Island Point (C)	5,101	62	53	5,456	65	53

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Cape Bougainville - Low Island Point (D)	5,327	61	53	5,632	61	53
Crystal Head - Cape Bougainville	2,038	55	44	1,935	58	45
Davidsons Point - Crystal Head (A)	442	43	10	472	43	10
Davidsons Point - Crystal Head (B)	589	44	6	646	45	9
Davidsons Point - Crystal Head (C)	2,106	53	42	1,966	56	43
Davidsons Point - Crystal Head (D)	2,917	60	49	3,023	60	50
Swift Bay - Davidsons Point (A)	2,794	60	48	2,815	60	50
Swift Bay - Davidsons Point (B)	2,015	48	36	2,069	50	37
Augereau Island - Combe Hill Point (A)	2,446	59	42	2,358	60	45
Augereau Island - Combe Hill Point (B)	1,695	51	40	1,673	57	41
Augereau Island - Combe Hill Point (C)	1,438	44	32	1,259	46	32
Cape Torrens - Anderdon Islands Point	824	27	10	753	32	15
Cape Wellington - Cape Torrens (A)	1,073	41	24	946	42	26
Cape Wellington - Cape Torrens (B)	675	29	15	598	31	16
High Bluff - Cape Wellington (A))	33	8	-	38	7	-
High Bluff - Cape Wellington (B)	574	29	14	512	28	16
Battery Point - High Bluff (A)	216	19	5	206	20	5
Un-named Promontory - Battery Point	70	16	-	82	17	-
Raft Point - Un-named Promontory (A)	34	10	-	40	11	-
Raft Point - Un-named Promontory (B)	12	1	-	11	1	-
Marnebulorgne Community N point - Shale Island (D)	13	1	-	19	1	-
Nares Point - Un-named Peninsular (A)	13	1	-	14	2	-
Nares Point - Un-named Peninsular (B)	83	13	-	70	15	-
Point Usborne - Sir Richard Island (A)	19	3	-	22	4	-
Point Usborne - Sir Richard Island (B)	40	6	-	36	7	-

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Point Usborne - Sir Richard Island (C)	41	6	-	42	7	-
Meda River mouth spit SW - Helpman Island (A)	26	3	-	25	3	-
Malaburra Spring - Jangerie (B)	7	-	-	11	1	-
Malaburra Spring - Jangerie (C)	9	-	-	12	1	-
Swan Island - Cornambie Point	31	4	-	29	4	-
Packer Island - Swan Island (A)	71	9	-	79	9	-
Packer Island - Swan Island (B)	74	10	-	77	10	-
Packer Island - Swan Island (C)	36	3	-	40	5	-
Packer Island - Swan Island (D)	20	1	-	19	2	-
Low Island Point - Anjo (C)	5,966	73	60	5,842	73	60
Davidsons Point - Cape Bougainville (A)	5,505	66	60	5,576	69	60
Davidsons Point - Cape Bougainville (B)	7,620	63	59	7,851	64	60
Davidsons Point - Cape Bougainville (C)	4,130	61	60	4,752	61	60
Davidsons Point - Cape Bougainville (D)	4,661	60	60	4,420	61	60
Augereau Island - Combe Hill Point (D)	2,549	60	57	2,387	60	57
Augereau Island - Davidsons Point	2,713	60	56	2,584	60	56
Cape Wellington - Cape Torrens (C)	1,093	41	27	1,019	42	27
Cape Wellington - Cape Torrens (D)	1,160	41	24	1,188	42	26
Battery Point - High Bluff (B)	951	40	19	905	41	20
Battery Point - Cape Wellington	1,295	41	19	1,328	42	20
Battery Point - High Bluff (C)	734	26	13	689	26	11
Marnebulorgne Community N Point - Battery Point (A)	382	33	15	425	34	16
Raft Point - Un-named Promontory (E)	9	-	-	10	1	-
Raft Point - Un-named Promontory (F)	22	4	-	24	5	-
Raft Point - Un-named Promontory (G)	19	2	-	21	2	-

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Marnebulorgne Community N Point - Battery Point (B)	320	20	3	257	19	3
	Marnebulorgne Community N Point - Augereau Island (A)	780	41	17	788	41	18
	Point Usborne - Marnebulorgne Community N Point	1,272	35	13	1,152	33	14
	Point Usborne - Nares Point (A)	99	14	-	98	14	-
	Point Usborne - Nares Point (B)	53	7	-	57	9	-
	Marnebulorgne Community N Point - Augereau Island (B)	2,094	53	47	1,881	53	46
	Augereau Island - Cape Londonderry	165	8	3	156	8	3
	Ashmore Reef	189	6	1	132	7	1

Table 10.14 Probability of entrained hydrocarbons exposure to marine based receptors in the 0–10 m depth layer, for the unmitigated and mitigated cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories per season.

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
AMP	Argo-Rowley Terrace	395	12	3	337	13	2
	Ashmore Reef	643	25	14	636	25	15
	Cartier Island	289	32	15	284	32	15
	Joseph Bonaparte Gulf	17,429	100	98	15,302	100	99
	Kimberley	8,870	93	88	8,746	93	88
	Mermaid Reef	137	2	2	124	2	1
	Oceanic Shoals	2,810	71	49	2,697	71	50
EEZ	Christmas Island Exclusive Economic Zone	61	4	-	63	5	-
	East Timorian Exclusive Economic Zone	132	16	5	139	16	5
	Indonesian Exclusive Economic Zone	719	39	18	691	39	18
KEF	Ancient coastline at 125 m depth contour	4,013	61	46	3,989	60	46
	Ashmore Reef and Cartier Island and surrounding Commonwealth waters	643	33	15	636	32	15
	Canyons linking the Argo Abyssal Plain with the Scott Plateau	123	9	1	115	10	1
	Carbonate bank and terrace system of the Sahul Shelf	22,864	100	100	20,834	100	100
	Carbonate bank and terrace system of the Van Diemen Rise	99	13	-	98	13	-
	Continental Slope Demersal Fish Communities	1,900	48	32	1,779	48	32
	Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	141	2	2	124	2	1
	Pinnacles of the Bonaparte Basin	5,563	52	37	5,585	51	38
	Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	313	21	8	306	21	8

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
MP	Lalang-garram / Camden Sound	626	19	5	632	20	5
	Lalang-garram / Horizontal Falls	9	-	-	12	1	-
	North Kimberley	17,327	98	97	17,894	99	97
	North Lalang-garram	988	27	7	1,133	28	8
	Rowley Shoals	135	2	2	115	2	1
NR	Scott Reef	175	15	6	186	13	6
Ramsar	Ashmore Reef National Nature Reserve	643	25	14	636	25	15
	Ord River Floodplain	2,570	68	64	2,665	70	65
RSB	Albert Reef	831	11	5	863	11	5
	Baldwin Bank	2,453	67	46	2,290	69	50
	Barcoo Shoal	613	9	2	640	9	2
	Barracouta Shoal	431	29	19	419	29	19
	Bassett-Smith Shoal	3,057	76	59	3,308	76	60
	Beagle and Dingo Reefs	772	14	6	796	15	6
	Big Bank Shoals	15	2	-	11	2	-
	Branch Banks	5,610	90	84	5,803	92	86
	Brue Reef	466	10	2	461	10	2
	Churchill Reef	1,136	12	5	1,166	12	5
	Clerke Reef	125	2	2	115	2	1
	Cockell and Nicolle Reefs	121	4	1	93	4	-
	Deep Shoal 1	1,045	42	17	988	42	20
	Deep Shoal 2	889	23	11	842	22	11
	East Holothuria Reef	5,564	87	77	5,724	89	77
	Echo Shoals	15	1	-	9	-	-
	Echuca Shoal	1,196	50	35	1,144	50	37

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Emu Reefs	4,607	34	23	4,579	33	21
Eugene McDermott Shoal	829	56	33	852	55	31
Fantome Shoal	167	8	4	169	7	3
Favell Bank	1,119	57	29	1,124	57	29
Flat Top Bank	41	8	-	57	10	-
Gale Bank	1,082	44	24	996	45	26
Goeree Shoal	466	43	26	488	44	26
Heritage Reef	1,760	69	59	1,678	69	60
Heywood Shoal	954	49	38	987	46	40
Holothuria Banks	6,061	90	83	6,106	92	84
Howland Shoals	5,588	40	27	4,904	38	26
Imperieuse Reef	65	2	-	62	2	-
Ingram Reef	3,002	71	64	2,770	72	63
Jabiru Shoals	20	1	-	18	1	-
Jamieson Reef	3,724	74	67	3,941	75	66
Johnson Bank	264	27	9	305	27	10
Long Reef	3,939	87	78	3,716	88	80
Mangola Shoal	14	1	-	12	1	-
Mavis Reef	722	11	6	722	12	6
Mermaid Reef	136	2	2	113	2	1
Newby Shoal	11	1	-	12	2	-
Oliver Rock	3,758	82	70	3,529	79	69
Osborn Reefs	708	16	6	645	17	6
Otway Bank	5,603	88	82	5,879	89	84
Penguin Shoal	4,060	71	50	3,952	70	52

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Rainbow Shoals	532	15	4	449	14	4
	Robroy Reefs	2,163	66	46	2,054	67	48
	Rothery Reef	4,377	85	75	4,135	85	76
	Tait Bank	6,143	93	88	5,417	93	88
	The Boxers	14	2	-	16	2	-
	Van Cloon Shoal	2,204	63	44	2,073	63	45
	Vee Shoal	175	9	4	205	9	4
	Vulcan Shoal	357	40	22	376	41	23
	West Holothuria Reef	2,860	77	63	2,874	78	66
	Wildcat Reefs	602	12	5	570	13	5
	Woodbine Bank	178	28	9	166	27	9
Nearshore Waters	Adele Island	975	11	4	915	10	4
	Ashmore Reef	643	25	14	636	25	14
	Broome	30	1	-	29	1	-
	Browse Island	954	45	32	897	45	33
	Cartier Island	266	31	13	284	31	14
	Clerke Reef	125	2	2	107	2	1
	Clump Island	7,823	56	50	7,480	56	49
	Cunningham Island	60	2	-	52	2	-
	Daly	739	21	8	552	20	3
	Derby - West Kimberely	42	5	-	35	5	-
	Dorcherty Island	11,284	41	31	12,223	40	31
	Hibernia Reef	196	19	5	196	19	5
	Imperieuse Reef	60	2	-	52	2	-
	Mermaid Reef	125	2	2	107	2	1

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Peron Island North	10	1	-	12	1	-
	Peron Island South	6	-	-	10	1	-
	Quoin Island	8,554	58	51	7,430	58	51
	Sandy Islet	181	13	6	167	13	6
	Scott Reef North	206	12	6	208	12	6
	Scott Reef South	196	17	6	191	17	6
	Seringapatam Reef	313	20	7	299	20	7
	Thamarrurr	15,790	59	52	14,303	56	50
	Turtle Point	4,962	60	59	4,297	60	58
	Victoria Daly	9,153	60	59	7,666	60	57
	Whale Flat	4,196	52	49	4,219	51	49
	Wyndham - East Kimberley	16,868	97	97	17,894	97	97
State Waters	Northern Territory Sate Waters	16,710	65	61	15,122	65	61
	Western Australia State Waters	17,327	98	97	17,894	99	97
MNP - Timor	KKPN Laut Sawu	34	2	-	32	2	-
Nearshore Waters (DoT Shoreline Cells)	East Cape Domett - WA-NT Border (A)	4,470	66	60	4,420	63	60
	East Cape Domett - WA-NT Border (B)	4,364	67	65	4,263	67	65
	East Cape Domett - WA-NT Border (C)	5,482	79	67	5,244	80	67
	Bare Hill - East Cape Domett (A)	2,451	69	60	2,589	73	65
	Bare Hill - East Cape Domett (B)	3,442	71	65	3,530	74	65
	Bare Hill - East Cape Domett (C)	89	33	-	80	34	-
	Bare Hill - East Cape Domett (E)	6,523	92	87	6,798	92	87
	Aunty Islet - Thurburn Bluff	8,345	99	95	8,907	99	95
	Cape Bernier - Elsie Island N	17,327	97	97	17,894	99	97
	Cape Rulhieres - Cape Bernier	16,715	97	97	17,588	97	97

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
Un-named Head - Cape Rulhieres (A)	14,149	96	96	14,585	97	97
Un-named Head - Cape Rulhieres (B)	11,751	96	95	12,020	97	96
Un-named Head - Cape Rulhieres (C)	11,053	96	94	11,326	96	95
Cape Talbot - Cape Londonderry (A)	8,520	96	93	8,529	96	93
Cape Talbot - Cape Londonderry (B)	4,836	94	89	4,616	94	89
Low Island Point - Anjo (A)	3,751	93	89	3,764	94	89
Low Island Point - Anjo (B)	3,790	93	88	4,001	93	89
Cape Bougainville - Low Island Point (A)	3,405	92	86	2,969	93	88
Cape Bougainville - Low Island Point (B)	906	87	72	882	88	73
Cape Bougainville - Low Island Point (C)	4,790	89	86	5,002	90	86
Cape Bougainville - Low Island Point (D)	4,927	88	86	5,116	89	86
Crystal Head - Cape Bougainville	1,199	87	67	1,047	88	67
Davidsons Point - Crystal Head (A)	604	71	27	561	71	28
Davidsons Point - Crystal Head (B)	371	70	29	328	75	33
Davidsons Point - Crystal Head (C)	1,203	85	55	1,192	86	57
Davidsons Point - Crystal Head (D)	1,780	85	72	1,911	87	72
Swift Bay - Davidsons Point (A)	1,781	79	68	1,844	79	69
Swift Bay - Davidsons Point (B)	1,275	67	30	1,337	67	30
Augereau Island - Combe Hill Point (A)	1,617	70	49	1,590	69	48
Augereau Island - Combe Hill Point (B)	1,185	65	36	1,198	66	38
Augereau Island - Combe Hill Point (C)	1,201	55	29	1,155	58	30
Cape Torrens - Anderdon Islands Point	797	30	3	715	30	5
Cape Wellington - Cape Torrens (A)	954	38	17	879	38	22
Cape Wellington - Cape Torrens (B)	621	20	6	567	22	6
High Bluff - Cape Wellington (A))	33	6	-	35	5	-

Receptor	Unmitigated			Mitigated		
	Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
		Low	High		Low	High
High Bluff - Cape Wellington (B)	549	18	6	530	20	5
Battery Point - High Bluff (A)	186	9	2	189	9	2
Un-named Promontory - Battery Point	124	8	2	125	8	2
Raft Point - Un-named Promontory (A)	49	6	-	43	7	-
Nares Point - Un-named Peninsular (B)	39	4	-	37	4	-
Point Usborne - Sir Richard Island (A)	16	1	-	14	1	-
Point Usborne - Sir Richard Island (B)	20	1	-	23	1	-
Point Usborne - Sir Richard Island (C)	21	1	-	25	1	-
Meda River mouth spit SW - Helpman Island (A)	15	1	-	20	1	-
Malaburra Spring - Jangerie (C)	14	1	-	13	1	-
Swan Island - Cornambie Point	19	1	-	17	1	-
Packer Island - Swan Island (A)	25	1	-	29	2	-
Packer Island - Swan Island (B)	35	1	-	40	2	-
Packer Island - Swan Island (C)	34	1	-	37	2	-
Packer Island - Swan Island (D)	21	1	-	26	1	-
Chimney Rocks - Packer Island	13	1	-	10	1	-
Low Island Point - Anjo (C)	8,870	93	88	8,689	94	88
Davidsons Point - Cape Bougainville (A)	5,158	91	86	5,325	93	86
Davidsons Point - Cape Bougainville (B)	5,768	88	76	6,204	89	76
Davidsons Point - Cape Bougainville (C)	4,335	87	81	3,958	88	83
Davidsons Point - Cape Bougainville (D)	4,709	84	78	4,443	85	77
Augereau Island - Combe Hill Point (D)	1,896	71	64	1,717	72	64
Augereau Island - Davidsons Point	2,061	68	53	1,959	69	52
Cape Wellington - Cape Torrens (C)	952	40	19	869	40	24
Cape Wellington - Cape Torrens (D)	1,047	33	14	987	34	16

Receptor		Unmitigated			Mitigated		
		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure		Maximum instantaneous entrained hydrocarbon exposure	Probability of instantaneous entrained hydrocarbon exposure	
			Low	High		Low	High
	Battery Point - High Bluff (B)	831	26	7	792	26	7
	Battery Point - Cape Wellington	1,155	26	7	1,291	27	7
	Battery Point - High Bluff (C)	644	19	4	636	19	5
	Marnebulorgne Community N Point - Battery Point (A)	596	15	5	566	16	5
	Raft Point - Un-named Promontory (F)	21	4	-	17	3	-
	Raft Point - Un-named Promontory (G)	13	1	-	13	1	-
	Marnebulorgne Community N Point - Battery Point (B)	83	7	-	88	7	-
	Marnebulorgne Community N Point - Augereau Island (A)	791	14	6	781	15	6
	Point Usborne - Marnebulorgne Community N Point	1,195	12	5	1,136	12	5
	Point Usborne - Nares Point (A)	46	7	-	39	6	-
	Point Usborne - Nares Point (B)	18	1	-	21	1	-
	Marnebulorgne Community N Point - Augereau Island (B)	1,059	46	34	1,043	46	33
	Augereau Island - Cape Londonderry	315	21	8	302	21	8
	Ashmore Reef	235	12	6	226	12	6
	Seringapatam Reef	191	17	6	186	17	6
	Mermaid Reef	141	2	2	124	2	1
	Clerke Reef	132	2	2	115	2	1
	Imperieuse Reef	65	2	-	62	2	-

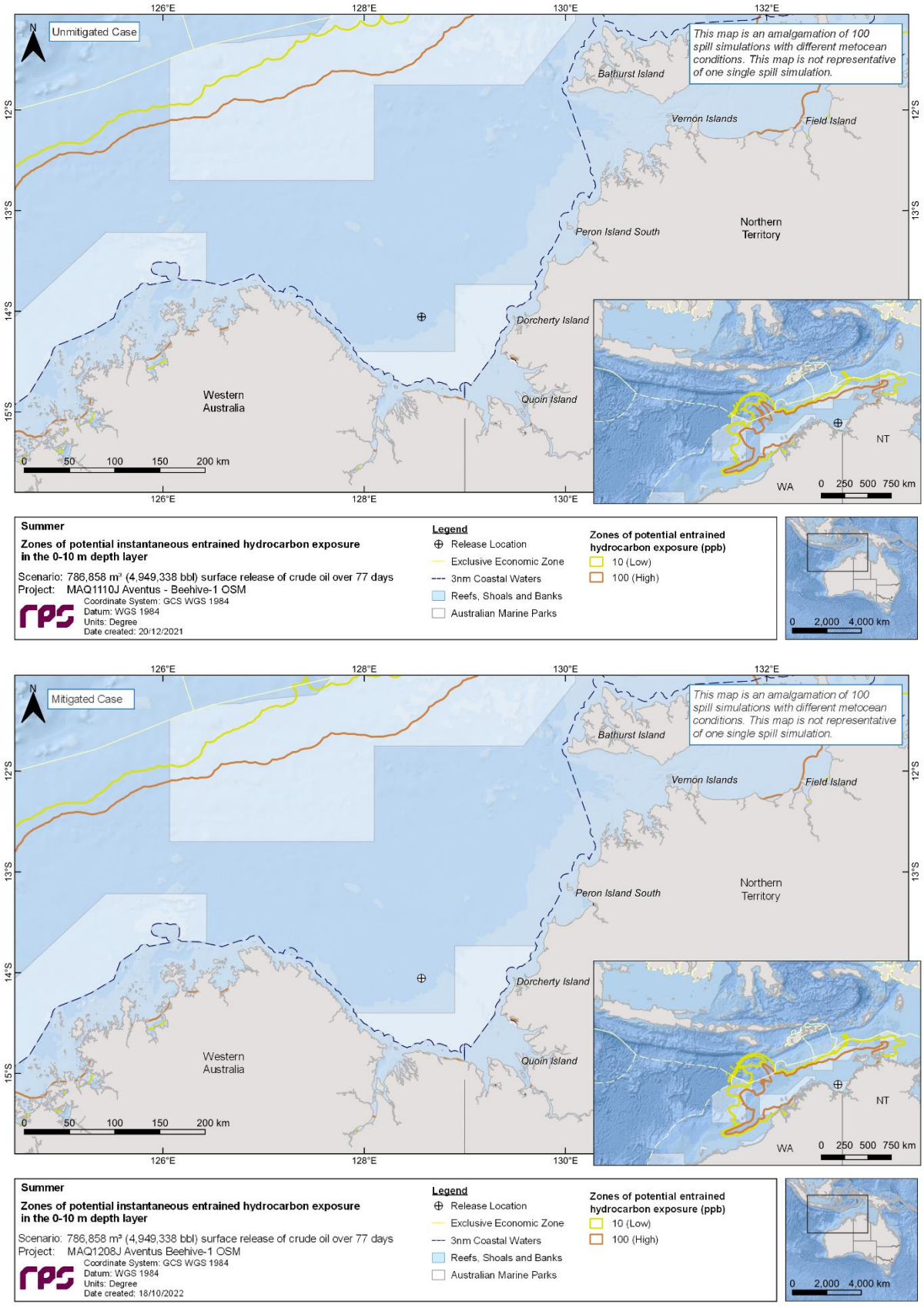


Figure 10.22 Zones of potential entrained hydrocarbon exposure at 0-10 m below the sea surface for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during summer conditions. The results were calculated from 100 spill trajectories.

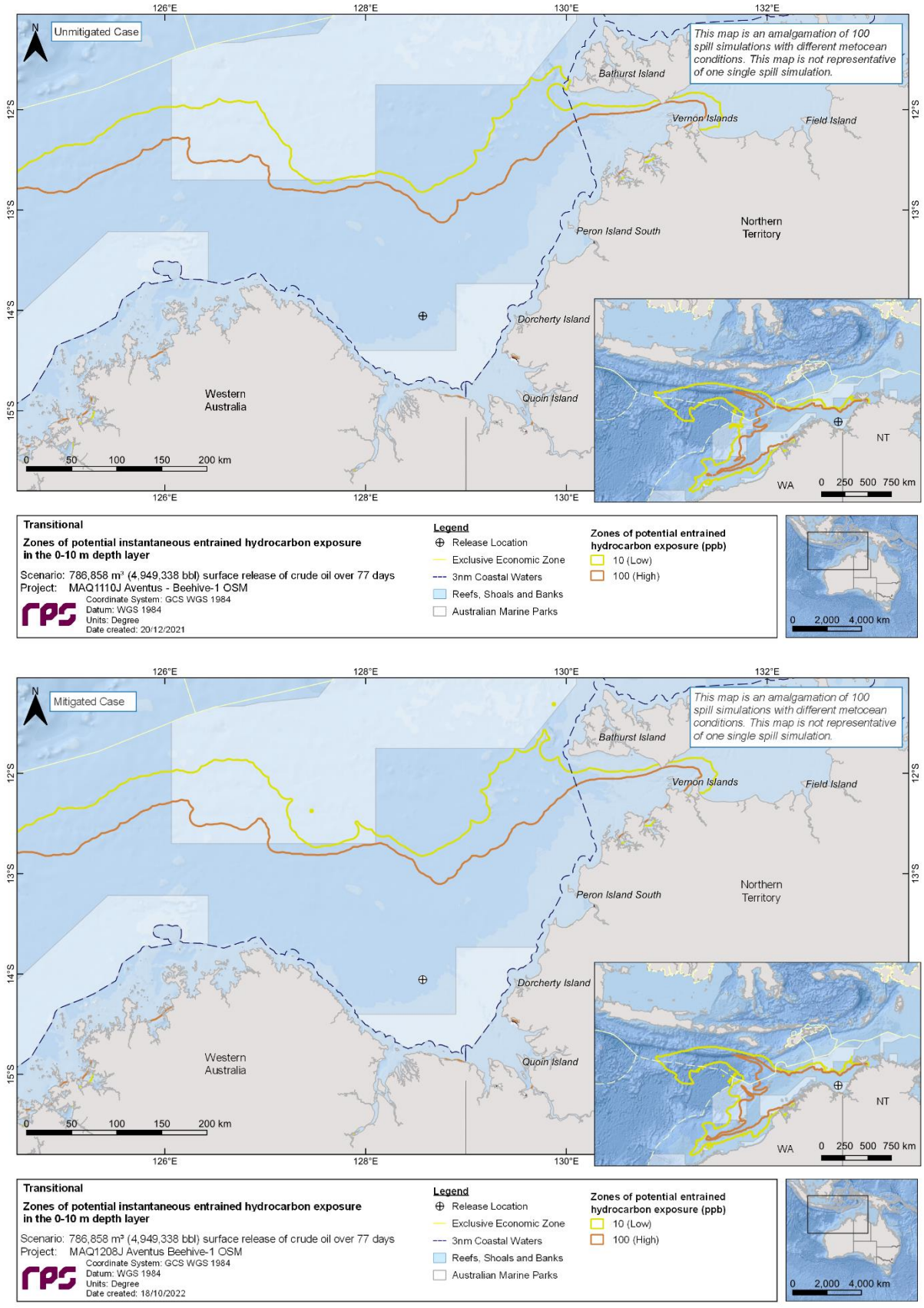


Figure 10.23 Zones of potential entrained hydrocarbon exposure at 0-10 m below the sea surface for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during transitional conditions. The results were calculated from 100 spill trajectories.

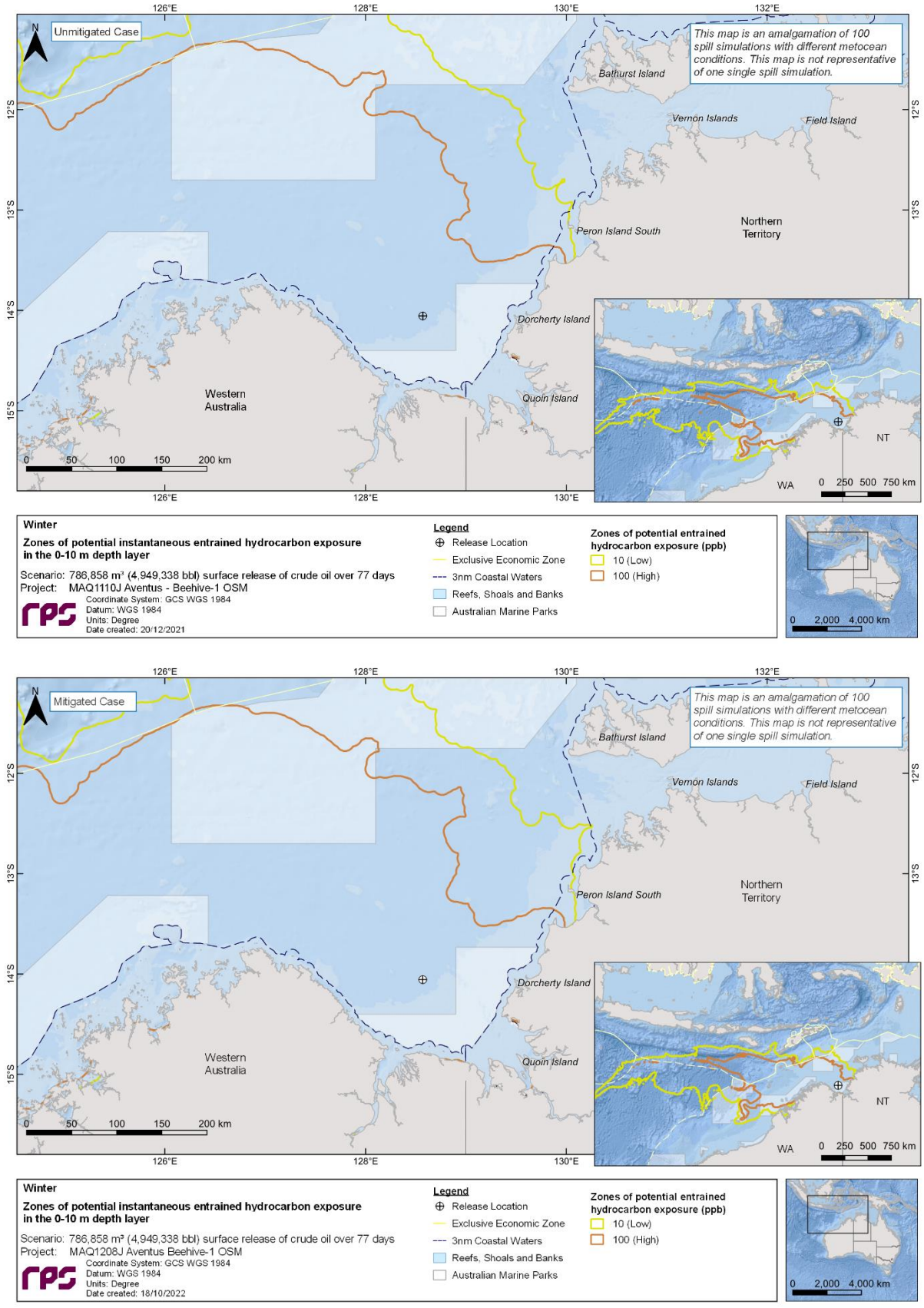


Figure 10.24 Zones of potential entrained hydrocarbon exposure at 0-10 m below the sea surface for the unmitigated (upper image) and mitigated (lower image) cases, in the event of a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days, during winter conditions. The results were calculated from 100 spill trajectories.

10.2 Deterministic Analysis

The stochastic modelling results were assessed for the unmitigated case, and the “worst case” deterministic runs were identified and presented below. The deterministic analysis assessed the largest swept area of floating oil above 1 g/m^2 (see Section 10.2.1), the minimum time before shoreline accumulation above 10 g/m^2 (see Section 10.2.2), the largest volume of oil ashore (see Section 10.2.3), the longest length of shoreline accumulation above 10 g/m^2 (see Section 10.2.4), the largest area of entrained hydrocarbons above 10 ppb (see Section 10.2.5), and the largest area of dissolved hydrocarbons above 10 ppb (see Section 10.2.6).

Table 10.15 presents a summary of all deterministic analysis criteria, the corresponding floating oil, shoreline accumulation, entrained hydrocarbon and dissolved hydrocarbon values at the assessed thresholds used and the seasonal model simulations used for comparison between the unmitigated and mitigated model results for the individual deterministic analysis runs.

Table 10.15 Summary of the deterministic analysis for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days, during seasonal conditions and both cases.

Variable	Threshold	Deterministic Analysis Criteria											
		Largest swept area of floating oil above 1 g/m^2		Minimum time before shoreline accumulation above 10 g/m^2		Largest volume of oil ashore		Longest length of shoreline accumulation above 10 g/m^2		Largest area of entrained hydrocarbons above 10 ppb		Largest area of dissolved hydrocarbons above 10 ppb	
Season		Summer		Transitional		Summer		Summer		Winter		Summer	
Run Number		79		88		17		33		1		7	
Case		**Unmitigated**	**Mitigated**	**Unmitigated**	**Mitigated**	**Unmitigated**	**Mitigated**	**Unmitigated**	**Mitigated**	**Unmitigated**	**Mitigated**	**Unmitigated**	**Mitigated**
Floating Oil Coverage (km^2)	**1 g/m^2**	**32,881**	**27,872**	26,229	5,142	13,839	19,836	16,086	11,507	6,331	4575	16,851	10,773
	10 g/m^2	1,524	1,318	1,740	1,056	1,879	1,917	1,514	1,351	734	705	1,480	1,372
	50 g/m^2	886	713	1,047	652	883	860	855	757	446	495	890	776
Shoreline Length (km)	**10 g/m^2**	90	87	212	86	186	171	**225**	**151**	37	15	198	145
	100 g/m^2	48	35	124	48	115	94	86	41	17	3	72	37
	1,000 g/m^2	1	-	16	1	10	9	-	-	-	0	-	0
Minimum Time (days) before floating oil exposure to contact shoreline	**10 g/m^2**	34.79	21.88	**25.13**	**25.25**	19.83	25.58	26.83	33.42	35.63	57.58	30.50	31.25
	100 g/m^2	54.17	55.54	25.21	29.38	26.83	25.67	33.58	34.17	50.71	73.17	31.33	32.08
	1,000 g/m^2	91.79	-	46.13	68.21	45.21	48.54	-	-	-		-	-
Maximum Volume (m^3)		168	139	271	141	**705**	**421**	232	128	55	14	219	118
Entrained Area (km^2)	**10 ppb**	141,066	140,539	83,846	27,278	30,291	83,887	235,748	237,930	**497,484**	**500,827**	238,868	240,152
	100 ppb	110,929	108,986	59,978	21,238	24,455	60,228	150,742	151,443	132,528	132,587	152,077	152,180
Dissolved Area (km^2)	**10 ppb**	96,182	90,168	56,884	23,185	21,430	56,063	132,870	133,776	57,316	60,948	**134,488**	**131,742**
	50 ppb	61,042	58,068	46,082	21,439	19,147	43,757	73,065	65,963	25,871	24,662	70,991	71,955
	400 ppb	16,893	18,524	16,397	13,190	9,980	16,620	15,731	14,191	9,955	11,040	14,580	15,879
Start Date		16th January 2011		23rd September 2016		19th December 2011		25th November 2013		8th June 2011		27th November 2013	

10.2.1 Deterministic Case: Largest swept area of floating oil above 1 g/m^2

The unmitigated deterministic trajectory that resulted in the largest swept area of floating oil above 1 g/m^2 (low threshold and visible floating oil) was identified during summer conditions as run number 79 which started on 16th January 2011 (map illustrated in Figure 10.25).

Figure 10.26 displays the time series of the swept area of low (1 g/m^2), moderate (10 g/m^2) and high (50 g/m^2) floating oil over the 98-day simulation, for the unmitigated and mitigated cases. For the unmitigated case, the maximum area of coverage of visible oil on the sea surface was predicted to occur 63 days after the spill started and covered approximately 400 km^2 (compared to 350 km^2, for the mitigated case). Floating oil above the moderate threshold (or actionable surface oil threshold) was predicted to spread across a maximum area of 215 km^2 (unmitigated case) and 190 km^2 (mitigated case). The total extent of actionable surface oil was predicted at 1,524 km^2 for the unmitigated case versus 1,328 km^2 (mitigated case) (refer to Table 10.15).

Figure 10.27 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.16 summarises the mass balance at the end of the simulation for the unmitigated and mitigated cases.

Table 10.16 Summary of the mass balance at day 98 for the trajectory that resulted in the largest swept area of floating oil above 1 g/m^2 for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)	
	Unmitigated	Mitigated
Surface/Floating Oil (m^3)	0	0
Entrained (m^3)	140,659	140,980
Dissolved (m^3)	419	437
Evaporated (m^3)	296,775	295,524
Decay (m^3)	348,045	348,985
Ashore/Shoreline (m^3)	166	138
Sediment (m^3)	794	794

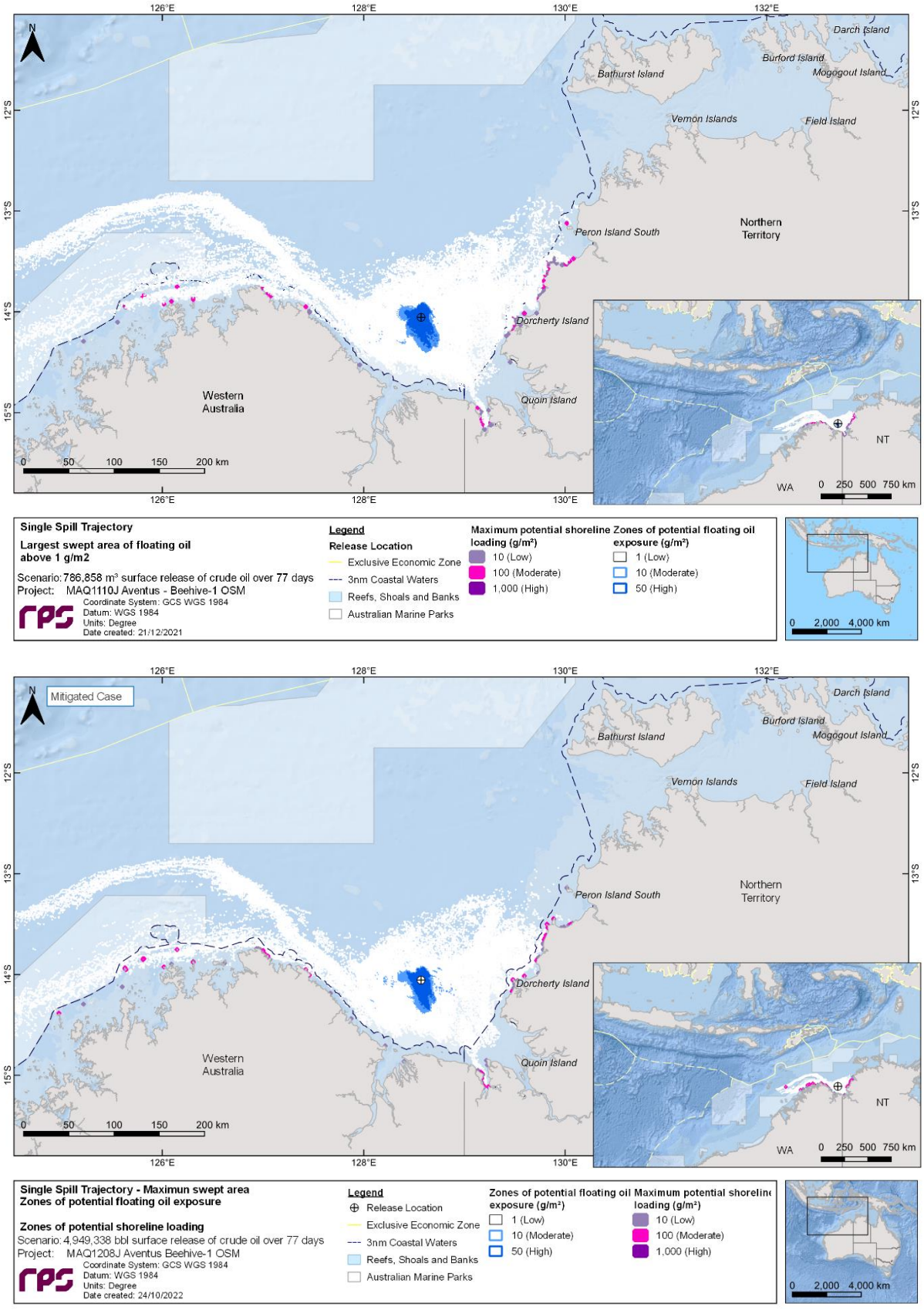


Figure 10.25 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the largest swept area of floating oil above 1 g/m^2 for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

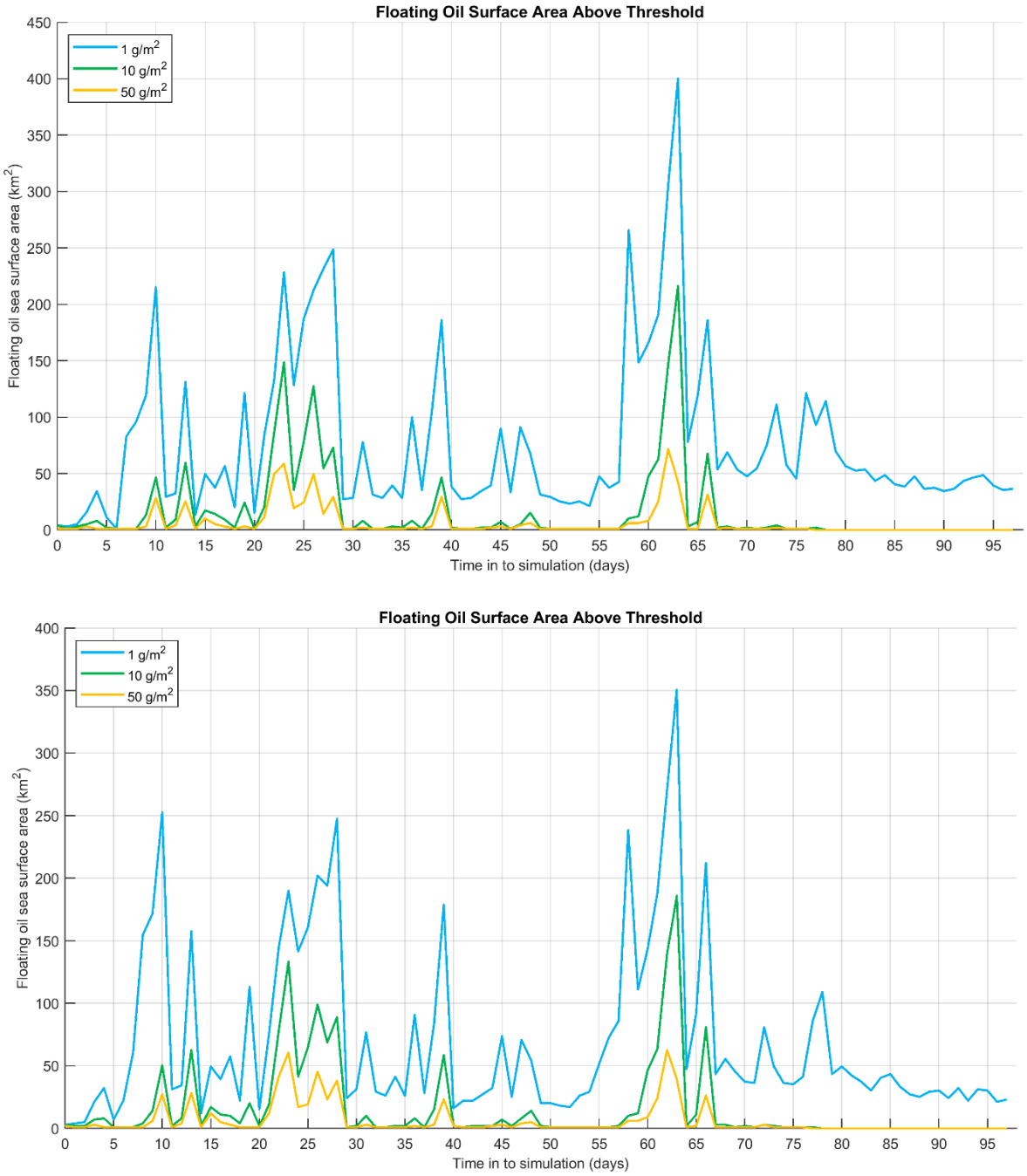


Figure 10.26 Time series of the area of low (1 g/m^2), moderate (10 g/m^2) and high (50 g/m^2) floating oil for the trajectory with the largest swept area of floating oil above 1 g/m^2 for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

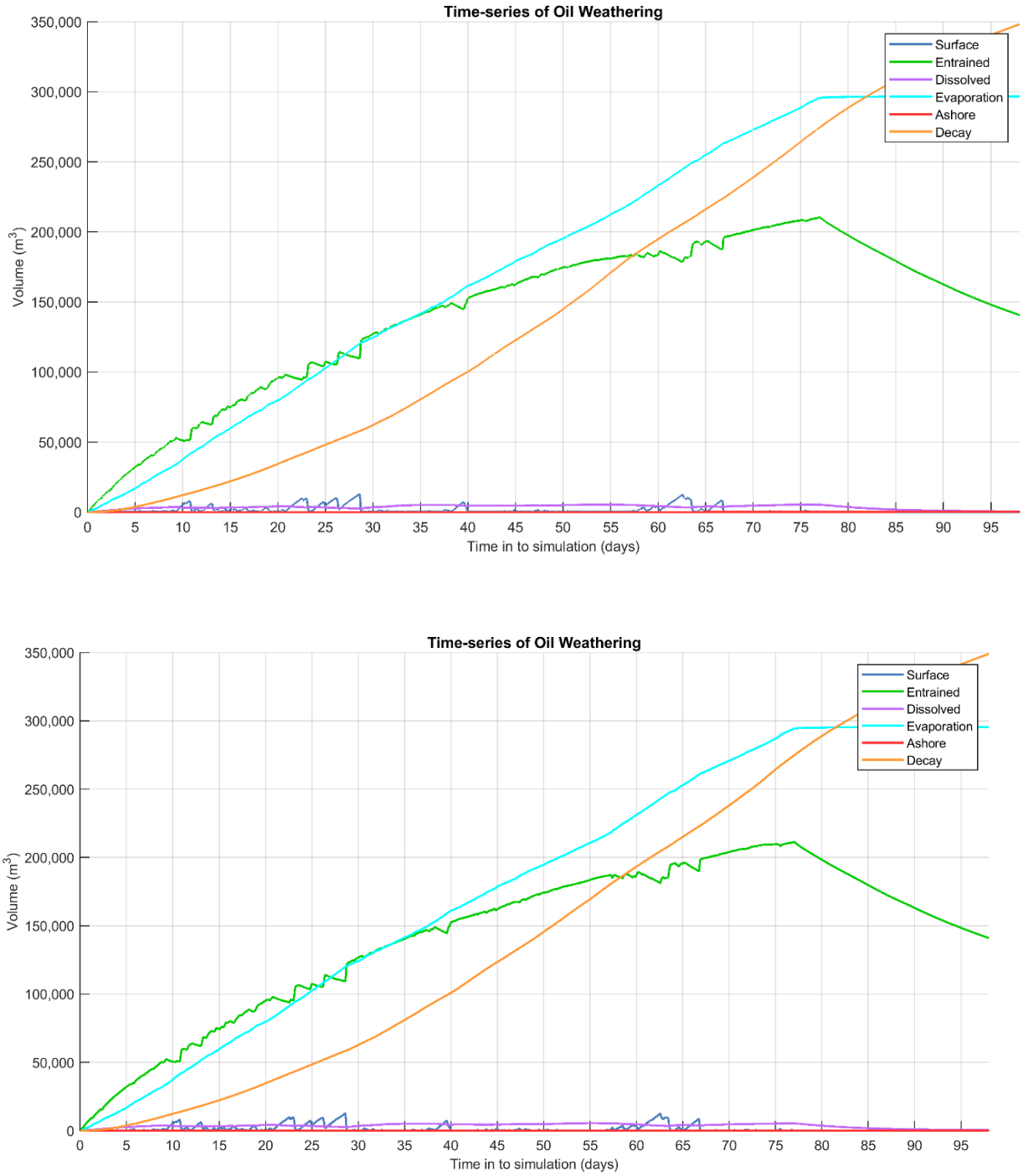


Figure 10.27 Predicted weathering and fates graph for the trajectory with the largest swept area of floating oil above 1 g/m^2 for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.2 Deterministic Case: Minimum time before shoreline accumulation above 10 g/m^2

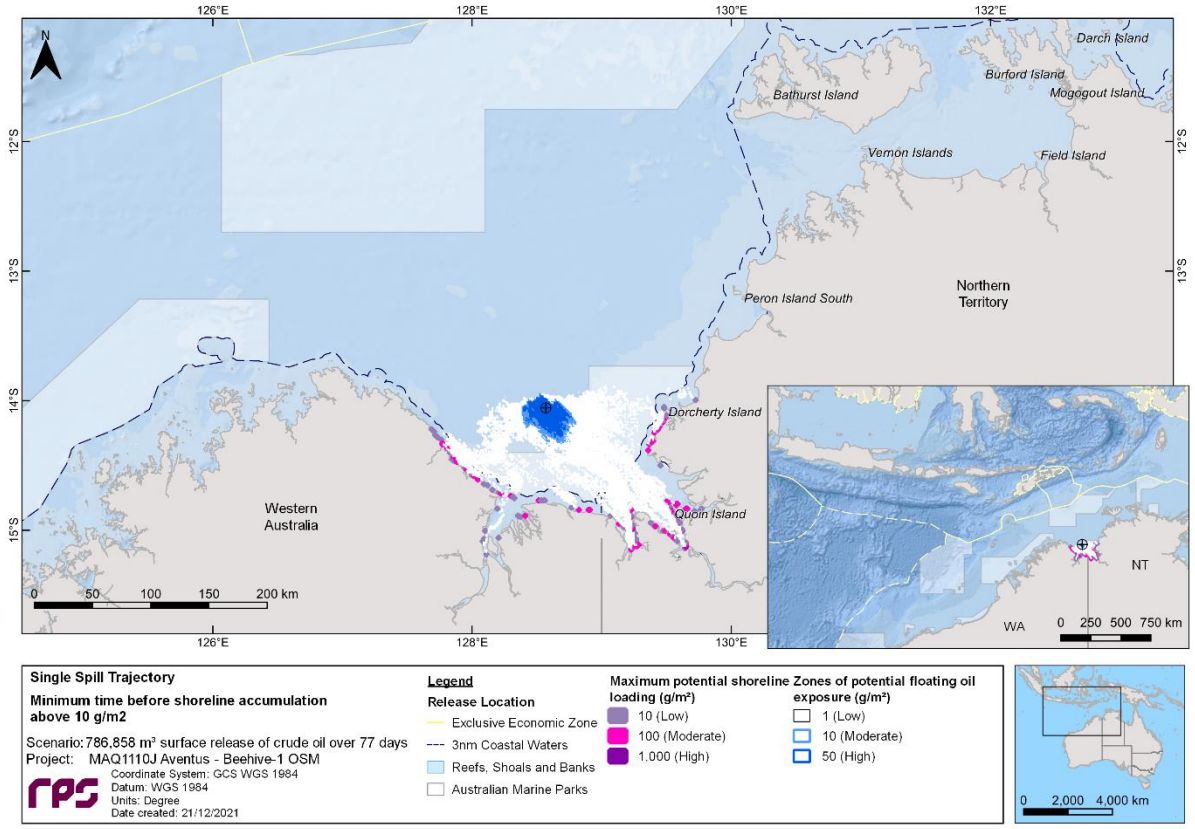
The unmitigated deterministic trajectory that resulted in the minimum time before shoreline accumulation above the low threshold (10 g/m^2) was identified during transitional conditions as run number 88 which started on the 23rd September 2016 (map illustrated in Figure 10.28).

The maximum shoreline length contacted by oil above the low, moderate and high thresholds predicted for the unmitigated case was 212 km, 124 km and 16 km, versus 86 km, 48 km and 1 km for the mitigated case. Surface oil was predicted to arrive to the shoreline after 603 hours (unmitigated) and 531 hours (mitigated). The total volume of oil ashore was predicted to reduce from 271 m^3 (unmitigated) to 141 m^3 (mitigated) (refer to Table 10.15).

Figure 10.29 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.17 summarises the mass balance at the end of the 98-day simulation for the unmitigated and mitigated cases.

Table 10.17 Summary of the mass balance at day 98 for the trajectory that resulted in the minimum time before shoreline accumulation above the low threshold (10 g/m^2) for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)	
	Unmitigated	Mitigated
Surface/Floating Oil (m^3)	0	0
Entrained (m^3)	144,203	143,969
Dissolved (m^3)	401	348
Evaporated (m^3)	317,482	317,009
Decay (m^3)	323,707	324,596
Ashore/Shoreline (m^3)	271	141
Sediment (m^3)	794	794



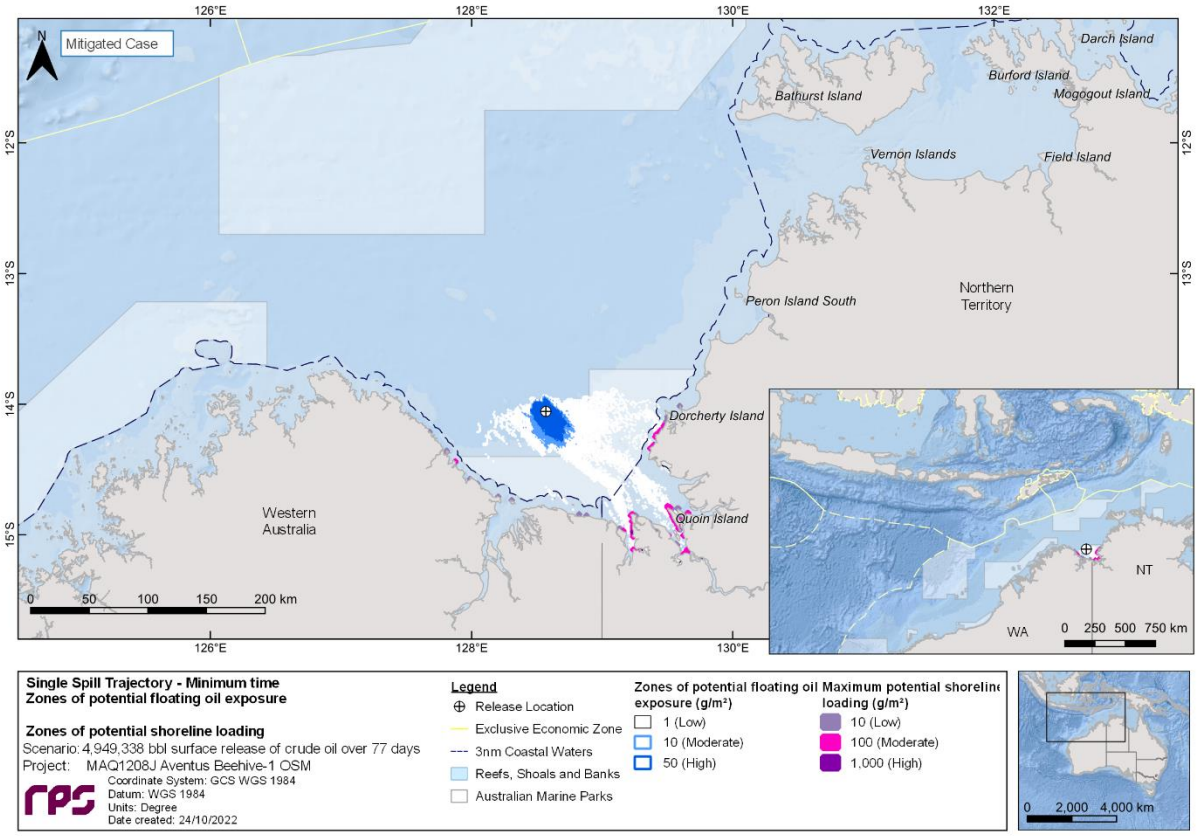


Figure 10.28 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the minimum time before shoreline accumulation above 10 g/m² for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days.

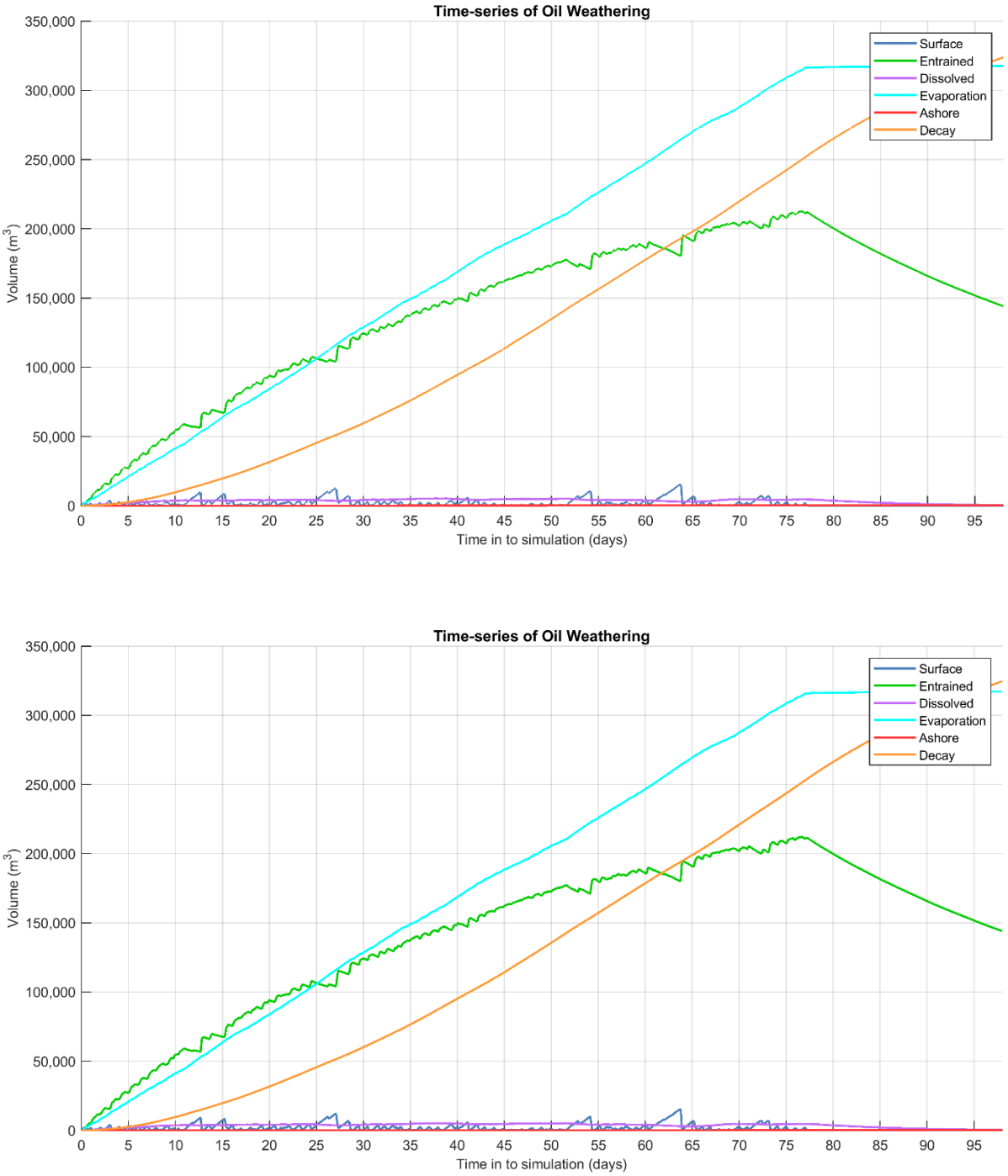


Figure 10.29 Predicted weathering and fates graph for the trajectory with the minimum time before shoreline accumulation above 10 g/m^2 for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.3 Deterministic Case: Largest volume of oil ashore

The unmitigated deterministic trajectory that resulted in the largest volume of oil ashore was identified during summer conditions as run number 17 which started on the 19th December 2011 (map illustrated in Figure 10.30).

Figure 10.31 displays the time series of the volume of oil accumulating on shorelines at the low (10 g/m^2), moderate (100 g/m^2) and high (1,000 g/m^2) thresholds over the 98-day simulation, for the unmitigated and mitigated cases. The maximum shoreline length contacted by oil above the low, moderate and high thresholds predicted for the unmitigated case was 186 km, 115 km and 10 km, versus 171 km, 94 km and 9 km for the mitigated case, however the total volume of oil ashore was predicted to reduce from 705 m^3 (unmitigated) to 421 m^3 (mitigated) (refer to Table 10.15).

Figure 10.32 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.18 summarises the mass balance at the end of the simulation for the unmitigated and mitigated cases.

Table 10.18 Summary of the mass balance at day 98 for the trajectory that resulted in the largest volume of oil ashore for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)	
	Unmitigated	Mitigated
Surface/Floating Oil (m^3)	0	0
Entrained (m^3)	141,875	141,474
Dissolved (m^3)	830	907
Evaporated (m^3)	325,596	325,218
Decay (m^3)	317,102	318,068
Ashore/Shoreline (m^3)	659	397
Sediment (m^3)	794	794

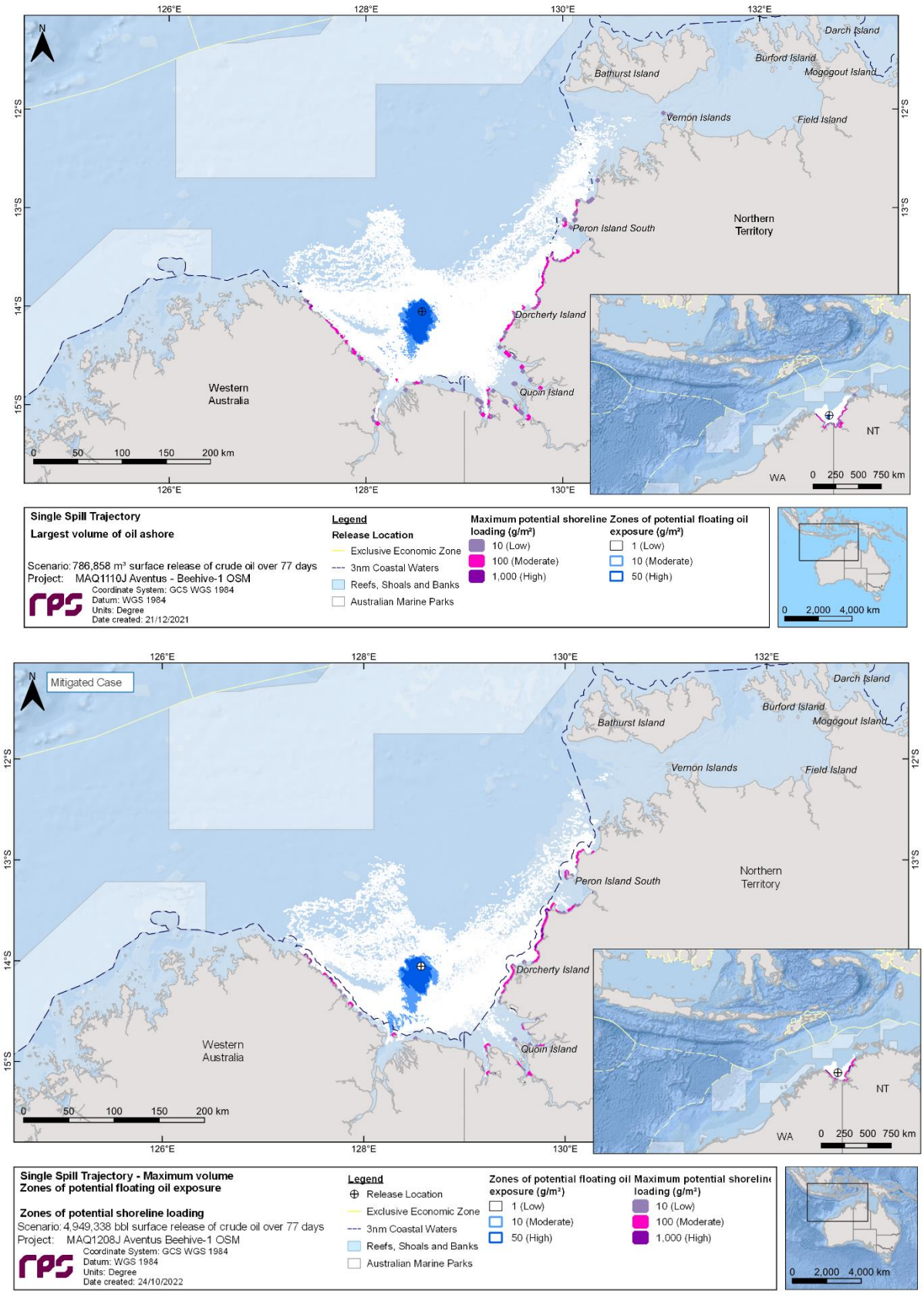


Figure 10.30 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the largest volume of oil ashore for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days.

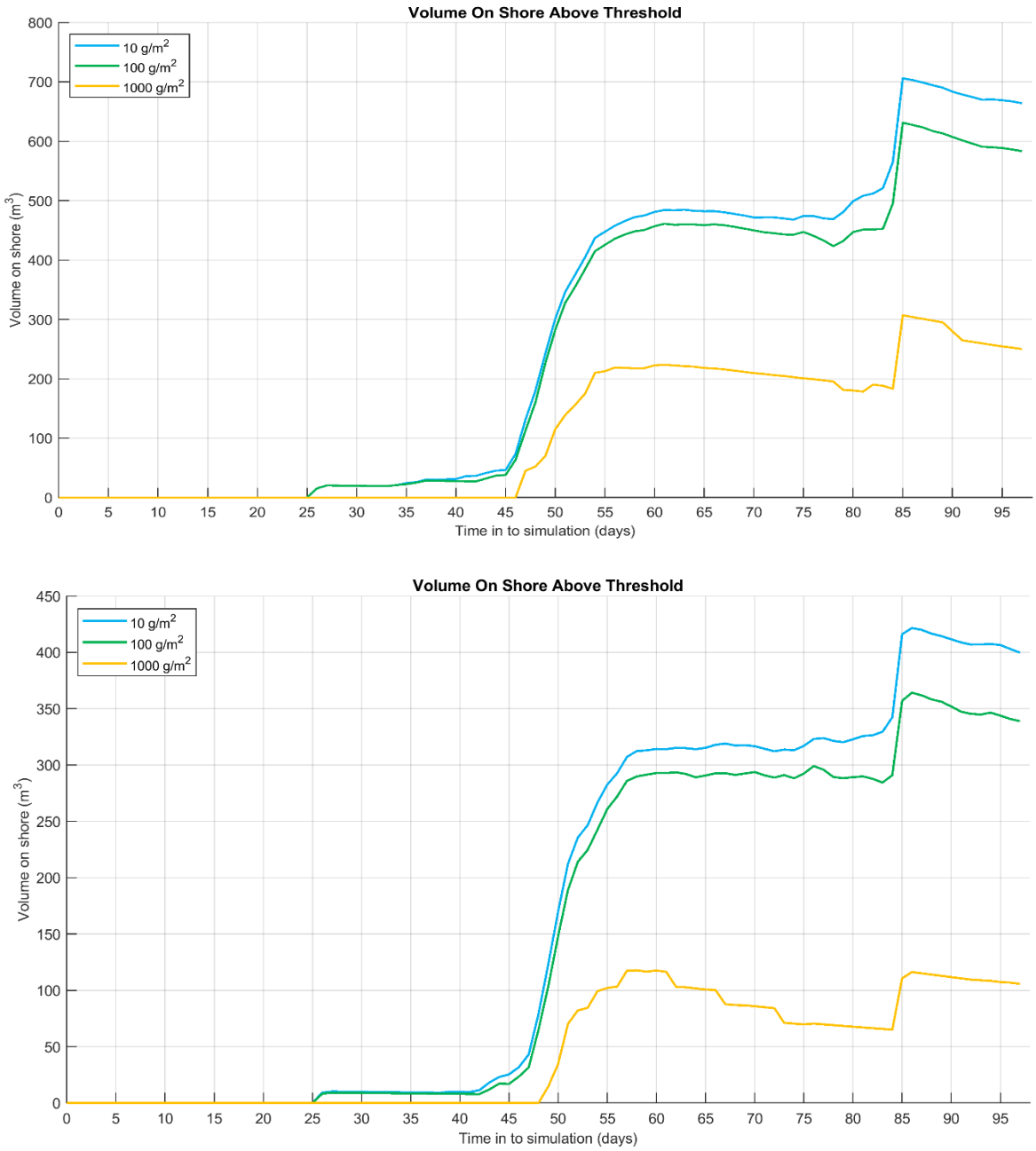


Figure 10.31 Time series of the volume of oil accumulating on shorelines at the low (10 g/m^2), moderate (100 g/m^2) and high (1,000 g/m^2) thresholds for the trajectory with the largest volume of oil ashore for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m3 surface release of crude oil over 77 days, tracked for 98 days.

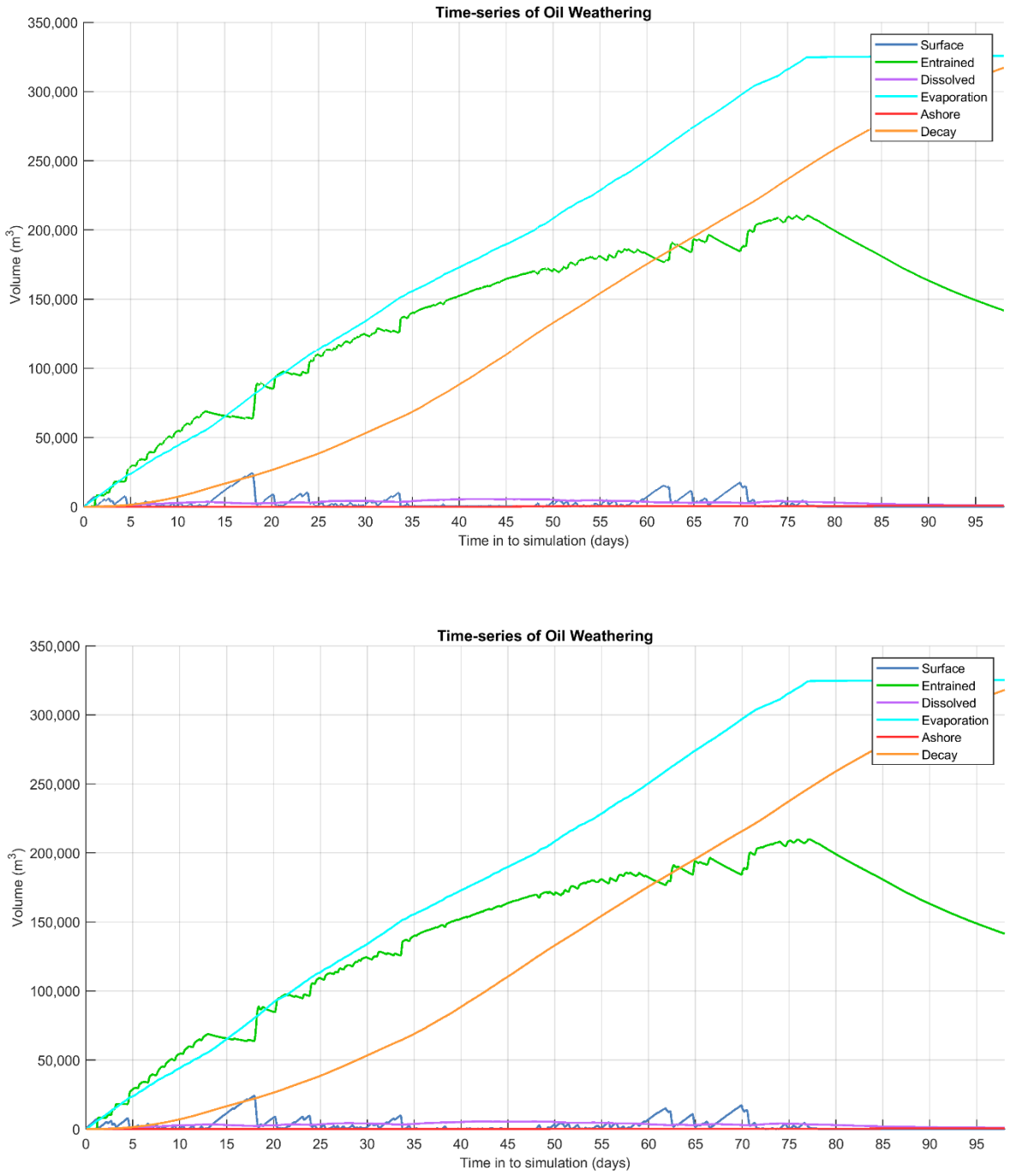


Figure 10.32 Predicted weathering and fates graph for the trajectory with the largest volume of oil ashore for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.4 Deterministic Case: Longest length of shoreline accumulation above 10 g/m^2

The unmitigated deterministic trajectory that resulted in the longest length of shoreline accumulation above 100 g/m^2 was identified during summer conditions as run number 33 which started on the 25th November 2013 (map illustrated in Figure 10.33).

Figure 10.34 displays the time series of the length of oil accumulation on shorelines at the low (10 g/m^2), moderate (100 g/m^2) and high (1,000 g/m^2) thresholds over the 98-day simulation, for the unmitigated and mitigated cases. The maximum shoreline length contacted by oil above the low and moderate thresholds predicted for the unmitigated case was 225 km and 86 km, versus 151 km, and 41 km for the mitigated case. The total volume of oil ashore was predicted to reduce from 232 m^3 (unmitigated) to 128 m^3 (mitigated) (refer to Table 10.15).

Figure 10.35 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.19 summarises the mass balance at the end of the simulation for the unmitigated and mitigated cases.

Table 10.19 Summary of the mass balance at day 98 for the trajectory that resulted in the longest length of shoreline accumulation above 10 g/m^2 for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)	
	Unmitigated	Mitigated
Surface/Floating Oil (m^3)	0	0
Entrained (m^3)	140,158	140,485
Dissolved (m^3)	491	443
Evaporated (m^3)	315,572	314,137
Decay (m^3)	329,599	330,863
Ashore/Shoreline (m^3)	245	135
Sediment (m^3)	794	794

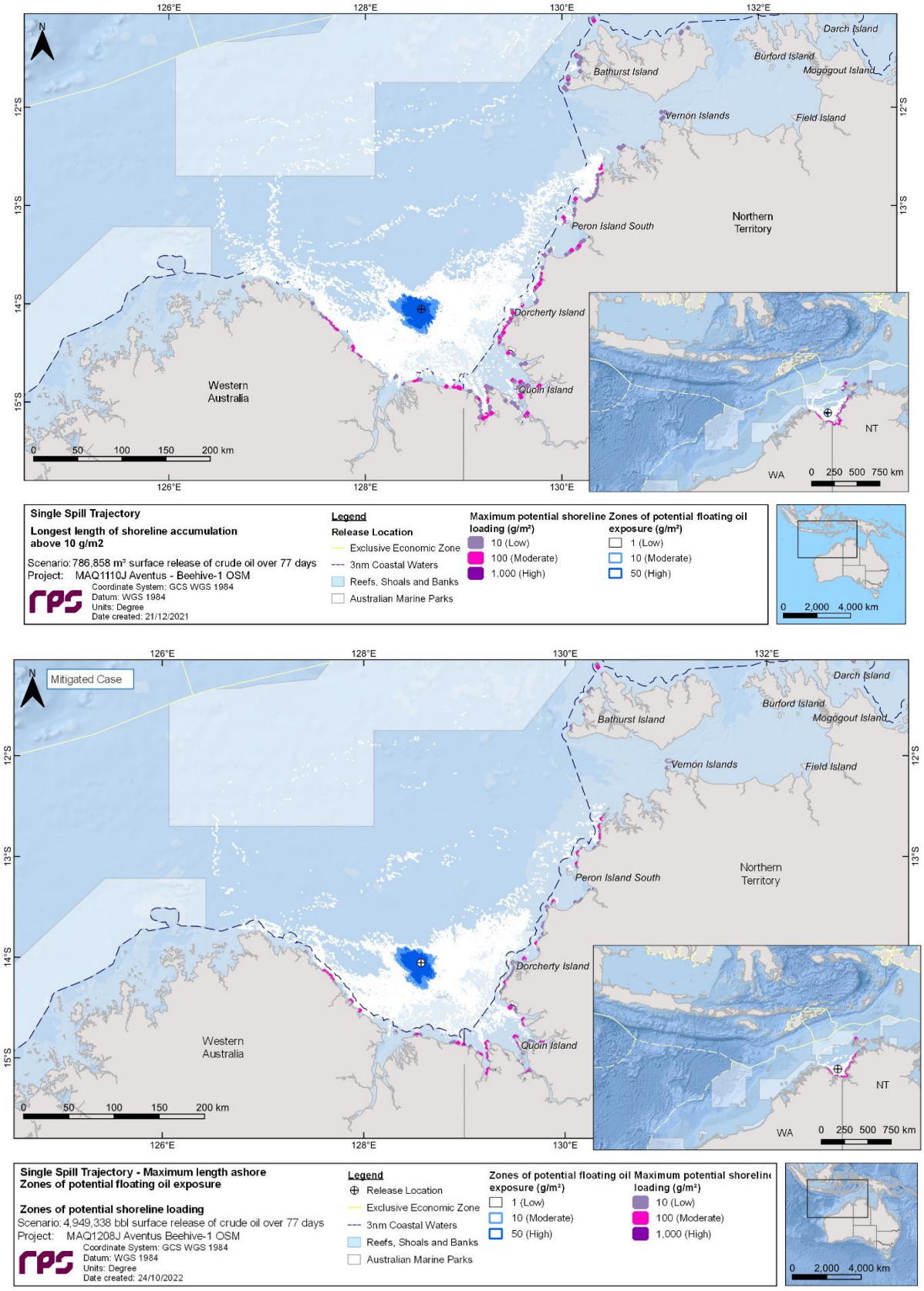


Figure 10.33 Zones of potential floating oil exposure and shoreline accumulation, for the trajectory with the longest length of shoreline accumulation above 10 g/m² for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days.

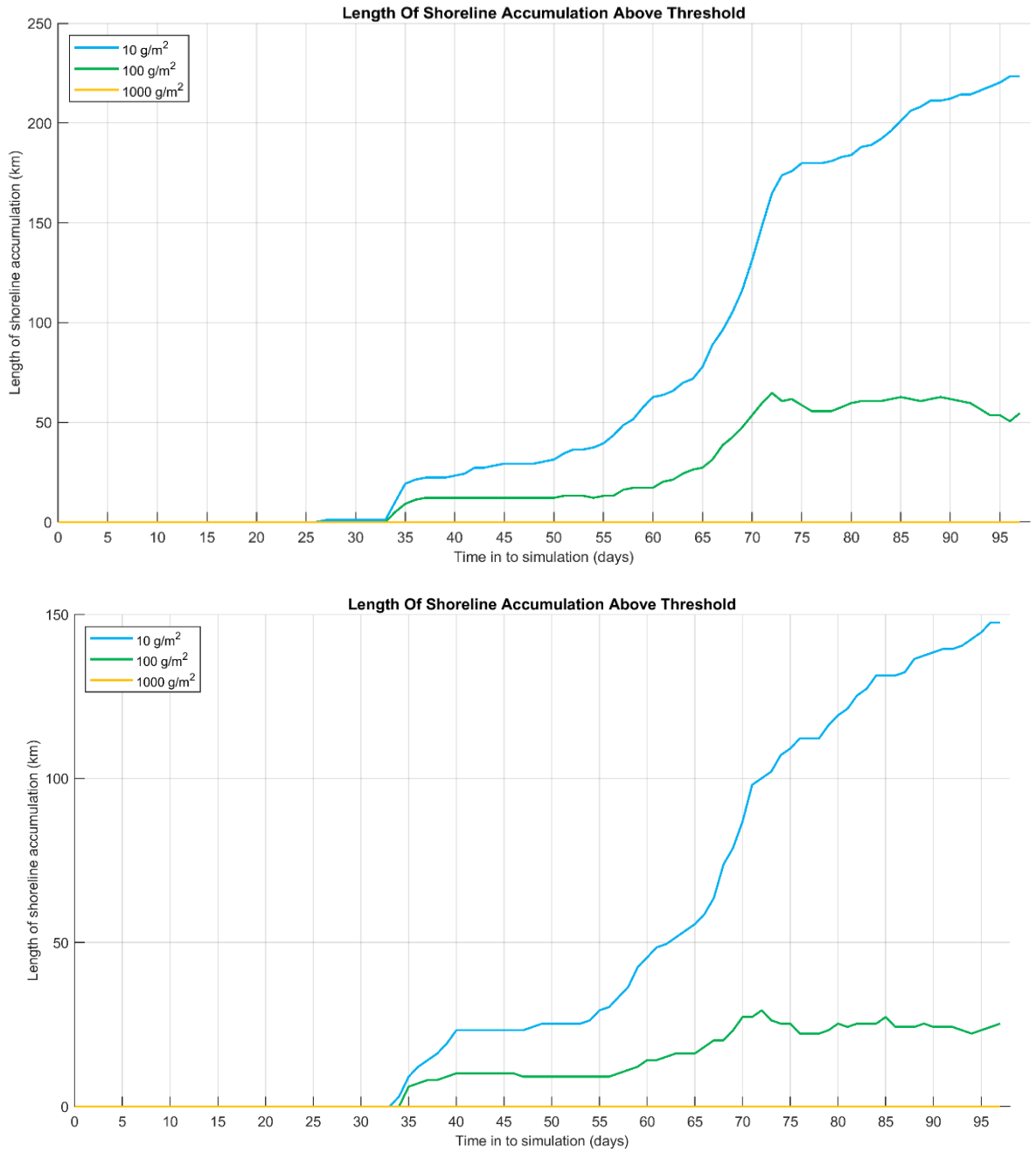


Figure 10.34 Time series of the length of shoreline at the low (10 g/m^2), moderate (100 g/m^2) and high (1,000 g/m^2) thresholds for the trajectory with the longest length of shoreline accumulation above 10 g/m^2 for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

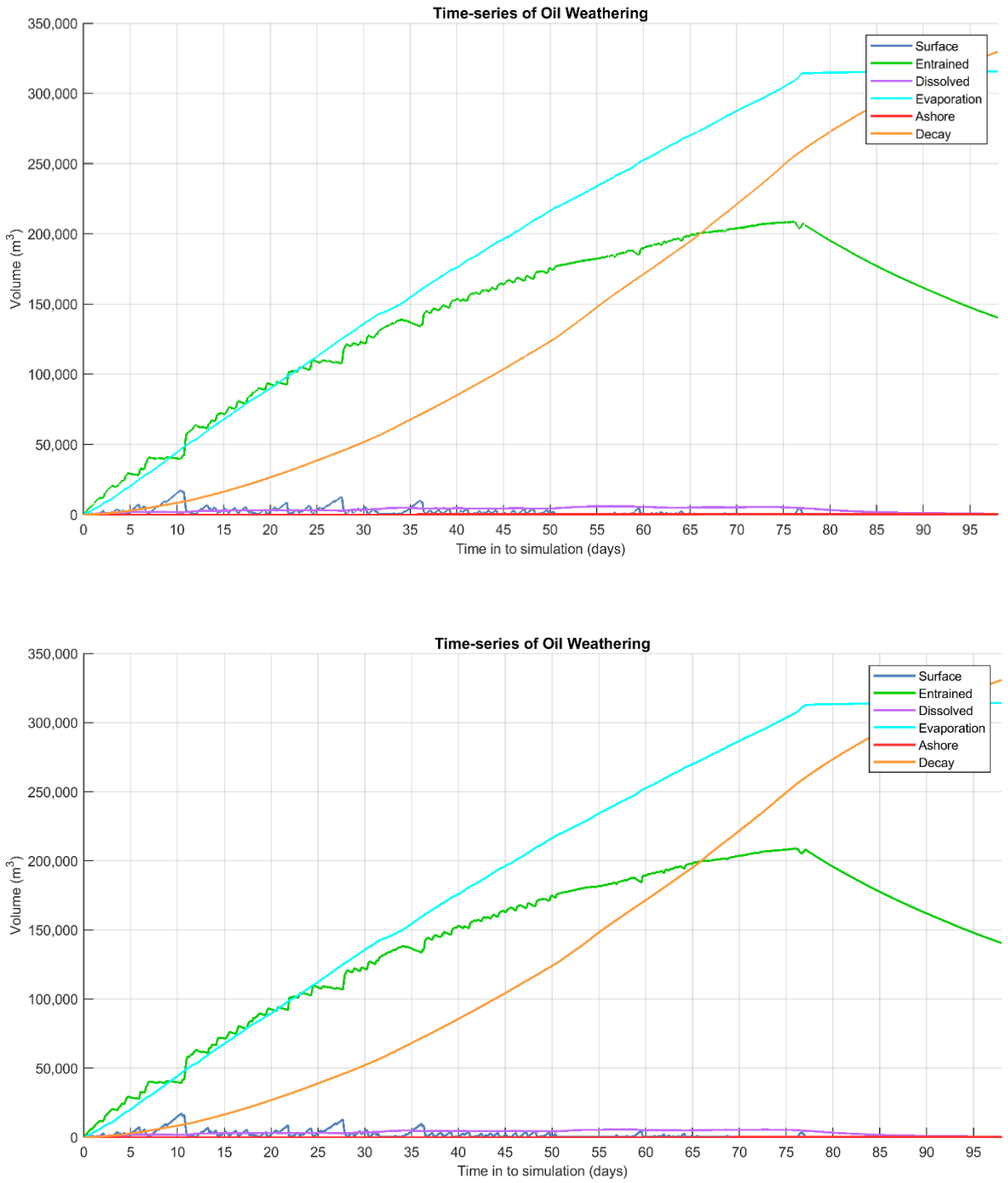


Figure 10.35 Predicted weathering and fates graph for the trajectory with the longest length of shoreline accumulation above 10 g/m^2 for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.5 Deterministic Case: Largest area of entrained hydrocarbons above 10 ppb

The unmitigated deterministic trajectory that resulted in the largest area of entrained hydrocarbons above 10 ppb (low threshold) was identified during winter conditions as run number 1 which started on the 8th June 2011 (map illustrated in Figure 10.36).

Figure 10.37 displays the time series of the area of entrained hydrocarbons at the low (10 ppb) and moderate (100 ppb) thresholds over the 98-day simulation, for the unmitigated and mitigated cases. The maximum shoreline length contacted by oil above the low and moderate thresholds predicted for the unmitigated case was 37 km and 17 km, versus 15 km and 3 km for the mitigated case. The total volume of oil ashore was predicted to increase from 55 m^3 (unmitigated) to 14 m^3 (mitigated) (refer to Table 10.15).

Figure 10.38 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.20 summarises the mass balance at the end of the simulation for the unmitigated and mitigated cases.

Table 10.20 Summary of the mass balance at day 98 for the trajectory that resulted in the largest area of entrained hydrocarbons above 10 ppb for the unmitigated and mitigated cases. Results are based on 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)	
	Unmitigated	Mitigated
Surface/Floating Oil (m^3)	0	0
Entrained (m^3)	142,358	141,994
Dissolved (m^3)	562	549
Evaporated (m^3)	291,765	290,931
Decay (m^3)	351,324	352,576
Ashore/Shoreline (m^3)	55	14
Sediment (m^3)	794	794

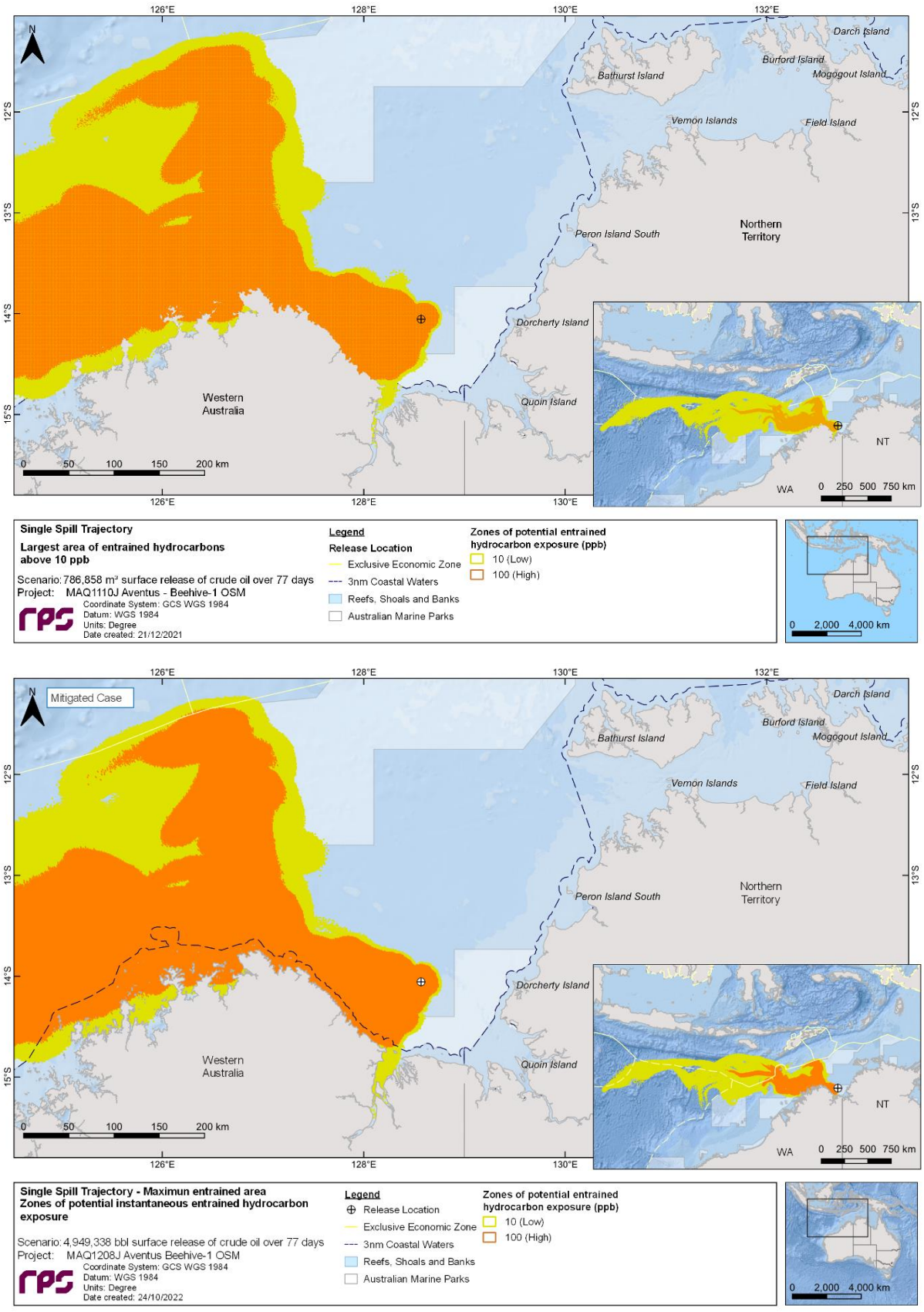


Figure 10.36 Zones of potential entrained hydrocarbon exposure, for the trajectory with the largest area of entrained hydrocarbons above 10 ppb for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days.

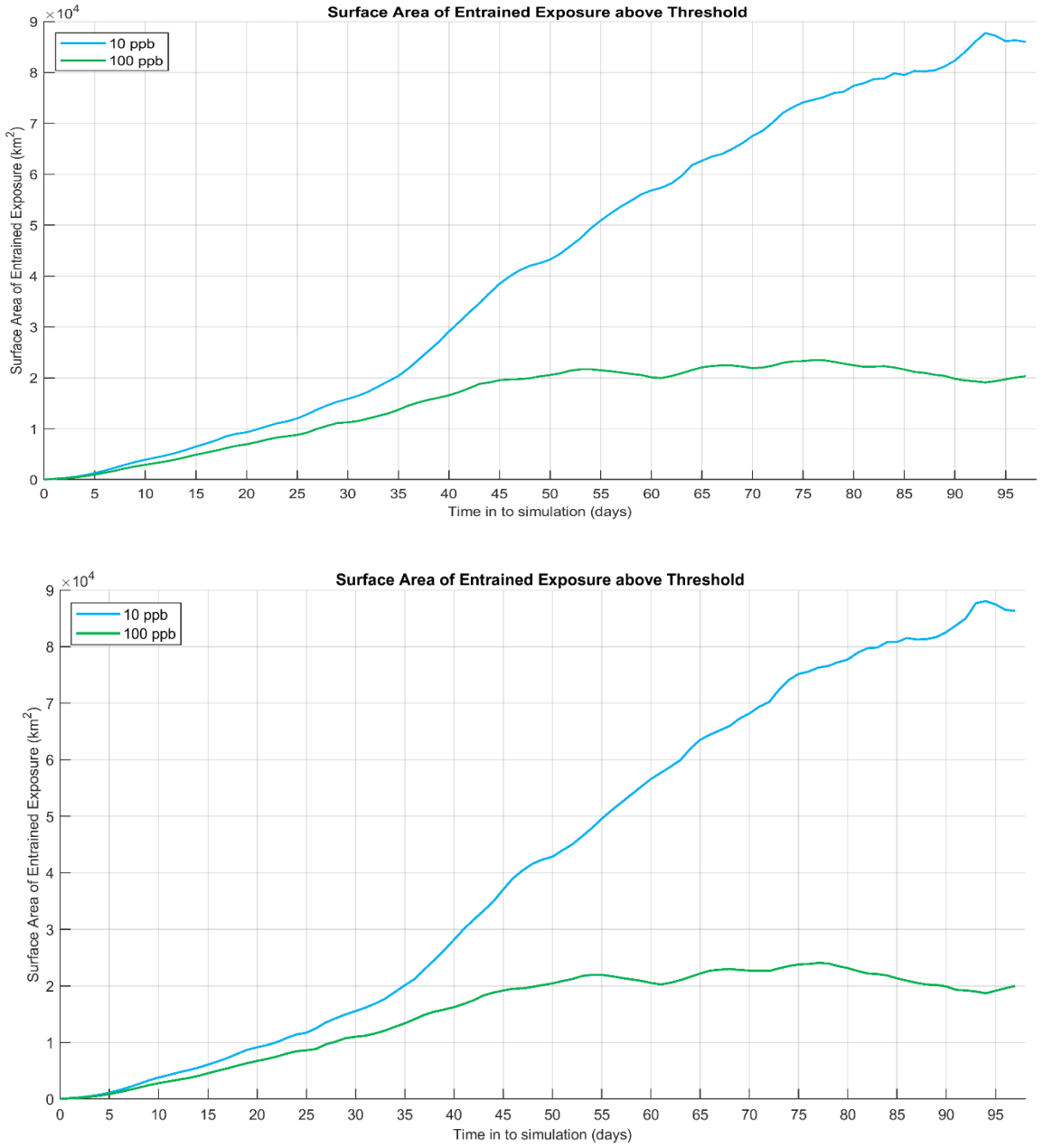


Figure 10.37 Time series of the area of low (10 ppb) and moderate (100 ppb) entrained hydrocarbons for the trajectory with the largest area of entrained hydrocarbons above 10 ppb for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

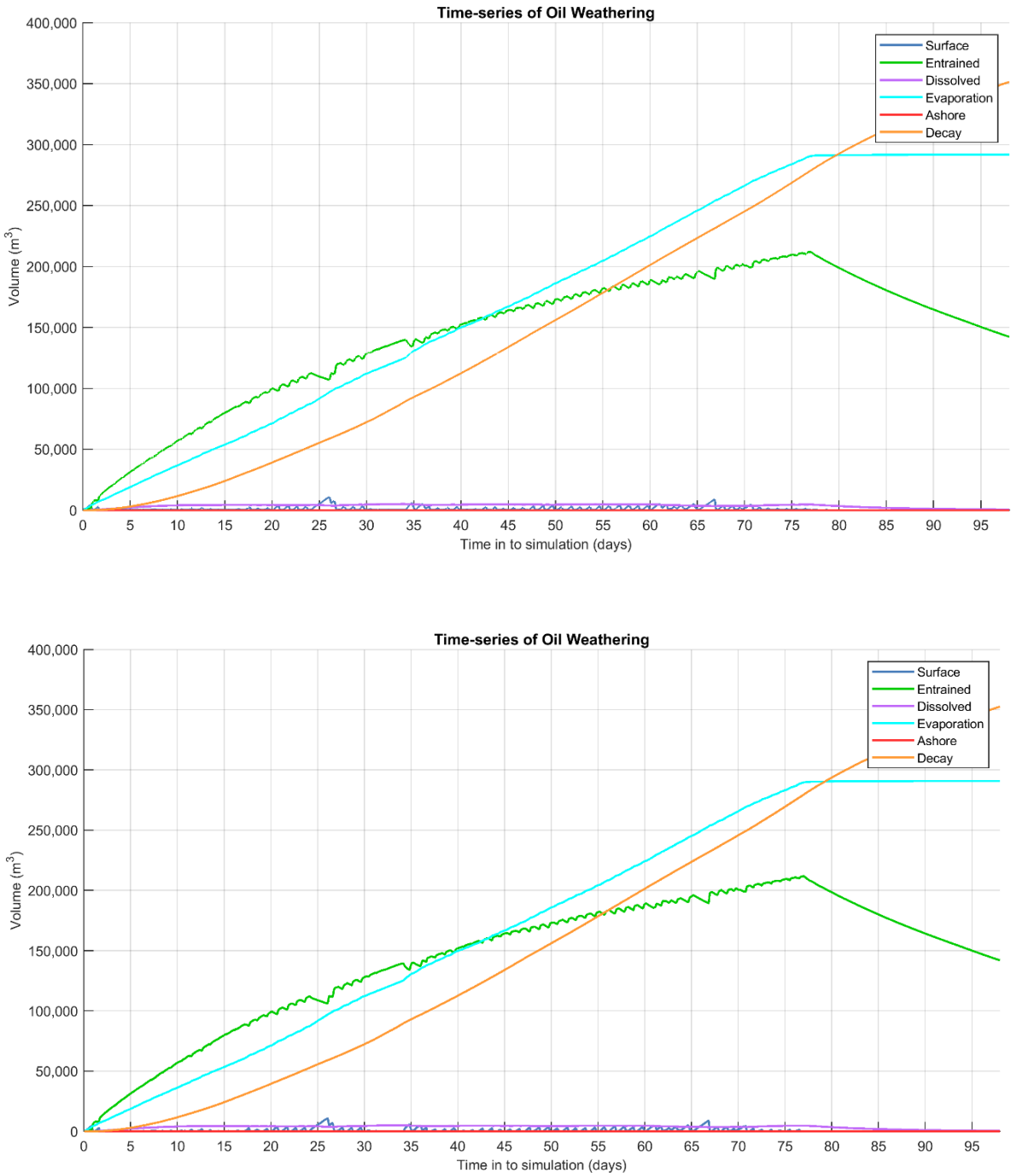


Figure 10.38 Predicted weathering and fates graph for the trajectory with the largest area of entrained hydrocarbons above 10 ppb for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

10.2.6 Deterministic Case: Largest area of dissolved hydrocarbons above 10 ppb

The unmitigated deterministic trajectory that resulted in the largest area of dissolved hydrocarbons above 10 ppb (low threshold) was identified during summer conditions as run number 7 which started on the 27th November 2013 (map illustrated in Figure 10.39).

Figure 10.40 displays the time series of the area of dissolved hydrocarbons at the low (10 ppb), moderate (50 ppb) and high (400 g/m^2) thresholds over the 98-day simulation, for the unmitigated and mitigated cases. The maximum shoreline length contacted by oil above the low and moderate thresholds predicted for the unmitigated case was 198 km and 72 km, versus 145 km, and 37 km for the mitigated case. The total volume of oil ashore was predicted to increase from 219 m^3 (unmitigated) to 118 m^3 (mitigated) (refer to Table 10.15).

Figure 10.41 presents the fates and weathering graph for the corresponding single spill trajectory and Table 10.21 summarises the mass balance at the end of the simulation for the unmitigated and mitigated cases.

Table 10.21 Summary of the mass balance at day 98 for the trajectory that resulted in the largest area of dissolved hydrocarbons above 10 ppb for the unmitigated and mitigated cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

Exposure Metrics	End of the simulation (day 98)	
	Unmitigated	Mitigated
Surface/Floating Oil (m^3)	0	0
Entrained (m^3)	140,338	140,077
Dissolved (m^3)	505	510
Evaporated (m^3)	315,546	315,100
Decay (m^3)	329,456	330,258
Ashore/Shoreline (m^3)	219	118
Sediment (m^3)	794	794

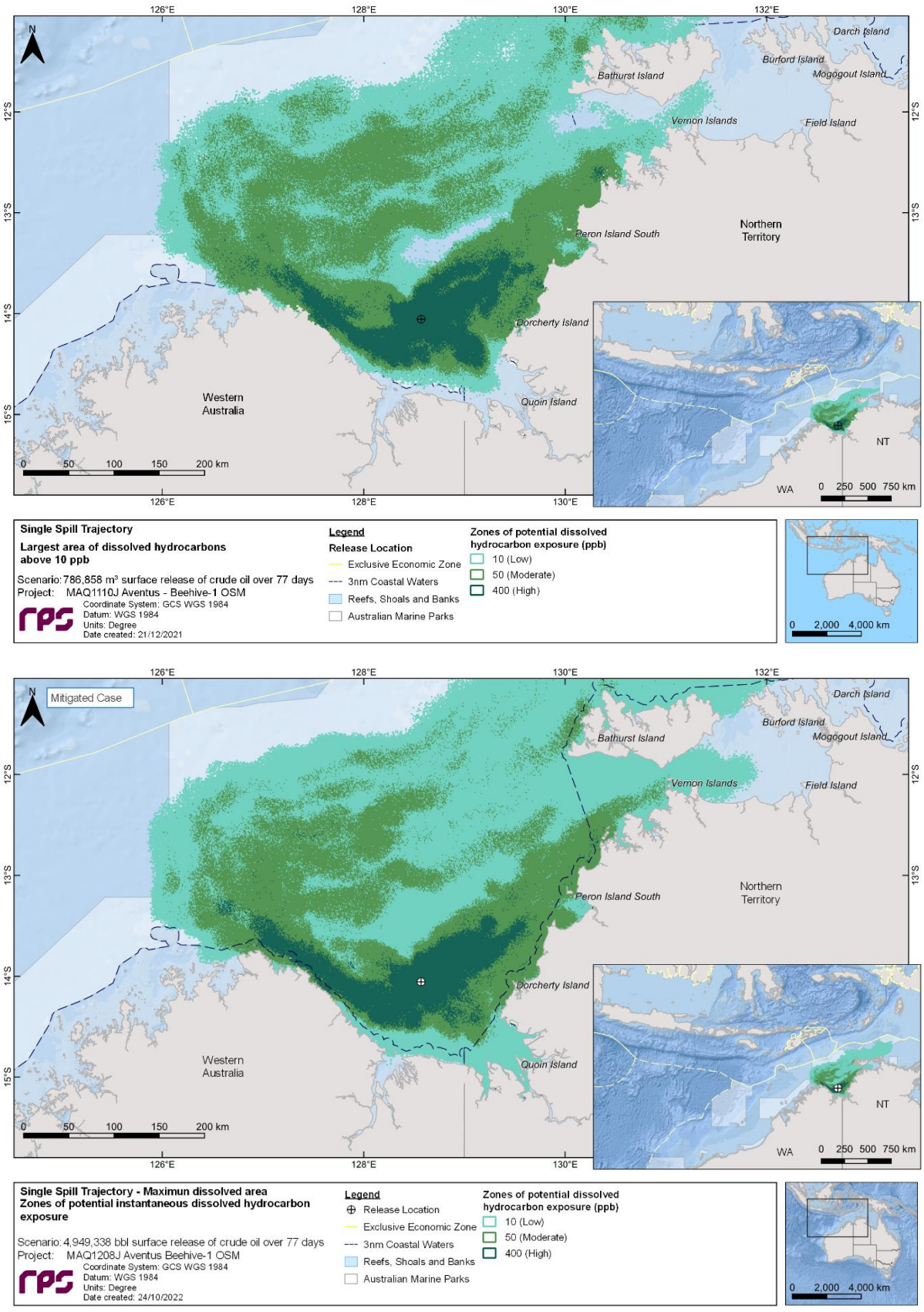


Figure 10.39 Zones of potential dissolved hydrocarbon exposure, for the trajectory with the largest area of dissolved hydrocarbons above 10 ppb for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m³ surface release of crude oil over 77 days, tracked for 98 days.

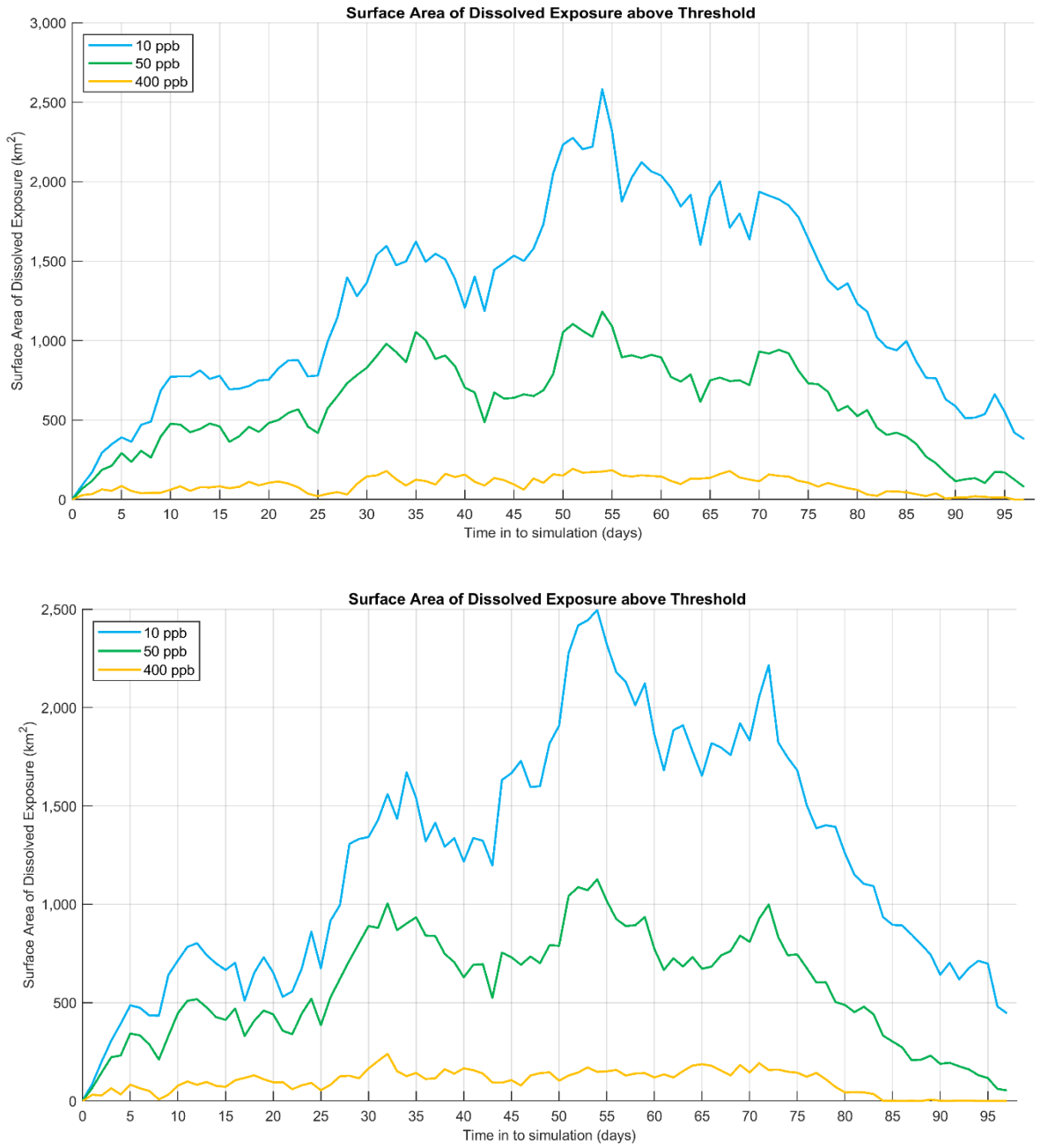


Figure 10.40 Time series of the area of low (10 ppb), moderate (50 ppb) and high (400 ppb) dissolved hydrocarbons for the trajectory with the largest area of dissolved hydrocarbons above 10 ppb for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

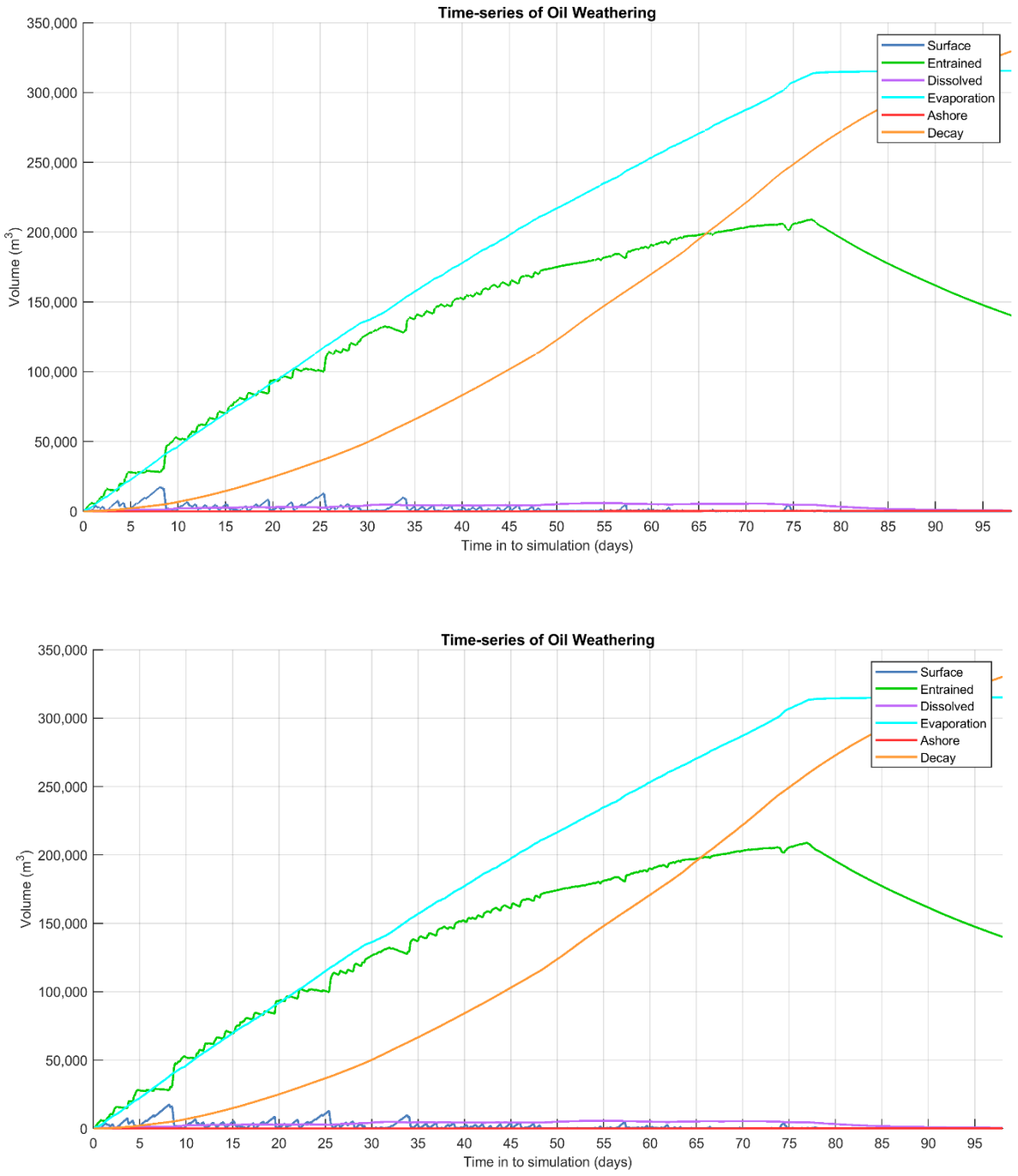


Figure 10.41 Predicted weathering and fates graph for the trajectory with the largest area of dissolved hydrocarbons above 10 ppb for the unmitigated (upper image) and mitigated (lower image) cases. Results are based on a 786,858 m^3 surface release of crude oil over 77 days, tracked for 98 days.

11 REFERENCES

American Society for Testing and Materials (ASTM) 2013. F2067-13 Standard Practice for Development and Use of Oil-Spill Trajectory Models, ASTM International, West Conshohocken (PA).

Andersen, OB 1995, 'Global ocean tides from ERS 1 and TOPEX/POSEIDON altimetry', Journal of Geophysical Research: Oceans, vol. 100, no. C12, pp. 25249–25259.

Anderson JW, Neff JM, Cox BA, Tatem HE & Hightower GM 1974, 'Characteristics of dispersions and water-soluble extracts of crude and refined oils and their toxicity to estuarine crustaceans and fish', Marine Biology, vol. 27, no. 1, pp. 75–88.

Anderson JW, Riley R, Kiesser S & Gurtisen J 1987, 'Toxicity of dispersed and undispersed Prudhoe Bay crude oil fractions to shrimp and fish', Proceedings of the 1987 International Oil Spill Conference, American Petroleum Institute, pp. 235–240.

Asia-Pacific ASA, 2010. Montara well release monitoring study S7.2. Oil fate and effects assessment: modelling of chemical dispersant operation. Prepared for PTTEP Australasia.

Australian Maritime Safety Authority (AMSA) 2014, 'Identification of oil on water: Aerial observations and identification guide', viewed 4 June 2020, https://www.amsa.gov.au/sites/default/files/2014-01-mp-amsa22-identification-oil-on-water.pdf

Australian Maritime Safety Authority (AMSA) 2015, 'Australian Maritime Safety Authority Technical Guideline for the Preparation of Marine Pollution Contingency Plans for Marine and Coastal Facilities Australian Maritime Safety Authority', viewed 20 June 2017, https://www.amsa.gov.au/forms-and-publications/Publications/AMSA413_Contingency_Planning_Guidelines.pdf

Australian and New Zealand Environment and Conservation Council (ANZECC) & Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) 2000, 'Australian and New Zealand guidelines for fresh and marine water quality Volume 1, The guidelines (National water quality management strategy; no.4)', Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand.

Becker, JJ, Sandwell, DT, Smith, WHF, Braud, J, Binder, B, Depner, J, Fabre, D, Factor, J, Ingalls, S, Kim, S-H, Ladner, R, Marks, K, Nelson, S, Pharaoh, A, Trimmer, R, Von Rosenberg, J, Wallace, G & Weatherall, P 2009, 'Global bathymetry and evaluation data at 30 arc seconds resolution: SRTM30_PLUS', Marine Geodesy, vol. 32, no. 4, pp. 355–371.

Blum DJ & Speece RE 1990, 'Determining chemical toxicity to aquatic species', Environmental Science & Technology, vol. 24, no. 3, pp. 284–293.

Bonn Agreement 2009, 'Bonn Agreement aerial operations handbook, 2009 - Publication of the Bonn Agreement', viewed 13 January 2015, http://www.bonnagreement.org/site/assets/files/3947/ba-aoh_revision_2_april_2012.pdf

Carls, MG, Holland, L, Larsen, M., Collier, TK, Scholz, NL & Incardona, JP 2008, 'Fish embryos are damaged by dissolved PAHs, not oil particles', Aquatic toxicology, vol. 88, no. 2, 121–127.

Chassignet, EP, Hurlburt, HE, Smedstad, OM, Halliwell, GR, Hogan, PJ, Wallcraft, AJ, Baraille, R & Bleck, R 2007, 'The HYCOM (hybrid coordinate ocean model) data assimilative system', Journal of Marine Systems, vol. 65, no. 1, pp. 60–83.

Chassignet, E, Hurlburt, H, Metzger, E, Smedstad, O, Cummings, J & Halliwell, G 2009, 'U.S. GODAE: Global Ocean Prediction with the HYbrid Coordinate Ocean Model (HYCOM)', Oceanography, vol. 22, no. 2, pp. 64–75.

Davies, AM 1977a, 'The numerical solutions of the three-dimensional hydrodynamic equations using a B-spline representation of the vertical current profile', in JC Nihoul (ed), Bottom Turbulence: Proceedings of the 8th Liège Colloquium on Ocean Hydrodynamics, Elsevier Scientific, Amsterdam, pp. 1–25.

Davies, AM 1977b, 'Three-dimensional model with depth-varying eddy viscosity', in JC Nihoul (ed), Bottom Turbulence: Proceedings of the 8th Liège Colloquium on Ocean Hydrodynamics, Elsevier Scientific, Amsterdam, pp. 27–48.

French, D, Reed, M, Jayko, K, Feng, S, Rines, H, Pavignano, S, Isaji, T, Puckett, S, Keller, A, French III, FW, Gifford, D, McCue, J, Brown, G, MacDonald, E, Quirk, J, Natzke, S, Bishop, R, Welsh, M, Phillips, M & Ingram, BS 1996, 'The CERCLA Type A natural resource damage assessment model for coastal and marine environments (NRDAM/CME), Technical Documentation, Volume I - Model Description, Final Report,' Office of Environmental Policy and Compliance, U.S. Department of the Interior, Washington DC.

French, D, Schuttenberg, H & Isaji, T 1999, 'Probabilities of oil exceeding thresholds of concern: examples from an evaluation for Florida Power and Light', Proceedings of the 22nd Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Alberta, pp. 243–270.

French-McCay, DP 2002, 'Development and application of an oil toxicity and exposure model, OilToxEx', Environmental Toxicology and Chemistry, vol. 21, no. 10, pp. 2080–2094.

French-McCay, DP 2003, 'Development and application of damage assessment modelling: example assessment for the North Cape oil spill', Marine Pollution Bulletin, vol. 47, no. 9, pp. 9–12.

French-McCay, DP 2004, 'Spill impact modelling: development and validation', Environmental Toxicology and Chemistry, vol. 23, no.10, pp. 2441–2456.

French-McCay, DP 2009, 'State-of-the-art and research needs for oil spill impact assessment modelling', Proceedings of the 32nd Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Ottawa, pp. 601–653.

French-McCay, D, Rowe, JJ, Whittier, N, Sankaranarayanan, S, & Etkin, DS 2004, 'Estimate of potential impacts and natural resource damages of oil', Journal of Hazardous Materials, vol. 107, no. 1, pp. 11–25.

French-McCay, D, Whittier, N, Dalton, C, Rowe, J, Sankaranarayanan, S & Aurand, D 2005a, 'Modeling the fates of hypothetical oil spills in Delaware, Florida, Texas, California, and Alaska waters, varying response options including use of dispersants', Proceedings of the International Oil Spill Conference 2005, American Petroleum Institute, Washington DC, paper 399.

French-McCay, D, Whittier, N, Rowe, J, Sankaranarayanan, S, Kim, H-S & Aurand, D 2005b, 'Use of probabilistic trajectory and impact modeling to assess consequences of oil spills with various response strategies,' Proceedings of the 28th Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Ottawa, pp. 253–271.

French-McCay, D, Reich, D, Rowe, J, Schroeder, M & Graham, E 2011, 'Oil spill modeling input to the offshore environmental cost model (OECM) for US-BOEMRE's spill risk and costs evaluations', Proceedings of the 34th Arctic and Marine Oil Spill Program (AMOP) Technical Siminar, Environment Canada, Ottawa.

French-McCay, D, Reich, D, Michel, J, Etkin, DS, Symons, L, Helton, D, & Wagner J 2012, 'Oil spill consequence analysis of potentially-polluting shipwrecks', Proceedings of the 35th Arctic and Marine Oil Spill Program (AMOP) Technical Seminar, Environment Canada, Ottawa.

French-McCay, D, Jayko, K, Li, Z, Horn, M, Kim, Y, Isaji, T, Crowley, D, Spaulding, M, Decker, L, Turner, C, Zamorski, S, Fontenault, J, Schmmkler, R & Rowe, J 2015, 'Technical Reports for Deepwater Horizon Water Column Injury Assessment: WC_TR.14: Modeling Oil Fate and Exposure Concentrations in the Deepwater Plume and Rising Oil Resulting from the Deepwater Horizon Oil Spill' RPS ASA, South Kingston, Rhode Island.

Gordon, R 1982, 'Wind driven circulation in Narragansett Bay' PhD thesis, Department of Ocean Engineering, University of Rhode Island.

Grant, DL, Clarke, PJ & Allaway, WG 1993, 'The response of grey mangrove (*Avicennia marina* (Forsk.) Vierh) seedlings to spills of crude oil,' The Journal of Experimental Marine Biological Ecology, vol. 171, no. 2, pp. 273–295.

International Tankers Owners Pollution Federation (ITOPF) 2014, 'Technical Information Paper 2 - Fate of Marine Oil Spills', International Tankers Owners Pollution Federation td, UK.

Isaji, T & Spaulding, M 1984, 'A model of the tidally induced residual circulation in the Gulf of Maine and Georges Bank', Journal of Physical Oceanography, vol. 14, no. 6, pp. 1119–1126.

Isaji, T, Howlett, E, Dalton C, & Anderson, E 2001, 'Stepwise-continuous-variable-rectangular grid hydrodynamics model', Proceedings of the 24th Arctic and Marine Oil spill Program (AMOP) Technical Seminar (including 18th TSOCS and 3rd PHYTO), Environment Canada, Edmonton, pp. 597–610.

Koops, W, Jak, RG & van der Veen, DPC 2004, 'Use of dispersants in oil spill response to minimise environmental damage to birds and aquatic organisms', Proceedings of the Interspill 2004: Conference and Exhibition on Oil Spill Technology, Trondheim, presentation 429.

Kostianoy, AG, Ginzburg, AI, Lebedev, SA, Frankignoulle, M & Delille, B 2003, 'Fronts and mesoscale variability in the southern Indian Ocean as inferred from the TOPEX/POSEIDON and ERS-2 Altimetry data', Oceanology, vol. 43, no. 5, pp. 632–642.

Levitus, S, Antonov, JI, Baranova, OK, Boyer, TP, Coleman, CL, Garcia, HE, Grodsky, AI, Johnson, DR, Locarnini, RA, Mishonov, AV, Reagan, JR, Sazama, CL, Seidov, D, Smolyar, I, Yarosh, ES & Zweng, MM 2013, 'The World Ocean Database', Data Science Journal, vol.12, no. 0, pp. WDS229–WDS234.

Lin, Q & Mendelssohn, IA 1996, 'A comparative investigation of the effects of south Louisiana crude oil on the vegetation of fresh, brackish and Salt Marshes', Marine Pollution Bulletin, vol. 32, no. 2, pp. 202–209.

Ludicone, D, Santoleri, R, Marullo, S & Gerosa, P 1998, 'Sea level variability and surface eddy statistics in the Mediterranean Sea from TOPEX/POSEIDON data. Journal of Geophysical ResearchI, vol. 103, no. C2, pp. 2995–3011.

Malins DC & Hodgins HO 1981, 'Petroleum and marine fishes: a review of uptake, disposition, and effects', Environmental Science & Technology, vol. 15, no. 11, pp.1272–1280.

Matsumoto, K, Takanezawa, T & Ooe, M 2000, 'Ocean tide models developed by assimilating TOPEX/POSEIDON altimeter data into hydrodynamical model: A global model and a regional model around Japan', Journal of Oceanography, vol. 56, no.5, pp. 567–581.

McAuliffe CD 1987, 'Organism exposure to volatile/soluble hydrocarbons from crude oil spills – a field and laboratory comparison', Proceedings of the 1987 International Oil Spill Conference, American Petroleum Institute, pp. 275–288.

McCarty LS 1986, 'The relationship between aquatic toxicity QSARs and bioconcentration for some organic chemicals', Environmental Toxicology and Chemistry, vol. 5, no. 12, pp. 1071–1080.

McCarty LS, Dixon DG, MacKay D, Smith AD & Ozburn GW 1992a, 'Residue-based interpretation of toxicity and bioconcentration QSARs from aquatic bioassays: Neutral narcotic organics', Environmental Toxicology and Chemistry, vol. 11, no. 7, pp.917–930.

McCarty LP, Flannagan DC, Randall SA & Johnson KA 1992b, 'Acute toxicity in rats of chlorinated hydrocarbons given via the intratracheal route', Human & Experimental Toxicology, vol. 11, no. 3, pp.173–117.

McCarty LS & Mackay D 1993, 'Enhancing ecotoxicological modelling and assessment. Body residues and modes of toxic action', Environmental Science & Technology, vol. 27, no. 9, pp. 1718–1728.

McGrath JA, & Di Toro DM 2009, 'Validation of the target lipid model for toxicity assessment of residual petroleum constituents: monocyclic and polycyclic aromatic hydrocarbons', Environmental Toxicology and Chemistry, vol. 28, no. 6, pp. 1130–1148.

National Centers for Environmental Information (NCEI) 2021, 'World Ocean Atlas' viewed 20 July 2021, https://www.ncei.noaa.gov/products/world-ocean-atlas

National Oceanic and Atmospheric Administration (NOAA) 2010, Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments. U.S. Department of Commerce, U.S. Coast Guard, U.S. Environmental Protection Agency, American Petroleum Institute, Washington DC.

National Oceanic and Atmospheric Administration (NOAA) 2013, Screening level risk assessment package Gulf state, Office of National Marine Sanctuaries & Office of Response and Restoration, Washington DC.

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) 2018, 'At a glance: Oil spill modelling', viewed 15 November 2018, https://www.nopsema.gov.au/assets/Publications/A626200.pdf

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) 2019, 'Environment bulletin: Oil spill modelling', viewed 4 February 2020, https://www.nopsema.gov.au/assets/Bulletins/A652993.pdf

National Research Council (NRC) 2003, 'Oil in the sea III: Inputs, fates and effects', National Research Council, The National Academic Press, Washington DC.

National Research Council (NRC) 2005, 'Oil Spill Dispersants Efficacy and Effects. Committee on Oil Spill Dispersants: Efficacy and Effects', National Research Council, The National Academies Press, Washington DC.

Neff JM & Anderson JW 1981, 'Response of marine animals to petroleum and specific petroleum hydrocarbons' United States Department of Energy, United States.

Nirmalakhandan N & Speece RE 1988, 'Quantitative techniques for predicting the behaviour of chemicals in the ecosystem', Environmental Science & Technology, vol. 22, no. 6, pp. 606–615.

Nordtug, T, Olsen, AJ, Altin, D, Overrein, I, Storøy, W, Hansen, BH & De Laender, F 2011, 'Oil droplets do not affect assimilation and survival probability of first feeding larvae of North-East Arctic cod', Science of the Total Environment, vol. 412, pp.148–153.

Oil Spill Solutions 2015, 'Evaluation - The Theory of Oil Slick Appearances', viewed 6 January 2015, http://www.oilspillsolutions.org/evaluation.htm

Owen, A 1980, 'A three-dimensional model of the Bristol Channel', Journal of Physical Oceanography, vol. 10, pp. 1290–1302.

Qiu, B & Chen, S 2010, 'Eddy-mean flow interaction in the decadally modulating Kuroshio Extension system', Deep-Sea Research II, vol. 57, no. 13, pp. 1098–1110.

Redman AD 2015, 'Role of entrained droplet oil on the bioavailability of petroleum substances in aqueous exposures', Marine Pollution Bulletin, vol. 97, no. 1–2, pp. 342–348.

Saha, S, Moorthi, S, Pan, H-L, Wu, X, Wang, J & Nadiga, S 2010, 'The NCEP Climate Forecast System Reanalysis', Bulletin of the American Meteorological Society, vol. 91, no. 8, pp. 1015–1057.

Scholten, MCTh, Kaag, NHBM, Dokkum, HP van, Jak, R.G., Schobben, HPM & Slob, W 1996, Toxische effecten van olie in het aquatische milieu, TNO report TNO-MEP – R96/230, Den Helder.

Suprayogi, B & Murray, F 1999, 'A field experiment of the physical and chemical effects of two oils on mangroves', Environmental and Experimental Botany, vol. 42, no. 3, pp. 221–229.

Swartz RC, Schults DW, Ozretich RJ, Lamberson JO, Cole FA, Ferraro SP, Dewitt TH & Redmond MS 1995, 'ΣPAH: A Model to predict the toxicity of polynuclear aromatic hydrocarbon mixtures in field-collected sediments', Environmental Toxicology and Chemistry, vol. 14, no. 11, pp. 1977–1187.

Verhaar, HJ, Van Leeuwen, CJ & Hermens, JL 1992, 'Classifying environmental pollutants', Chemosphere, vol. 25, no. 4, pp. 471-491.

Verhaar, HJ, de Wolf, W, Dyer, S, Legierse, KC, Seinen, W & Hermens, JL 1999, 'An LC_{50} vs time model for the aquatic toxicity of reactive and receptor-mediated compounds. Consequences for bioconcentration kinetics and risk assessment', Environmental science & technology, vol. 33, no. 5, pp.758-763.

Willmott, CJ 1981, 'On the validation of models', Physical Geography, vol. 2, no. 2, pp.184–194.

Willmott, CJ 1982, 'Some comments on the evaluation of model performance', Bulletin of the American Meteorological Society, vol. 63, no. 11, pp.1309–1313.

Willmott CJ, Ackleson SG, Davis RE, Feddema JJ, Klink, KM, Legates, DR, O'Donnell, J & Rowe, CM 1985, 'Statistics for the evaluation of model performance', Journal of Geophysical Research, vol. 90, no. C5, pp. 8995–9005.

Willmott, CJ & Matsuura, K 2005, 'Advantages of the mean absolute error (MAE) over the root mean square error (RMSE) in assessing average model performance', Journal of Climate Research, vol. 30, no. 1, pp. 79–82.

Yaremchuk, M & Tangdong, Q 2004, 'Seasonal variability of the large-scale currents near the coast of the Philippines', Journal of Physical Oceanography, vol. 34, no., 4, pp. 844–855.

Zigic, S, Zapata, M, Isaji, T, King, B, & Lemckert, C 2003, 'Modelling of Moreton Bay using an ocean/coastal circulation model', Proceedings of the 16th Australasian Coastal and Ocean

Engineering Conference, the 9th Australasian Port and Harbour Conference and the Annual New Zealand Coastal Society Conference, Institution of Engineers Australia, Auckland, paper 170.

Appendix 14
Assessment of the Risk of a LoWC on the management Actions of Protected Areas

Assessment of the Beehive-1 exploration drilling loss of well containment (LoWC) spill risk against the North Marine Parks Network Management Plan (Director of National Parks, 2018)

The following information summarises the probabilities of exposure (%) to the AMPs in the North Marine Parks Network based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Joseph Bonaparte Gulf AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	100	47	5	96	36	4	87	22	9
Dissolved – 0-10 m below sea surface	100	97	89	90	79	66	98	95	73
Entrained – 0-10 m below sea surface	100		100	94		83	100		98

Oceanic Shoals AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	22	-	-	2	-	-	21	-	-
Dissolved – 0-10 m below sea surface	15	12	1	3	-	-	34	21	2
Entrained – 0-10 m below sea surface	35		21	18		11	71		49

Arafura AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	-	-	-	-	-	-
Dissolved – 0-10 m below sea surface	1	-	-	-	-	-	-	-	-
Entrained – 0-10 m below sea surface	8		3	-		-	-		-

Arnhem AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	-	-	-	-	-	-
Dissolved – 0-10 m below sea surface	-	-	-	-	-	-	-	-	-
Entrained – 0-10 m below sea surface	6		-	-		-	-		-

Management actions/ strategies	Compliance with management plan
Communication, education and awareness program.	
Develop information on marine parks in the Network to encourage increased awareness and understanding of their values and management arrangements.	No impacts.
Provide infrastructure in and adjacent to the Network, such as signs and marker buoys, to increase understanding of marine park values and rules, particularly at sites that are regularly visited.	No impacts.
Establish a North Network advisory committee to support and collaborate with the Director in management.	No impacts.
Tourism and visitor experience program.	
Promote visitor experiences that foster curiosity and appreciation of natural and heritage values in the Network.	No impacts.
Work with other Commonwealth, state and territory government agencies, and the tourism industry to support tourism initiatives, events and attractions that promote visitor experiences in marine parks.	No impacts.
Facilitate partnerships between Indigenous people and tourism operators.	No impacts.
Indigenous engagement program.	
Collaborate with traditional owners and Indigenous ranger groups and relevant partners to undertake marine park management such as surveillance, monitoring and threat mitigation including marine debris removal, and implement actions identified in sea country plans where applicable.	No impacts.
Identify opportunities and mechanisms to engage traditional owners and Indigenous rangers in the management of marine parks.	No impacts.
Increase understanding of traditional knowledge, map cultural values and manage significant sites.	No impacts.
Implement cultural awareness training for Parks Australia staff in association with traditional owners.	No impacts.
Establish protocols for researchers working with Parks Australia to guide engagement with traditional owners	No impacts.
Marine science program.	
Monitor social and economic uses and their benefits and impacts on marine parks.	No impacts.
Monitor the condition of important habitats such as reef systems and their vulnerability to climate change.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts.
Monitor the impact of invasive species on marine park values and the effectiveness of management.	No impacts.

Management actions/ strategies	Compliance with management plan
Collaborate with other Commonwealth, state and territory government agencies, marine park users and the science sector to support long-term monitoring. For example, monitoring of coral reefs, protected species and the effects of fishing on marine parks.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts.
Investigate opportunities to extend citizen science programs.	No impacts.
Assessments and authorisations program.	
Issue authorisations—a permit, class approval, activity licence or lease—for activities in marine parks assessed as acceptable either by the Director or another government or industry policy, plan or program accepted by the Director.	No impacts.
Work with other Commonwealth, state and territory government agencies to improve experiences and consistency of approaches for people seeking authorisations.	No impacts.
Park protection and management program.	
Enable infrastructure such as moorings to protect habitats and enhance visitor safety.	No impacts.
Collaborate with and support other agencies that undertake invasive and protected species management and marine debris removal. For example, biosecurity assessments, research, or removal of ghost nets.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts.
Work with other Commonwealth, state and territory government agencies to respond to environmental incidents and accidents.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP.
Collaborate with traditional owners and Indigenous ranger groups to undertake management actions.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.

Management actions/ strategies	Compliance with management plan
Compliance program.	
Work with other Commonwealth, state and territory government agencies, particularly where parks adjoin state or territory marine parks, in compliance planning, including implementing actions to deter illegal activities and encourage voluntary compliance.	No impacts.
Collaborate with Commonwealth, state and territory government agencies in surveillance, including water and aerial patrols.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP.

Assessment of the Beehive-1 exploration drilling LoWC spill risk against the North-West Marine Parks Network Management Plan (Director of National Parks, 2018)

The following information summarises the probabilities of exposure (%) to the AMPs in the North Marine Parks Network based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Argo-Rowley AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	2	-	-	7	-	-	2	-	-
Dissolved – 0-10 m below sea surface	3	1	-	7	5	-	2	1	-
Entrained – 0-10 m below sea surface	10		9	17		10	12		3

Kimberley AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	43	-	-	57	-	-	70	-	-
Dissolved – 0-10 m below sea surface	49	47	24	62	58	20	84	67	15
Entrained – 0-10 m below sea surface	56		48	74		62	93		88

Mermaid Reef AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	-	-	-	-	-	-
Dissolved – 0-10 m below sea surface	-	-	-	3	2	-	2	-	-
Entrained – 0-10 m below sea surface	7		-	11		5	2		2
Shoreline (AMP)	-	-	-	-	-	-	-	-	-
Mermaid reef shoreline exposure (reef)	-	-	-	-	-	-	-	-	-

Ashmore Reef AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	-	-	-	1	-	-
Dissolved – 0-10 m below sea surface	-	-	-	-	-	-	5	-	-
Entrained – 0-10 m below sea surface	-		-	-		-	25		14
Shoreline (AMP)	-	-	-	-	-	-	-	-	-
Ashmore reef shoreline exposure (reef)	-	-	-	-	-	-	7	3	-

Cartier Island AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	-	-	-	2	-	-
Dissolved – 0-10 m below sea surface	-	-	-	-	-	-	4	-	-
Entrained – 0-10 m below sea surface	-		-	-		-	32		15
Shoreline (AMP)	-	-	-	-	-	-	-	-	-
Cartier Island shoreline exposure (island)	-	-	-	-	-	-	11	5	-

Montebello AMP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	-	-	-	-	-	-
Dissolved – 0-10 m below sea surface	-	-	-	-	-	-	-	-	-
Entrained – 0-10 m below sea surface	-		-	1		-	-		-

Management actions/ strategies	Compliance with management plan
Communication, education and awareness program.	
Develop information on marine parks in the Network to encourage increased awareness and understanding of their values and management arrangements. For example, an Ashmore Reef Marine Park visitor guide.	No impacts.
Provide infrastructure in and adjacent to the Network, such as signs and marker buoys, to increase understanding of marine park values and rules, particularly at sites that are regularly visited, and	No impacts.
Establish a North-west Network advisory committee to support and collaborate with the Director in management.	No impacts.
Tourism and visitor experience program.	
Promote visitor experiences that foster curiosity and appreciation of natural and heritage values in the Network, for example whale shark watching at Ningaloo Marine Park, diving at Mermaid Reef Marine Park, and bird watching at Ashmore Reef Marine Park.	No impacts.
Work with other Commonwealth and state government agencies, and the tourism industry to support tourism initiatives, events and attractions that promote visitor experiences in marine parks.	No impacts.
Facilitate partnerships between Indigenous people and tourism operators, and support the application of the Uunguu Visitor Management pass system for the native title determination area.	No impacts.
Indigenous engagement program.	
Collaborate with traditional owners, Indigenous ranger groups and relevant partners to undertake marine park management such as surveillance, monitoring and threat mitigation including marine debris removal, and implement actions identified in sea country plans where applicable.	No impacts.
Identify opportunities and mechanisms to engage traditional owners and Indigenous rangers in the management of marine parks.	No impacts.
Increase understanding of traditional knowledge, map cultural values and manage culturally significant sites.	No impacts.
Implement cultural awareness training for Parks Australia staff in association with traditional owners.	No impacts.
Establish research protocols in association with traditional owners, like those in the Collaborative Science on Kimberley Saltwater Country - A Guide for Researchers.	No impacts.
Marine science program.	
Monitor social and economic uses and their benefits and impacts on marine parks in the Network	No impacts.
monitor the condition of important habitats such as reef systems at Ningaloo, Mermaid, Kimberley, Ashmore and Cartier Marine Parks, and their vulnerability to climate change	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts.

Management actions/ strategies	Compliance with management plan
Monitor the impact of invasive species on marine park values and the effectiveness of management. For example, tropical fire ant impacts on seabirds and turtles at Ashmore Reef Marine Park, and the effectiveness of management such as baiting.	No impacts.
Collaborate with other Commonwealth and state government agencies, marine park users and the science sector to support long-term monitoring. For example monitoring of coral reefs, protected species and the effects of fishing on marine parks.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts.
Investigate opportunities to extend citizen science programs.	No impacts.
Assessments and authorisations program.	
Issue authorisations—a permit, class approval, activity licence or lease—for activities in marine parks assessed as acceptable either by the Director or another government or industry policy, plan or program accepted by the Director.	No impacts.
Work with other Commonwealth and state government agencies to improve experiences and consistency of approaches for people seeking authorisations.	No impacts.
Park protection and management program.	
Enable infrastructure such as moorings to protect habitats and enhance visitor safety	No impacts.
Collaborate with and support other agencies that undertake invasive and protected species management and marine debris removal. For example, this may include biosecurity assessments, research, or removal of ghost nets.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts.
Work with other Commonwealth and state government agencies to respond to environmental incidents and accidents.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP.
Collaborate with traditional owners and Indigenous ranger groups to undertake management actions.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.

Management actions/ strategies	Compliance with management plan
Compliance program.	
Work with other Commonwealth and state government agencies, particularly where parks adjoin state marine parks, in compliance planning, including implementing actions to deter illegal activities and encourage voluntary compliance.	No impacts.
Collaborate with Commonwealth and state government agencies in surveillance, including water and aerial patrols.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP.

Assessment of the Beehive-1 exploration drilling LoWC spill risk against the Ord River and Parry Lagoons nature reserves management plan 77 2012 (Department of Environment and Conservation 2012)

The following information summarises the probabilities of exposure (%) to the Ord River Floodplain Ramsar Site based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Ord River Floodplain Ramsar Site	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	12	-	-	13	-	-	8	-	-
Dissolved – 0-10 m below sea surface	33	18	1	36	25	5	50	27	2
Entrained – 0-10 m below sea surface	67		37	45		39	68		64

Management actions/ strategies	Compliance with management plan
Protect the values of the planning area.	
Undertake the process for a change in tenure for the Ord River and Parry Lagoons nature reserves to 'class A' nature reserves.	No impacts.
Investigate an appropriate tenure for Parry Lagoons Nature Reserve, for example, a national park category, to better accommodate future visitor needs.	
Undertake the process for incorporating proposed additions as identified in Table 1 into the existing nature reserves.	
Traditional owner involvement in management of the planning area.	
Prepare a joint management agreement under the CALM Act with the Yawoorroong Miriuwung Gajerrong Yirrgeb Noong Dawang Aboriginal Corporation, as resources become available, as identified in the Ord Final Agreement	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Determine interest of pursuing joint management arrangements for the applicable portion of the planning area with the Balanggarra people.	
Foster relations with other traditional owners who speak for country.	
Ensure consultation with and approval from traditional owners who speak for country, for any amendments to land tenure that may occur over land for which they speak.	
Work with traditional owners to promote their participation in commercial activities.	
Ensure consultation with and approval from traditional owners who speak for country, for any research activities that may occur on land for which they speak.	

Management actions/ strategies	Compliance with management plan
Refer development and resource use proposals to traditional owners who speak for country.	
Maintain hydrological regimes occurring at the time of Ramsar listing in 1990.	
Liaise with the Department of Water (DoW) to provide input into environmental water allocations for the Ord River.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Undertake studies to increase knowledge of hydrological requirements of the Ord River to maintain ecological values.	
Work cooperatively with state and federal government authorities to maintain Ramsar values.	
Conserve native plants and plant communities.	
Maintain and monitor vegetation diversity by reducing threatening processes, such as inappropriate fire regimes, altered hydrological regimes and high densities of introduced animals, such as cattle.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Work cooperatively with state and federal government authorities to maintain Ramsar values.	
Conserve specially protected and other native fauna.	
Support the preparation and implementation of recovery plans for any threatened fauna species.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Protect native fauna from introduced and problem animals through appropriate control regimes where necessary.	
Work cooperatively with state and federal government authorities to maintain Ramsar values.	
Monitor the abundance and composition of key fauna species.	

Management actions/ strategies	Compliance with management plan
Prevent loss of native species and decline in plant communities from weed invasion.	
Consistent with regional weed prioritisation, prepare, implement and monitor a weed control program based upon invasiveness, existing and potential impacts, current and potential distribution, and feasibility of control.	No impacts.
Support the Australian Quarantine and Inspection Service to monitor the occurrence of, and potentially control the spread of, weed species.	
Continue to work with other agencies and adjacent landholders to control environmental weeds	
Prevent impacts of introduced and other problem animals on the values of the planning area.	
Consistent with regional prioritisation for introduced and problem animals, prepare a control program based upon existing and potential impacts, current and potential distribution, feasibility of control and capacity for long-term monitoring.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Work with neighbours to limit cattle intrusions onto the reserves (for example, assist adjoining landowners to ensure boundary fences are adequate to exclude cattle, where practicable).	
Support the Australian Quarantine and Inspection Service and Department of Agriculture and Food to monitor the occurrence of, and potentially control the spread of, introduced animals.	
Implementation of the State Cane Toad Initiative, in collaboration with community-based groups and scientific institutions, to slow the westward spread of cane toads.	
Prevent impacts of altered hydrological regimes on the values of the planning area.	
Work with DoW and Water Corporation to provide information to assess adequate flow for the Ord River to maintain the ecological character of the Ramsar site.	No impacts.
Protect biodiversity, people and property within the planning area. Maintain cultural responsibilities.	
Prepare and implement a prescribed burning program which is in accordance with the key principles and considers the knowledge and responsibilities of traditional owners.	No impacts.
Continue to liaise with neighbouring landholders and local government to integrate fire management across the landscape.	
Integrate fire management with weed and introduced species control programs.	

Management actions/ strategies	Compliance with management plan
Protect and conserve the value of the land to the culture and heritage of Aboriginal persons. Traditional owners using their traditional lands for customary purposes.	
Enhance understanding of the value of the planning area to the culture and heritage of Aboriginal persons.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Ensure that the values of the land to the culture and heritage of Aboriginal persons inform and guide management actions	
Where applicable, apply the Miriuwung-Gajerrong Cultural Planning Framework (Hill et al. 2008) to inform and guide management actions.	
Work with traditional owners who speak for country, to protect heritage sites within the planning area.	
Ensure management activities attempt to minimise material adverse effect on Aboriginal culture and heritage.	
Protect other cultural heritage.	
Ensure management activities attempt to minimise material adverse effects on other cultural heritage.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Facilitate visitor enjoyment, appreciation and understanding of the values of the planning area	
Provide a range of opportunities for visitors, and ensure they are consistent with the purpose of the reserves, pose no adverse impacts on the environment or unreasonably interfere with visitor experiences	No impacts.
Minimal risks to visitors and encouragement of appropriate visitor behaviour	
Develop a visitor risk management plan in accordance with department policy that identifies and assesses the risks associated with all recreation sites and monitors and regularly reviews visitor risk.	No impacts.

Management actions/ strategies	Compliance with management plan
Increase community awareness, understanding and appreciation of the values of the planning area to foster support for its protection and effective management.	
Provide information to visitors, volunteers, commercial operators and the tourism industry on: • day-use opportunities • the values and management issues within the planning area such as its importance for migratory waterbirds, visitor safety, permitted activities and regulations • cultural heritage to promote visitor awareness, appreciation and understanding • potentially hazardous areas and activities • Leave No Trace principles	No impacts.
Update existing signage and brochures and install new signs at all access points, including information on Aboriginal cultural interpretation.	
Increase community awareness of the need to keep domestic animals out of the planning area	
Provide safe and convenient access within the planning area for visitors and management, where appropriate	
Maintain designated access points to the planning area to facilitate four-wheel-drive, walking and birdwatching activities.	No impacts.
Pending a future increase in visitor numbers, develop defined walking trails if required	
Passive, low impact visitor use of the planning area	
Encourage visitor use that is consistent with protecting and promoting the values of the planning area.	No impacts.
Provide a range of day-use opportunities consistent with department policies as resources permit	
Provide management solutions to mitigate visitor impacts.	
Commercial tourism activities that extend the range of services, facilities and experiences available, which are compatible with management outcomes.	
Evaluate proposals for licences and commercial tourism leases according to legislation and departmental policies and allow their establishment where appropriate.	No impacts.
Ensure that all commercial operations are managed under a lease, licence or permit agreement with appropriate conditions.	
Minimal impacts from mineral and petroleum exploration and development, including basic raw material extraction and development activities, on the values of the planning area.	
Refer proposals, where appropriate, to the Conservation Commission, to provide advice to the Minister for Environment	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP
Ensure access to basic raw materials from within the planning area by local government authorities and private contractors is allowed only when:	

Management actions/ strategies	Compliance with management plan
• the material is to be used within the planning area • extraction complies with this management plan and the purpose, class and tenure of the reserves • extraction complies with existing department policies and guidelines.	and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Minimal impacts from water resource use on the values of the planning area	
Issue licences as required under the CALM Act for water extraction from bores and other water sources located within the planning area.	No impacts.
Refer proposals that require or effect water resources that may adversely impact upon the values of the planning area to the EPA for consideration of assessment under the EP Act, ensuring consultation with DoW and the Water Corporation.	
Refer proposals to the Conservation Commission, to provide advice to the Minister for Environment.	
Minimal impacts from the installation and maintenance of public utilities on the values of the planning area	
Encourage all new public utilities and services to be located outside of the reserves	No impacts.
Refer proposals that may adversely impact upon the planning area to the EPA for consideration of assessment under the EP Act.	
Refer proposals to the Conservation Commission to provide advice to the Minister for Environment.	
Degraded areas being restored to a condition resembling the natural environment within the local vicinity.	
Coordinate rehabilitation works with weed control, fire management and cattle exclusion to allow natural regeneration wherever possible	No impacts.
Utilise plant stock or seed of local provenance where active rehabilitation is required.	
Effective community involvement in the management of the planning area.	
Continue to encourage, promote and support volunteers and community groups with essential resources to help them carry out their activities.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Liaise with the Balanggarra and Miriuwung Gajerrong traditional owners, neighbouring landowners and land managers, local authorities, relevant government agencies and other stakeholders in the management of cross-boundary issues.	
Notify adjacent pastoralists of cattle located within the planning area, permit pastoralists to muster cattle and advise pastoralists that any stock remaining after mustering will be eradicated.	
Monitor possible impacts associated with implementing the management plan to provide for improved management	

Management actions/ strategies	Compliance with management plan
Conduct or support research on issues and values required to report on this management plan, and the establishment of baseline information that includes: • current hydrological processes and water quality to determine adequacy to maintain the ecological character of the planning area • macroinvertebrate indicator species to determine water quality and detect levels of change • native plants that are rare, threatened or in need of special protection • vegetation condition and composition and any levels of change in condition and composition • abundance and composition of key fauna species and detect levels of change • threatening processes, such as fire and introduced plants and animals • the impacts of groundwater extraction within the planning area and from adjacent areas, particularly Mantinea Flats irrigation area • visitors' use of the area and its impacts.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Provide support for cultural heritage research of the reserves and incorporate traditional custodians' cultural knowledge in the management of the reserves	

Assessment of the Beehive-1 exploration drilling LoWC spill risk against the North Kimberley Marine Park Joint Management Plan 2016 Uunguu, Balanggaarra, Miriuwung Gajerrong, and Wilinggin management areas management plan 89 (WA Department of Parks and Wildlife, 2016).

The following information summarises the probabilities of exposure (%) to the North Kimberley Marine Park based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

North Kimberley MP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	91	9	-	90	-	-	98	-	-
Dissolved – 0-10 m below sea surface	68	55	33	85	78	44	97	96	88
Entrained – 0-10 m below sea surface	86		71	86		81	98		97

The following information summarises the probabilities of exposure (%) to the King Shoals Sanctuary Zone from the LoWC scenario

King Shoals Sanctuary Zone	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Bare Hill - East Cape Domett (E) (WAMOPRA DoT shoreline cell)									
Sea surface	59	5	-	50	-	-	60	-	-
Dissolved – 0-10 m below sea surface	66	52	17	53	40	25	86	78	30
Entrained – 0-10 m below sea surface	82		70	62		56	92		87
Shoreline	40	25	-	38	30	-	60	43	-

The following information summarises the probabilities of exposure (%) to the Cape Domett Special Use Zone from the LoWC scenario

Cape Domett Special Purpose Zone	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
East Cape Domett – WA- NT Border (C) (WAMOPRA DoT shoreline cell)									
Sea surface	47	5	-	44	-	-	45	-	-
Dissolved - 0-10 m below sea surface	65	46	14	44	40	23	68	59	24
Entrained - 0-10 m below sea surface	75		54	57		48	79		67
Shoreline	45	26	5	44	33	2	52	35	1

Management objectives	Compliance with management plan
Management of cultural values.	
To ensure that Aboriginal culture and heritage sites in the marine park are protected and conserved.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To support traditional owner connection to country including spiritual and cultural values.	
To enable traditional owners to realise livelihoods from their country.	
To provide recognition of and support for traditional owner rights to continue customary practices and to benefit from their country consistent with the purpose of the marine park.	
The facilitate and maintain the opportunity for Aboriginal people to fulfil their cultural obligations as protectors and managers of their country.	
Management of natural values.	
Natural values are not significantly impacted by human activities in the marine park and baseline status is maintained (or improved) across their natural range.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP.
Obtain an adequate biophysical, social and cultural knowledge base of values to support future management requirements.	
Acquire adequate knowledge of the impacts of climate change and develop applicable management strategies within the marine park.	
Investigate the extent and significance of current impacts and potential pressures, and if necessary implement management strategies.	
Increase local community and visitor knowledge of the cultural, ecological and social importance of key natural values.	
Management of recreation, tourism and community values.	
To promote visitor access to and enjoyment of the marine park while maintaining the outstanding cultural and natural values.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP.
To increase community understanding and appreciation of the marine park's values and support for management arrangements.	
To support continued enjoyment of recreational fishing opportunities within the marine park while maintaining the outstanding cultural and natural values.	
To minimise risks to visitors, and encourage appropriate visitor behaviour.	
To ensure human activities do not significantly impact on historic sites in and adjacent to the marine park.	

Management objectives	Compliance with management plan
Management of commercial values.	
Commercial fishing To recognise and allow for commercial fishing whilst maintaining the cultural and natural values of the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Pearling and aquaculture To recognise the historical and socio-economic value of pearling by providing for the maintenance of a viable pearling industry while maintaining the cultural and natural values of the marine park.	
Mineral extractions (oil, gas and mining) To ensure industry and associated activities are managed in a manner consistent with the objectives of the marine park.	
Economic opportunities for traditional owners Enable traditional owners to assess and realise commercial opportunities for their benefit.	
To provide for traditional owner subsistence and commercial enterprises and activities consistent with maintain cultural and natural values of the marine park.	

Assessment of the Beehive-1 exploration drilling LoWC spill risk against the Lalang-garram/Camden Sound Marine Park management plan 73 2013–2023 (Department of Parks and Wildlife, 2013)

The following information summarises the probabilities of exposure (%) to the Lalang-garram/Camden Sound Marine Park based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Lalang-garram/Camden Sound Marine Park	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	2	-	-	-	-	-
Dissolved – 0-10 m below sea surface	6	1	-	9	2	-	3	1	-
Entrained – 0-10 m below sea surface	17		9	36		15	19		5

Management actions/ strategies	Compliance with management plan
To ensure the marine park has the appropriate legal, administrative, financial and human resource frameworks in place so that it is appropriately managed in partnership with Traditional Owners and in a collaborative setting with other agencies.	
Implement all legal provisions necessary to establish and jointly manage the marine park, including registration of ILUAs; execution of Joint Management Agreements; reservation of intertidal areas within the marine park; gazettal of a CALM Act classified waters notice; and FRM Act fisheries management orders.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Develop and implement joint collaborative operational plans [DPaW, relevant JMB(s) DoF].	
Develop and apply management targets for Aboriginal culture and heritage values within one year of management plan implementation.	
Undertake a five-year review of the adequacy of management arrangements in the marine park with a particular focus on humpback whales and the special purpose zone (whale conservation). The review will also include the adequacy of management arrangements for other ecological values, including the adequacy of the zoning scheme and protection of the value of the area for the culture and heritage of Aboriginal people.	
Ensure the provision of necessary information and support for assessments of the implementation of the management plan by the MPRA.	
Take into account the guidance and aspirations of Traditional Owners, which are contained in a number of Traditional Owner documents including the North Kimberley Saltwater Country and Healthy Country Plans (e.g. Wunambal Gaambera Healthy Country Plan 2010-2020 and Dambimangari Healthy Country Plan 2012-2022), in protecting and conserving the value of the land and sea to the culture and heritage of Aboriginal people	

Management actions/ strategies	Compliance with management plan
Ensure the setting of conditions for new developments and operations are consistent with management program objectives and management targets for ecological values.	
Develop a maritime incident response plan, specific to the marine park that complements the state's marine oil spill response plan.	
Undertake a review of shipping activity in the marine park to determine the need for navigational measures such as compulsory pilotage and/or designation of shipping routes.	
Ensure any boundary revision of the pearling 'transport exempt area' is consistent with the special purpose zone (pearling).	
Develop and implement a plan for detection and mitigation response to marine pest incursion/outbreak in the marine park, including vessel risk assessments.	
Through the relevant JMB(s), assist Traditional Owners to develop a sustainable management strategy for turtle and dugong.	
Develop a cultural awareness training program approved by the relevant Aboriginal Corporation(s) for government employees and/or contractors working on the ground or in the management of the proposed park.	
To provide world-class commercial and recreational opportunities for users and visitors to the marine park while conserving Aboriginal cultural heritage and marine biodiversity, with a particular emphasis on the protection of humpback whale cows and calves.	
Gazette a Wildlife Conservation (close season for humpback cows and calves) Notice under the provisions of the WC Act applicable to the special purpose zone (whale conservation) and sanctuary zones specifying provisions such as: 1.1 A person in control of a vessel must not move it closer than 500 metres to humpback cows and calves and should maintain that distance. 1.2 A vessel within 500 metres of a humpback cow and calf should manoeuvre at a speed that creates minimal wake in a direct line to a distance greater than 500 metres from the cow and calf as soon as practicable. 1.3 If a humpback cow and calf approach in close proximity of a vessel, that vessel must be operated in neutral gear and with due consideration to navigation and vessel safety, move the vessel away to a distance greater than 500 metres from the cow and calf initially at a speed less than 5 knots for the first 100 metres. 1.4 No in-water interaction is permitted with humpback cows and calves. 1.5 Helicopters may not hover above humpback cows and calves. 1.6 Helicopters and fixed wing aircraft must remain at an altitude above 1,650 feet (500 metres) and a horizontal distance of 500 metres from humpback cows and calves.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.

Management actions/ strategies	Compliance with management plan
1.7 A person may not make, or cause to be made, a noise that is likely to frighten or otherwise cause distress to a whale because of its loudness or suddenness or for any other reason. 1.8 A person may not play a recording of sounds made under water in a manner that is likely to be heard by a whale	
During the life of the management plan, consider the need and options for temporal closures to vessels during the core whale visitation period in the special purpose zone (whale conservation).	
If necessary, and taking into account vessel safety issues, gazette speed restriction notice in special purpose zones (whale conservation) and sanctuary zones to reduce the risk of vessel collision with humpback whales.	
Consider commercially licensed operators that may be exempt from some conditions of the Wildlife Conservation (close season for humpback cows and calves) Notice if engaged in endorsed research and monitoring programs for humpback whale cows and calves.	
Ensure that the granting and renewal of commercial operations licences and leases in relation to marine park access and wildlife interaction is consistent with the management plan permitted use table, management targets, Wildlife Conservation (close season) Notices and any other conditions developed for Lalang-garram / Camden Sound Marine Park.	
Control access to sites that Traditional Owners consider unsuitable for visitation through the commercial tour operator licence system in collaboration with Traditional Owners.	
Apply strict commercial tour operator conditions to ensure culturally sensitive and appropriate visitation to approved cultural heritage sites and traditional country in collaboration with Traditional Owners.	
Ensure licence conditions for commercial tour vessels engaged in whale watching consistently include a requirement for operators to collect basic information on whale position and behaviour to assist humpback whale research and monitoring.	
Consider the restriction of access to localised high-use humpback whale calving and nursing areas by vessel or aircraft if humpbacks are found to be sensitive to these activities.	
Restrict access to seaplane landings in the special purpose zone (whale conservation) between June and November unless absolutely necessary for safety reasons.	
Develop and implement new management arrangements for visitor access, which will include considering restriction of foot access to Montgomery Reef.	
Develop information to ensure that visitors are aware of the cultural values of the marine park and are aware of cultural laws and protocols regarding visitor risk and safety.	
Ensure the granting and renewals of licences and leases relating to pearling operations within the marine park is consistent with the management plan permitted use table and management targets.	

Management actions/ strategies	Compliance with management plan
Ensure the granting and renewal of authorisations for commercial fishing operations within the marine park is consistent with the management plan permitted use table and management targets.	
Ensure the authorisation of maritime developments within the marine park is consistent with the management plan permitted use table and management targets.	
Consult as necessary in regard to the issuing and renewal of licences, leases and permits under the WC Act, CALM Regulations, FRM Act and Pearling Act.	
Advise commercial tour operators that it is prohibited to disturb sites protected under the Maritime Archaeological Act 1973, Historic Shipwrecks Act 1976 and Aboriginal Heritage Act 1976.	
Establish and maintain a quantitative and qualitative spatial database of human use within the marine park.	
Ensure the implementation of EPBC Act Policy Statement 2.1 – Interaction between offshore seismic exploration and whales (Australian Government 2008a) within and adjacent to the marine park.	
Prepare a mooring and anchoring plan	
Implement and administer the mooring and anchoring plan.	
Conduct periodic visitor risk assessments in the marine park as required and mitigate identified issues.	
Facilitate training that enhances knowledge of maritime and terrestrial heritage site management.	
Ensure appropriate liaison regarding the introduction or maintenance of navigation infrastructure within the marine park.	
Develop and implement codes of practice as necessary to ensure responsible use of the marine park.	
To foster a high level of community understanding and appreciation of the marine park's values, as well as support for management.	
Develop an education and interpretation plan designed to raise awareness and stewardship of the importance of ecological, cultural and social values (especially those identified with management targets that form the key performance indicators), with emphasis on humpback whales; appropriate behaviours within zones to reduce human impacts and ensure public safety.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Implement the education and interpretation plan, including delivery of interpretive materials and presentations to the community, commercial tour operators and businesses with an interest in the marine park.	
Collaboratively develop and implement education and interpretation programs, where culturally appropriate, to raise awareness and knowledge of visitors to the marine park about Aboriginal connections with the marine and coastal environment and areas of cultural significance.	
Provide education and interpretive information about the marine park's values and management arrangements to fishing, boat and yacht clubs operating in Broome, Derby, Wyndham and Darwin.	

Management actions/ strategies	Compliance with management plan
To have meaningful public participation in the management of the marine park.	
Prepare and implement a public participation plan that encourages involvement in management through a range of opportunities.	No impacts.
Facilitate public participation in the management of the marine park through appropriate engagement mechanisms.	
Maintain a database of public participation.	
To have a high level of compliance with management arrangements specified for the marine park.	
Develop and implement a collaborative patrol and enforcement plan. a. Facilitate cross-authorisation of enforcement officers as appropriate. b. Monitor compliance with the Wildlife Conservation (close season for humpback cows and calves) Notice within the special purpose zone (whale conservation) and sanctuary zones. c. Ensure the implementation of the Strategy for the Management of Sewage Discharge from Vessels into the Marine Environment (Department for Planning and Infrastructure 2004) and thereby prohibit the discharge of sewage from vessels in the sanctuary zone, in all areas within 500 metres of the shore and in Kuri Bay, Camden Harbour, Sampson Inlet, St George Basin, Prince Regent River, and 'The River' at Montgomery Reef. d. Promote the management plan among commercial tour operators and visitors to inform them about their responsibilities and encourage them to voluntarily report any inappropriate or unlawful activity. e. Ensure marine park visitors obtain and comply with appropriate regulations, licences and permits. f. Maintain a database of compliance statistics and issues for management assessment. g. Patrol the shoreline and waters of the marine park for marine debris and remove as necessary.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To implement a collaborative and cost-effective research program to improve knowledge and understanding of humpback whales, other important ecological values, cultural heritage and human use in the marine park.	
In consultation with Traditional Owners prepare a collaborative marine research plan. Ensure the research plan utilises existing traditional ecological knowledge and cutural values, includes further research on indigenous cultural values and integrates research on TEK and cultural values with Western science programs.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Ensure that all research projects undertaken by or on behalf of DPaW comply with DPaW's Science Policy (No. 78) and associated guidelines.	
Establish habitat mapping and characterisation for the marine park to support management and the five-year review.	
Ensure the marine research plan addresses key gaps in knowledge for threatened species and species of special conservation significance with management targets that form key performance indicators.	

Management actions/ strategies	Compliance with management plan
In consultation with Traditional Owners, develop protocols to ensure the research plan and any research undertaken in the marine park is culturally appropriate and that information shared by Traditional Owners is used in a culturally appropriate manner. Research partnerships between research scientists and Traditional Owners should be accompanied by a research agreement.	
Ensure the granting and renewal of permits relating to scientific research is consistent with the management plan permitted use table, management targets, cultural protocols and Wildlife Conservation (close season) Notices as appropriate	
Undertake further research to assist with a five-year review of the adequacy of management arrangements in the marine park, particularly with regard to humpback whales and the special purpose zone (whale conservation) and the adequacy of the zoning scheme for habitat and species representativeness and protection, including St George Basin.	
Spatially and qualitatively characterise the use of the marine park by humpback whales, including the identification of high-use humpback whale calving and nursing areas.	
Consider and use information from cultural mapping projects initiated by Traditional Owners and use it to help inform management actions and responses in relation to Aboriginal cultural and heritage values.	
Spatially and qualitatively characterise human use of the marine park by recreational and commercial users.	
Investigate the extent and significance of interactions between commercial fishing and humpback whales and other specially protected species.	
Ensure outcomes from the research program are incorporated into adaptive marine park management, as well as planning and policy programs.	
Implement research components of the Humpback whale recovery plan (Australian Government 2005) and other relevant species conservation plans/strategies with respect to the marine park.	
Maintain a database of ecological and socio-economic research relevant to management.	
Provide logistical and financial support to researchers where possible.	
To implement a collaborative and cost-effective marine monitoring program to provide for adaptive management and to inform assessment of management effectiveness within the marine park.	
Prepare a collaborative and cost-effective marine monitoring plan. Ensure the marine monitoring plan uses existing traditional ecological knowledge.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described
Ensure that all monitoring activities undertaken by or on behalf of DPaW comply with DPaW's Science Policy (No. 78) and associated guidelines.	

Management actions/ strategies	Compliance with management plan
Progressively implement the marine monitoring plan with a primary focus on determining if management targets have been achieved for key performance indicators.	in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Implement monitoring components of the Humpback whale recovery plan (Australian Government 2005), and other relevant species conservation plans/strategies with respect to the marine park.	
Ensure an appropriate level of monitoring is undertaken by developers operating with approval in or adjacent to the marine park.	
Consider the potential implications of climate change when developing a marine monitoring program.	
Develop and apply management targets to ecological values identified through the research program.	
In partnership with Traditional Owner rangers, develop and implement an ongoing turtle and dugong monitoring program.	
Develop and apply management targets for human values and uses.	
Ensure biosecurity issues are considered during the development of the marine monitoring plan.	

Assessment of the Beehive-1 exploration drilling LoWC spill risk against the Rowley Shoals Marine Park Management Plan 2007-2017 (WA Department of Environment and Conservation, 2007)

The following information summarises the probabilities of exposure (%) to the Rowley Shoals Marine Park based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Rowley Shoals MP	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	1	-	-	-	-	-
Dissolved – 0-10 m below sea surface	-	-	-	3	-	-	2	1	-
Entrained – 0-10 m below sea surface	7		-	10		4	2		2

Management actions/ strategies	Compliance with management plan
To ensure that a fair and equitable zoning scheme is implemented within the park within 6 months of the release of the management plan.	
Gazette appropriate notices under the CALM Act and FRM Act to implement the zoning scheme.	No impacts.
Inform visitors about the types of zones, reasons for and restrictions on activities in the Marine Park using signage, information manuals and education programs.	
Develop and implement procedures to ensure coordination between Government agencies and stakeholders to maximise efficiency and effectiveness of surveillance and enforcement activities.	
Gazette the Marine Park as a mooring control area and seek appointment as the controlling authority within one year of gazettal.	
Develop Codes of Practice for marine based industries and recreational sectors, where necessary.	
To enhance community understanding of and support for the park through education and interpretation programs and active participation in ongoing management.	
Develop and implement, in collaboration with DoF, other relevant agencies and commercial operators, a marine education program to ensure Park users are aware of and understand the values of the park, management zones and regulations, and the reasons for these controls.	No impacts.
Develop and distribute to the community and visitors a range of education materials about the Marine Park's values, pressures on these values, management strategies and targets, as well as marine conservation more broadly.	
Assist the fishing, tourism, charter and other key sectors to access and deliver marine information courses/materials to their staff or patrons.	
To facilitate on-going community participation in the management of the park.	

Management actions/ strategies	Compliance with management plan
Establish and maintain a MAC, or other appropriate mechanism to facilitate community input into the ongoing management of the park.	No impacts.
Encourage charter industry involvement in education and interpretation programs.	
Encourage charter industry involvement in monitoring programs.	
To maximise public compliance with regulations related to the ongoing management of the park.	
Facilitate cross authorisation of Government enforcement officers as appropriate.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Develop and implement procedures to ensure coordination between Government agencies to maximise efficiency and effectiveness of patrol and enforcement activities.	
Develop and implement a surveillance and enforcement program, in collaboration with DoF, to ensure an adequate level of compliance with zoning restrictions.	
Assess the suitability and, if appropriate implement remote surveillance technology.	
Implement education strategies outlined in this plan to support compliance activities.	
Develop a MOU between DEC and CoastWatch in regard to maintaining regular surveillance flights and reporting for the Rowley Shoals Marine Park.	
Monitor illegal fishing activities by crews of foreign fishing vessels (CoastWatch).	
Develop and maintain a database of incidences of illegal fishing and species taken by crews of foreign fishing vessels.	
Investigate opportunities for appointment of honorary enforcement officers.	
To remediate existing human impacts on the ecological and social values of the park. To provide visitor facilities that enhance visitor enjoyment of and minimise environmental impact to, the Park. To take reasonable steps to minimise visitor risk where possible in the park	
Undertake triennial assessment to identify areas of human impact in the park, assess rehabilitation options and, where appropriate, implement these measures.	No impacts.
Undertake a triennial risk assessment of human use patterns and trends in the park, and where changes in use have potential to cause environmental impacts, assess preventative options and where appropriate, implement these measures.	
Undertake a triennial assessment of visitor risk in the park and, where necessary, implement appropriate measures to minimise visitor risk.	
To obtain an appropriate understanding of the biodiversity and key ecological and social processes within the park. To promote ecological and social research in the Park that improves knowledge of the Park and the technical basis for management decisions	

Management actions/ strategies	Compliance with management plan
Develop and progressively implement a coordinated and prioritised research program focused on key values and processes of the park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Develop and maintain detailed habitat and wildlife distribution maps for the park.	
Develop and maintain a database of human usage in the park.	
Identify, prioritise and communicate high priority ecological and social research projects relevant to the management of the park to appropriate research organisations, via a strategic research plan with the aim of maximising priority research outcomes for the park.	
Develop and maintain a database of historical and current research in the park.	
Facilitate ecological and social research in the park conducted by research, academic and educational institutions, by providing financial and logistical assistance (where possible).	
To determine the status and trends in the condition of, and threats to, the ecological values and the effectiveness of management responses in the reserves. To provide the necessary information for the MPRA and DEC audit function. To promote ecological and social monitoring in the park that can detect changes to the ecological values and aid management decisions.	
Develop and progressively implement an integrated and prioritised ecological and social monitoring program for the Park, with a particular emphasis on MPRA and DEC audit requirements.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Ensure that proponents of development proposals or activities with the potential to impact on the Park's values conduct appropriate compliance monitoring programs.	
Encourage Commonwealth marine research agencies to continue with long-term reference sites to better understand natural variability and key ecological processes (e.g. recruitment, herbivory etc) in the reserves.	

Limits of acceptable change for the Ord River Floodplain Ramsar Site from the Ecological Character Description (Department of Environment and Conservation, 2008)

Limits of acceptable change
Hydrology
Wet season flows sufficient to provide: 4 or more spells over 125 m 3 /s, 2 or more spells over 200 m 3 /s and at least one over 300 m 3 /s. Total annual durations of at least 10, five and one day(s) for 125 m3 /s, 200 m3 /s and 300 m3 /s spells respectively.
Data deficient, however connectivity between Parry Lagoons and the estuary every 3 – 5 years is optimum for maintaining ecological character. Data deficient – baseline must be established before limits can be set. However annual inundation is essential.
Nutrients
Median nutrient concentrations within the Ord Estuary and Parry Lagoons of: < 50 g/L nitrate-nitrite and < 20 g/L phosphate. To be revised when further data becomes available.
Dissolved oxygen
Dissolved oxygen concentrations in the estuary no less than 90% saturation.
Salinity
Salinity during the dry season in the Estuary and False mouths of the Ord to average 30 – 35 ppt.
Annual median salinity in Parry Lagoons < 1ppt.
Toxicants
Atrazine < 0.7 g/L Endosulphan < 0.03 g/L.
Phytoplankton
Annual median chlorophyll a concentrations 10 – 15 g/L (Note this is an estimate based on limited data and should be reviewed with additional monitoring).
Mangrove
Mangrove extent > 26,000 ha Mangrove species 14 No significant change in mangrove distribution and zonation.
Sedge/grassland
Current extent and community composition not known - baseline must be established before quantitative limits can be made No significant change in community composition or extent.
Aquatic vegetation
Current extent and community composition not known - baseline must be established before quantitative limits can be made No significant change in community composition or extent.
Invertebrates

Limits of acceptable change
Insufficient information to set a baseline - baseline must be established before quantitative limits can be made No significant change in community composition or abundance.
Fish
Insufficient information to set a baseline with the possible exception of barramundi and Threadfin Salmon based on commercial fishing data. However, total catch of Barramundi has decreased substantially since the time of listing (Fisheries WA 2003 – 2007), - Baseline must be established before quantitative limits can be made No significant change in community composition or abundance.
Significant species such as the Freshwater Sawfish, Green Sawfish and Northern River Shark require additional protection. However, without population estimates, quantitative limits are difficult to set. - baseline must be established before quantitative limits can be made.
Wetland dependent birds
LAC set based on Ramsar criteria and reason for listing In a majority of the years in which the Parry Floodplain Wetlands is extensively inundated, the system supports: • 20,000 waterbirds substantial numbers of migratory shorebirds • substantial breeding by waterbirds • large numbers of Plumed Whistling-Duck and Little Curlew • at least occasional (1 in 20 year) occurrence of Australian Painted Snipe provided that appropriately frequent, systematic and comprehensive surveys of waterbirds have been conducted at these times.
Crocodiles
No significant change in mean populations for each of these species Mean population estimates for the Saltwater Crocodile = 80 and Freshwater Crocodile = 400 in the lower Ord River.

Assessment of the Beehive-1 exploration drilling LoWC spill risk against the Lalang-gaddam Marine Park Joint Management Plan 98 2022 (DBCA, 2022)

The following information summarises the probabilities of exposure (%) to the Lalang-gaddam Marine Park based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Lalang-garram / Camden Sound marine park	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	-	-	-	2	-	-	-	-	-
Dissolved – 0-10 m below sea surface	6	1	-	9	2	-	3	1	-
Entrained – 0-10 m below sea surface	17		9	36		15	19		5

Wyndham - East Kimberley Nearshore Waters	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Shoreline	78	70	41	83	79	30	99	93	23
Sea Surface	70	2	-	77	-	-	93	-	-
Dissolved – 0-10 m below sea surface	61	49	27	79	68	40	97	95	82
Entrained – 0-10 m below sea surface	82		62	86		72	97		97

Derby-West Kimberley Shoreline Sector	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Shoreline	2	-	-	2	-	-	-	-	-
Entrained – 0-10 m below sea surface	8		-	13		1	5		-

Kingfisher Islands	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Entrained – 0-10 m below sea surface	2		-	2		-	-		-

Wildcat Reefs	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Dissolved – 0-10 m below sea surface	5	-	-	4	-	-	3	-	-
Entrained – 0-10 m below sea surface	15		8	35		15	12		5

Cockell and Nicolle Reefs Receptor	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Entrained – 0-10 m below sea surface	9		-	11		-	4		1

Management actions/ strategies	Compliance with management plan
To ensure that cultural laws and protocols are understood and respected in the marine park	
Ensure marine park management is consistent with cultural laws and protocols.	No impacts
Support Dambeemangarddee people to visit their Sea Country with younger generations to enable crossgenerational exchange of information and maintain connection to country within the Dambeemangarddee community.	
Support Dambeemangarddee people to undertake cultural planning to record the culture and heritage values of the park and inform management.	
Support DAC to ensure visitors, government employees and/or contractors working in the marine park are aware of cultural laws and protocols by developing and implementing cultural awareness communication tools, training and materials.	
Monitor the level of satisfaction of Dambeemangarddee Traditional Owners that they have been able to maintain connection to country.	
To support DAC to increase Dambeemangarddee's involvement in the day-to-day management and operation of the marine park to enhance Dambeemangarddee's ability to look after country and keep it healthy. To conserve and protect sites of cultural significance	
Continue to support DAC to explore and implement tailored training, education and mentoring to fulfil positions of employment relating to the management of the marine park.	No impacts
Support DAC to build their capacity in the management of the marine park and work collaboratively to develop succession plans, career pathways and support networks.	

Management actions/ strategies	Compliance with management plan
Support DAC to review and adapt operational staff structures to be able to undertake a greater role in the day-to-day park management.	
Support DAC to secure long term funding for positions of employment by Dambeemangarddee people relating to the marine park.	
Monitor the level of satisfaction of Dambeemangarddee Traditional Owner's that they have been able to undertake their role as protectors and managers of country and culture in the context of the jointly managed marine park.	
In collaboration with Dambeemangarddee Traditional Owners, develop and apply commercial tour operator licence conditions to ensure culturally sensitive and appropriate visitation to cultural heritage sites.	
Develop and implement tools to measure and monitor effects of visitor and management activities on cultural heritage, sites and ecological values; and implement strategies to address issues where appropriate.	
Work with Dambeemangarddee people and commercial operators to promote culturally appropriate visitation.	
Support Dambeemangarddee to develop protocols for visitors to Dambeemangarddee Sea Country and educate visitors about appropriate behaviour, respecting privacy and access restrictions where applicable.	
Consider information from cultural mapping projects initiated by Traditional Owners and utilise this to help inform management actions and responses in relation to Aboriginal cultural and heritage values.	
To apply language and traditional knowledge and integrate it with conservation science and management of the marine park To maintain oral traditional knowledge	
Undertake and/ or support research to facilitate the systematic recording of oral knowledge by elders and Traditional Owners whilst on-country.	No impacts.
Monitor the level of satisfaction that traditional ecological knowledge is integrated into management of the marine park.	
Investigate opportunities and develop a process to integrate Dambeemangarddee traditional ecological knowledge with contemporary research and monitoring, where appropriate.	
Work with DAC to change formal names of key sites and areas back to their traditional names (e.g. changing Raft Point to Ngumbree) and ensure traditional names are used in signage, education material, documents, maps and when naming facilities relating to the marine park.	
Support and undertake research to better understand Dambeemangarddee traditional knowledge applicable to the marine park.	
To uphold Traditional Owner connection to country including spiritual and cultural values and customary use.	

Management actions/ strategies	Compliance with management plan
Support Dambeemangarddee people to continue to carry out customary activities, including customary fishing and hunting, in the marine park.	No impacts.
Support Dambeemangarddee people to manage sustainable populations of marine wildlife (e.g. julawaddaa (turtle), waliny (dugongs), sharks, rays etc.).	
Work with Dambeemangarddee people to ensure that monitoring programs provide information to facilitate the development and implementation of sustainable management arrangements for customary take.	
Monitor the level of satisfaction of Dambeemangarddee people that they have been able to continue customary practices and benefit from country consistent with the purpose of the marine park.	
Develop mechanisms to feedback information to the Dambeemangarddee Community on the health of customary hunted animals such as jaiya (fish), julawaddaa (turtles) and waliny (dugongs) to support cultural and marine management decisions and facilitate the development and implementation of sustainable management arrangements for customary hunting.	
To ensure that the seabed structural complexity, geomorphic processes and coastal landforms are not significantly impacted by human activities within the marine park	
Ensure that coastal infrastructure and resource development proposals for the area that have the potential to disturb the geomorphology of the marine park are appropriately assessed in accordance with the Environment Protection Act 1986 (EP Act).	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of geomorphology and the pressures acting on it within the marine park.	
Undertake and/ or support research to characterise the geomorphic features and processes in the marine park and their associated ecological functions.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of geomorphology.	
To ensure that water and sediment quality is not significantly impacted by human activities within the marine park	
Undertake and/or support research on water and sediment quality in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of water and sediment quality within the marine park including establishing baselines for water and sediment variables and identifying the pressures acting on them.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting water and sediment quality.	
Where required, support the development and implementation of Parks and Wildlife's maritime incident response plans, which support the State Emergency Management Plan for Marine Oil Pollution.	
Develop and implement biosecurity, mitigation and detection programs.	

Management actions/ strategies	Compliance with management plan
Investigate and designate suitable areas for vessel sewage discharge and if required, incorporate into education, patrol and enforcement programs to enforce sewage discharge arrangements.	
Work with relevant departments, marine park users and stakeholders to address sources of marine debris and abandoned infrastructure in the marine park to reduce the amount of floating, submerged and beached debris and pollution entering the marine park.	
As part of on-country work, patrol the shoreline and waters of the marine park for marine debris and remove and record as necessary and seek support of partners and marine park users to do the same.	
To ensure that waddaroo (coral reef) communities are not significantly impacted by reef walking and other human activities within the marine park.	
Monitor the condition of waddaroo communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Implement management strategies to mitigate or stop any human activities within the marine park which are negatively impacting the condition of waddaroo communities.	
Regulate foot access to intertidal areas considered unsuitable for visitation e.g. intertidal waddaroo reefs (through commercial operator licences, by regulation or other mechanisms as relevant).	
Undertake and/or support research into waddaroo communities in the marine park.	
To ensure the diversity, abundance and health of julum and jirdarm communities are not significantly impacted by human activities within the marine park.	
Implement management strategies to mitigate or stop human activities within the marine park which are negatively impacting the condition of julum and jirdarm communities in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of julum and jirdarm communities and the pressures acting on them within the marine park.	
Undertake and/or support research on the characterisations of the diversity, density, abundance, and distribution of julum and jirdarm communities in the marine park.	
To ensure that jindirm and galow communities are not significantly impacted by human activities in the marine park.	
Monitor the condition of jindirm and galow communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Implement management strategies to mitigate or stop human activities in the marine park which are negatively impacting the condition of jindirm and galow communities in the marine park.	
Undertake and / or support research to characterise the diversity, density, abundance, and distribution of jindirm and galow communities in the marine park.	

Management actions/ strategies	Compliance with management plan
To ensure that filter feeding communities are not significantly impacted by human activities within the marine park.	
Monitor the condition of subtidal filter feeding communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are impacting the condition of geomorphology.	
Undertake and /or support research to characterise the diversity, density, abundance, and distribution of filter feeding communities in the marine park.	
To ensure that sand and mudflat communities are not significantly impacted by human activities within the marine park.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of intertidal sand and mudflat communities.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of intertidal sand and mudflat communities and the pressures acting on them within the marine park.	
Undertake and/or support research to characterise the diversity and community composition of intertidal sand and mudflat communities in the marine park.	
To ensure julawaddaa are not significantly disturbed by human activities occurring within and immediately adjacent to the marine park. To manage customary harvesting of julawaddaa for cultural and ecological sustainability.	
Monitor the condition of julawaddaa and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Implement management strategies to mitigate or stop any impacts from human activities or predators within the marine park which are negatively impacting on the condition of julawaddaa.	
Ensure that management of julawaddaa in the marine park aligns with relevant international and regional agreements (e.g. Convention of Migratory Species of Wild Animals and MoU on the Conservation and Management of Marine Turtles and their Habitats of Indian Ocean and South-East Asia).	
Refer to customary hunting strategies (section 6.4) to develop sustainable management arrangements for customary hunting of julawaddaa.	
Undertake and/or support research to characterise natural variability, movement patterns and critical habitats for julawaddaa within the marine park.	
To ensure non-targeted (those not targeted by recreational and commercial fishers) jaiya, shark and ray species are not significantly impacted by human activities within the marine park. To manage targeted (those targeted by recreational and commercial fishers) jaiya, shark and ray species for cultural and ecological sustainability.	

Management actions/ strategies	Compliance with management plan
Undertake and /or support research to characterise jaiya, shark and ray diversity, abundance, biomass/ size frequency, movement patterns and critical habitats within the marine park and to understand the ecological role of targeted jaiya, species and the consequences of their removal.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of jaiya, shark and rays and the pressures acting on them in the marine park.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of jaiya and sustainability of targeted jaiya.	
To ensure waliny are not significantly impacted by human activities in the marine park. To manage customary harvesting of waliny for cultural and ecological sustainability.	
Undertake and/or support research to characterise natural variability, movement patterns and critical habitats for waliny within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of waliny and the pressures acting on them within the marine park	
Maintain records of the incidence of boat collisions with waliny.	
Refer to customary hunting strategies in section 6.4 to develop sustainable management arrangements for customary hunting of waliny.	
To ensure ngunubange are not significantly impacted by human activities in the marine park.	
Spatially and qualitatively characterise the use of the marine park by humpback whales including the identification of high-use humpback whale calving and nursing areas	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of ngunubange and the pressures acting on them within the marine park	
Implement components of the humpback whale recovery plan (Australian Government 2005) and other relevant species conservation plans/strategies with respect to the marine park.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of ngunubange which could include: • considering the need and options for temporal closures to vessels or vessel speed restrictions during the core ngunubange visitation period in the special purpose zone (whale conservation). • restricting access to localised high-use humpback whale calving and nursing areas by vessel or aircraft if humpback whales are found to be sensitive to these activities [DoT]. • restrict access to seaplane landings in the special purpose zone (whale conservation) between June and November unless absolutely necessary for safety reasons [DBCA, DoT, Civil Aviation Safety Authority].	

Management actions/ strategies	Compliance with management plan
Ensure the implementation of EPBC Act Policy Statement 2.1 – Interaction between offshore seismic exploration and whales (Australian Government 2008a) within and adjacent to the marine park.	
To ensure jigeedany are not significantly impacted by human activities in the marine park.	
Monitor the condition of jigeedany and the pressures acting on them within the marine park	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of jigeedany.	
Undertake research to characterise jigeedany diversity, abundance, natural variability and critical habitats within the marine park.	
To ensure goiyoiya are not significantly impacted by human activities in the marine park.	
Educate users about known and potential distribution of goiyoiya and of the risk of feeding or interacting with them to ensure compliance.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of goiyoiya and the pressures acting on them within the marine park.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of goiyoiya.	
Undertake and/or support research on the abundance and condition of goiyoiya in the marine park.	
To ensure that sea and shore banarddee that inhabit or migrate through the marine park are not significantly impacted by human activities in the marine park.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of sea and shore banarddee.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of sea and shore banarddee and the pressures acting on them within the marine park.	
Undertake and/or support research to characterise the diversity, abundance, natural variability, distribution and habitat requirements of sea and shore banarddee in the marine park.	
To ensure non-targeted (those not targeted by recreational and commercial fishers) invertebrate species are not significantly impacted by human activities within the marine park. To manage targeted invertebrate species (those targeted by recreational and commercial fishers) for cultural and ecological sustainability.	
Monitor the condition of invertebrates and the pressures acting on them in the marine park.	

Management actions/ strategies	Compliance with management plan
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the condition of invertebrates and sustainability targeted invertebrates.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Undertake and/or support research to characterise the diversity, abundance, natural variability, distribution and habitat requirements of invertebrates within the marine park and to understand the ecological role of targeted invertebrate species and the consequences of their removal.	
To promote visitor access to and enjoyment of the marine park while maintaining the outstanding cultural and natural values. To maintain the cultural, ecological and social values of the marine park that are important for nature-based and cultural tourism.	
Work with Dambeemangarddee people and commercial operators to promote culturally appropriate visitation	No impacts.
Implement regulations to restrict or control access to areas within the marine park that are unsuitable for visitation for ecological, cultural or safety reasons (through commercial operator licences, by regulation or other mechanism as relevant).	
Expand the visitor plan to cover the entirety of the Lalang-gaddam Marine Park and prioritise and implement strategies	
Ensure that the granting and renewal of commercial operations licences and leases in relation to marine park access and wildlife interaction is consistent with the plan, permitted use table, management targets and BC Act.	
Undertake a review of shipping activity in the marine park to determine the need for navigational measures such as compulsory pilotage, speed limits and/or designation of shipping routes.	
Develop information to ensure that visitors are aware of the cultural values of the marine park and are aware of cultural laws and protocols regarding visitor risk and safety.	
Ensure that monitoring programs assess the effectiveness of the park's management arrangements for visitor safety and satisfaction and adapt management strategies as required.	
Conduct periodic visitor risk assessments in the marine park as required and mitigate identified issues.	
Establish and maintain a quantitative and qualitative spatial database of human use within the marine park.	
Ensure maritime safety guidelines are followed.	
Facilitate goiyoiya (estuarine crocodile) handling and removal training for relevant departmental staff and Mayala rangers.	
Investigate the need for additional mechanisms to ensure the safety of seaplanes and vessels operating within the marine park.	

Management actions/ strategies	Compliance with management plan
Work with stakeholders to maintain ongoing, safe access for visitors to Garaanngaddim (Horizontal Falls).	
Work with relevant agencies to prepare for and respond to emergencies.	
Assess the need for a mooring and anchoring plan and prepare and implement if necessary.	
If required and appropriate, promote opportunities for sustainable recreation and tourism, including the provision of visitor facilities if required.	
To maintain the ecological values of the marine park that support recreational fishing. To ensure that, in collaboration with the community and DPIRD, recreational fishing is managed in a manner consistent with maintaining the marine park's cultural and ecological values while providing for social uses and enjoyment. To work collaboratively (agencies, stakeholders and community) to maintain and promote quality recreational and customary fishing opportunities in the marine park.	
Through a collaborative approach with Traditional Owners, Recfishwest and recreational fishers, develop fishing regulations for the SPZ (biocultural conservation) which help ensure recreational fishing is culturally appropriate.	No impacts.
Educate recreational fishers on the zoning scheme and any restrictions that may apply to their activities in the marine park.	
Conduct research to determine if ecosystem effects from recreational fishing occur in the marine park and undertake adaptive management actions if required.	
Investigate whether populations of recreationally targeted species are sustainable in the marine park and undertake adaptive management actions if required.	
Monitor spatial and temporal patterns in recreational fishing activity and catch and report the results to DBCA and the Conservation and Parks Commission for the periodic reviews of the implementation of the management plan.	
Identify sites with maritime heritage in the marine park to facilitate long term management. Provide visitor facilities and or interpretive information to enhance visitor enjoyment of, and where appropriate to mitigate or stop impacts on, maritime heritage values in the marine park.	
Advise commercial tour operators that it is prohibited to disturb sites protected under the Maritime Archaeological Act 1973, Historic Shipwrecks Act 1976 and Heritage Act 2018.	No impacts.
Provide information to enhance visitor enjoyment of, and reduce impacts on, European heritage and other maritime sites if required.	
To enable Dambeemangarddee Traditional Owners to realise livelihoods and achieve economic benefits from their Sea Country, consistent with the purpose of the marine park.	

Management actions/ strategies	Compliance with management plan
Identify opportunities to provide employment, business and training for Dambeemangarddee people on-country to help look after country and maintain connection to country.	No impacts.
Work with stakeholders to facilitate Dambeemangarddee employment opportunities in industries such as the tourism industry.	
Encourage and support Dambeemangarddee people to develop business opportunities on country.	
To maintain the ecological values of the marine park which are important to the continuation of commercial fishing industries. To ensure that, in collaboration with the industry and DPIRD, commercial fishing is managed in a manner that is consisted with maintaining the values of the marine park	
Ensure the granting and renewal of authorisations for commercial fishing operations within the marine park are consistent with the plan, permitted use table and management targets.	No impacts.
Educate commercial fishers on the zoning scheme and any restrictions that may apply to their activities in the marine park.	
Work with commercial fishers, through peak stakeholder bodies to ensure operations are conducted in a culturally sensitive manner.	
Monitor commercial fishing catch and effort in the marine park to inform periodic reviews of the implementation of the management plan.	
Implement management strategies to mitigate or stop any significant impacts from commercial fishing activities within the marine park which are negatively impacting the values of the marine park.	
Conduct research to determine if ecosystem effects from commercial fishing occur in the marine park and investigate the extent and significance of interactions between commercial fishing and marine mammals and other protected species and provide information to managers.	
To maintain the ecological values of the marine park which are important to the continuation of a viable aquaculture and pearling industry. To ensure that, in collaboration with the industry and DPIRD, aquaculture and pearling is managed in a manner that is consistent with maintaining the values of the marine park.	
Ensure any boundary revision of the pearling 'transport exempt area' is consistent with the special purpose zone (pearling).	No impacts.
Ensure the granting and renewals of licences and leases relating to pearling and aquaculture operations within the marine park is consistent with the management plan permitted use table and management targets.	
Work with the pearling industry to ensure continued access through the Garaanngaddim (Horizontal Falls) for recreational and commercial vessels.	

Management actions/ strategies	Compliance with management plan
Work with the aquaculture industry to better understand and mitigate the potential impacts of aquaculture on the values of the marine park, particularly regarding risks to the natural stocks of ilerdda (barramundi) in the marine park and report results back to marine park managers.	
To ensure industry and associated activities are managed in a manner consistent with the objectives of the marine park.	
Consider the quality of the remote seascapes of the marine park in site planning and assessment of development proposals.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Provide advice on the assessment, setting of conditions, and monitoring and reporting requirements for mineral, petroleum and pipeline activities consistent with management objectives and management targets for values of the marine park.	
Ensure ongoing access to the marine park for the enjoyment of country and customary practices is considered during any development proposal.	
Ensure an appropriate level of monitoring is undertaken by developers operating with approval in or adjacent to the marine park.	
Develop a memorandum of understanding (MoU) with KPA to ensure complementary management arrangements.	
Ensure the setting of conditions for new developments and operations are consistent with management program objectives and management targets for ecological values.	
Provide formal advice to the Commission and EPA for the environmental assessment of proposed mineral, petroleum and pipeline activities in and adjacent to the marine park.	
Ensure appropriate liaison regarding the introduction or maintenance of navigation infrastructure within the marine park.	
Where mining, petroleum and pipeline activities have been approved, allow access for mining, petroleum and pipeline activities (e.g. ship loading facilities) within the Ganbadba Sanctuary Zone, Traverse Island Special Purpose Zone (recreation and conservation) and general use zones where required.	
To obtain increased understanding of the biodiversity, biocultural and cultural values and key ecological process and socio-economic uses within the marine park to inform management. To promote research that improves knowledge of the values of the marine park to inform management decisions. To maximise the integration of conservation science with traditional knowledge in all aspects of research within the marine park	
In consultation with Dambeemangarddee Traditional Owners prepare a collaborative prioritised marine research plan that: • utilises existing traditional knowledge and cultural values • includes further research on Indigenous cultural values	No impacts.

Management actions/ strategies	Compliance with management plan
• integrates research on traditional knowledge and cultural values with Western science programs; • addresses key gaps in knowledge for ecological values of the marine park, including threatened species and species of special conservation significance.	
Ensure granting and renewal of permits relating to scientific research is consistent with the management plan.	
Spatially and qualitatively characterise human use of the marine park by recreational and commercial users.	
Ensure outcomes from the research plan are used to prepare and implement a coordinated and prioritised long-term monitoring plan and are incorporated into adaptive marine park management.	
Develop scientific and research protocols and partnership agreement frameworks through the JMB that support genuine scientific/research partnerships with DAC.	
Develop and implement protocols to ensure research is culturally appropriate and that information shared by Dambeemangarddee Traditional Owners is used in a culturally appropriate manner.	
Provide opportunities for Dambeemangarddee Traditional Owners including rangers and departmental staff to be involved and trained in research applicable to the management of the marine park.	
Ensure findings of research by external organisations is shared with Dambeemangarddee Traditional Owners, DBCA and DPIRD.	
Joint management partners are the lead for all strategies. Supporting agencies are listed in brackets. If agencies are required to take a lead role, their name is in bold.	
Identify and communicate high priority research projects which address key knowledge gaps to appropriate external organisations and funding bodies.	
Facilitate or support research in the park, including projects by external organisations, by providing assistance where possible.	
Liaise with industry, other government agencies and non-government organisations to access information held on ecological research in the area.	
Investigate mechanisms to work with commercial operators engaged in wildlife viewing to collect basic information e.g. position and behaviour to assist with research and monitoring.	
To monitor key cultural, ecological and social values in the marine park within a 'condition-pressure-management response' framework, to provide knowledge to assess, adapt and improve management.	
Develop and implement a prioritised collaborative and coordinated monitoring program that; assesses the effectiveness of the zoning scheme and management arrangements for protection of the park values, with a focus on condition, pressure and response indicators and metrics for high priority values.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth,

Management actions/ strategies	Compliance with management plan
• assesses the nature, level and potential impacts of pressures (from human activities and external pressures such as climate change), including the provision of early warning of critical changes in pressures on park values. • provides a better understanding of the dynamic nature of undisturbed marine ecosystems as reference points for comparisons with altered environments. • uses traditional knowledge and where possible provides capacity building and employment opportunities for Traditional Owners. • meets Commission requirements for assessing the implementation of the plan.	state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Support Dambeemangarddee People to develop and apply longer term management targets and performance measures for Aboriginal culture and heritage values.	
Provide necessary information and support for assessments of management plan implementation by the Commission.	
Develop and apply management targets to cultural, ecological and socio-economic values identified through the research and monitoring programs.	
Ensure records are kept of any stranded marine fauna.	
To increase understanding of climate change on the marine park and increase the resilience of values to climate change.	
Undertake research to better understand the emerging and predicted impacts of climate change on ecological and biocultural values.	No impacts.
Educate marine park users about the effects of climate change on the values of the marine park and encourage users to reduce their carbon emissions where possible.	
Support international and national climate change initiatives and where possible develop regional and local level adaptive management responses for the protection of park values, informed by research and monitoring outcomes.	
Monitor marine park values and the climate-related pressures acting on them to inform the development of local and regional level adaptive management responses for the protection of park values.	
Assess areas, habitats and species which are most at risk to the effects of climate change and increase their resilience by reducing other pressures where possible.	
To ensure the marine park has appropriate legal, administrative, financial, operational and human resource frameworks in place so that it is effectively jointly managed in partnership with Dambeemangarddee Traditional Owners and in a collaborative setting with other agencies	
Implement all legal provisions necessary to establish and jointly manage the marine park, including registration of ILUAs; execution of JMAs; reservation of intertidal areas within the marine park; gazettal of a CALM Act classified waters notice; and FRM Act fisheries management orders.	No impacts.

Management actions/ strategies	Compliance with management plan
Work with DAC and Dambeemangarddee Traditional Owners to develop commercial tour operator licence conditions to manage access in special purpose zones (cultural protection) to ensure activities including fishing is compatible with the purpose of protecting the value of the land and waters to the culture and heritage of Traditional Owners.	
Develop and implement joint collaborative operational plans.	
Ensure the objectives detailed in the JMAs are applied to all management activities in the marine park	
Develop and maintain appropriate staff structures and operational equipment, including vessels and infrastructure to implement the plan and JMA effectively.	
In accordance with DPIRD's responsibilities under the FRM Act, Pearling Act 1990, and ARM Act (when implemented), develop a framework for DPIRDs involvement in the joint management of the marine park including mechanisms for DPIRD to attend JMB meetings.	
Consult as necessary in regard to the issuing and renewal of licences, leases and permits under the BC Act, CALM Regulations, FRM Act and Pearling Act 1990.	
Where possible, work with neighbouring land and water managers to reduce environmental impacts on marine park values such as regulating sewage discharge.	
Develop induction materials for new JMB members and DBCA staff to acquaint them with the marine park and the role of the JMB.	
Develop and implement a monitoring and evaluation framework to assess joint management effectiveness for the marine park.	
Provide licences and permits with appropriate conditions where required.	
Undertake and/or support feasibility studies for establishing and using seasonal land-based camps for marine park operations.	
Undertake a five-year review (within five years of the date of the CALM Act s62 classified waters notice for the amalgamated parks) of the adequacy of management arrangements, including the zoning scheme, for the marine park.	
DPIRD to provide advice to the JMB and attend meetings as required.	
To enhance community understanding of and support for the marine park and achieve a high level of compliance with regulations, permitted uses and other management arrangements within the marine park.	
Develop and implement a collaborative education and compliance program to maximise compliance with the management plan and to encourage tour operators, visitors on private vessels and commercial fishing, pearling and mining operators to report any inappropriate or unlawful activity.	No impacts.

Management actions/ strategies	Compliance with management plan
Monitor, promote and enforce compliance with fisheries and marine park legislation, including illegal foreign fishing.	
Collaboratively develop and implement an education and interpretation plan to raise awareness and stewardship of the marine park which includes: • information on ecological and cultural values • information on cultural protocols • the zoning and other management arrangements • the condition of the park • safety and any relevant regulations, policies and guidelines relating to management.	
Ensure marine park users, including commercial operators, are aware of and comply with relevant legislation for the protection of marine mammal and other wildlife interaction policies and guidelines.	
Facilitate cross-authorisation of enforcement officers as appropriate including training Dambeemangarddee Rangers in CALM Act compliance with the intention of obtaining the status of honorary enforcement officers pursuant to the CALM Act.	
Facilitate training of Dambeemangarddee rangers in FRM Act compliance, to enable Dambeemangarddee rangers to engage in DPIRD compliance activities.	
Ensure marine park visitors obtain and comply with appropriate regulations, licences and permits.	
Maintain a database of compliance statistics and adapt management strategies to address any noncompliance issues.	
Develop and implement codes of practice as necessary to ensure responsible use of the marine park.	
Install and maintain zone markers and educational signage for the marine park where appropriate.	
Promote the plan among commercial tour operators and visitors to inform them about their responsibilities and encourage them to voluntarily report any inappropriate or unlawful activity.	
Noting remoteness of the marine park, when opportunities arise, facilitate public participation in the management of the marine park, and maintain a database of public participation.	
To assess and evaluate management effectiveness.	
Develop and implement a performance assessment process that is consistent with DBCA and Commission policy and ensure results are reported back to the Dambeemangarddee Community.	No impacts.
Provide necessary information and support for the performance assessment process.	
Support the JMB and DAC to conduct periodic reviews of the effectiveness of plan implementation in meeting cultural, capacity building and other priority objectives.	

Assessment of the Beehive-1 exploration drilling LoWC spill risk against Mayala Marine Park Management Plan 2022 (DBCA, 2022)

The following information summarises the probabilities of exposure (%) to the Mayala Marine Park based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Derby-West Kimberley Shoreline Sector	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Shoreline	2	-	-	2	-	-	-	-	-
Entrained – 0-10 m below sea surface	8		-	13		1	5		-

Broome Shoreline Sector	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Shoreline	1	-	-	-	-	-	1	-	-
Entrained – 0-10 m below sea surface	2		-	7		-	1		-

Bathurst Island Nearshore waters	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Sea surface	1	-	-	-	-	-	-	-	-
Shoreline	4	3	-	-	-	-	-	-	-
Dissolved – 0-10 m below sea surface	6	2	-	-	-	-	-	-	-
Entrained – 0-10 m below sea surface	20		12	-		-	-		-

Management actions/ strategies	Compliance with management plan
To uphold Mayala's connection to Country and promote economic opportunities. To promote increased understanding and respect for Mayala living cultural landscape and concepts of the marine park.	
Support Mayala people to visit their saltwater Country to maintain their connection to Country, through on-country trips, employment and enterprise development.	No impacts.
Support Mayala to develop and implement cultural awareness communication tools, emphasising the importance of cultural and heritage values for both Traditional Owners and the wider community.	
Design and develop management tools to address the impacts of human activities that may prevent cultural fulfilment to uphold Traditional Owner cultural rights and obligations.	
Support Mayala to define a framework to ensure the right cultural processes are used for assessment and approval of proposals in the marine park.	
Assess and monitor human activities that impact on the continuity of cultural fulfilment and upholding the cultural rights and obligations to continue the enjoyment of Country.	
Develop cultural awareness training material and implement training for government employees and / or contractors working in the marine park.	
Support Mayala to develop protocols for visitors on Mayala Country and educate visitors about appropriate behaviour, respecting privacy and access restrictions where applicable.	
To facilitate and maintain the opportunity for Mayala people to care for Country and keep it healthy so that future generations can continue to experience Country. To conserve and protect sites of cultural significance.	
Ensure marine park management is consistent with cultural laws and protocols.	No impacts.
Ensure Elders and younger generations are involved in the management of the marine park	
Support Mayala MIAC to establish on-country ranger teams, bases and outposts.	
Work with Mayala people to conduct a mapping exercise to document Mayala Sea Country and intertidal zones to assist other management programs (and share where appropriate).	
Work with Mayala people to conduct a mapping exercise to document Mayala Sea Country and intertidal zones to assist other management programs (and share where appropriate).	
Develop and implement tools to measure and monitor effects of visitor and management activities on cultural heritage values and sites and implement strategies to address issues where appropriate.	
In collaboration with Mayala Traditional Owners, develop and apply commercial operator licence conditions to ensure culturally sensitive and appropriate visitation in the marine park especially for cultural heritage sites.	

Management actions/ strategies	Compliance with management plan
Implement regulations to restrict or control access to areas within the marine park that Mayala Traditional Owners consider unsuitable for visitation (through commercial operator licences, by regulation or other mechanism as relevant).	
Support MIAC to explore and implement, tailored training, education and mentoring to enable Mayala people to fulfil positions of employment relating to the management of the marine park.	
Assess the use and condition of cultural sites and implement further strategies to improve the spiritual and physical condition of them where possible.	
Support Mayala MIAC to communicate and regulate protocols for access to Mayala islands.	
Ensure cultural heritage sites in the marine park are protected, particularly significant and sensitive sites at risk.	
Support MIAC to build their capacity in the management of the marine park and work collaboratively to develop succession plans, career pathways and support networks.	
Develop a transition plan to build Mayala's capacity to take on management of the ranger team and conduct periodic reviews of progress.	
To apply language and traditional knowledge and integrate it with conservation science, management and in education about the marine park. To assist in waking up Oowini language.	
Where possible use Mayala and Bardi languages for place names, in signage, educational material, reporting and when naming facilities.	No impacts.
Continue to support the transfer of traditional knowledge through on country learning opportunities, including supporting Mayala people to visit their saltwater country with younger generations to support cross-generational exchange of information.	
Undertake and support research to gain a better understanding of Mayala traditional knowledge applicable to the marine park.	
Investigate opportunities and develop a process for integrating Mayala traditional knowledge, and knowledge holders, into marine park management.	
Recognition of and support for the right of Mayala people to continue customary practices and to benefit from their Country, consistent with the purpose of the marine park.	
Support Mayala people to continue to carry out customary activities, including customary fishing and hunting, in the marine park.	No impacts.

Management actions/ strategies	Compliance with management plan
As part of the education and interpretation plan develop mechanisms to inform users of the marine park about Mayala rights, as the recognised Traditional Owners, to enjoy Mayala Country and maintain their customary practices.	
Work with Mayala people and other Traditional Owner groups to develop sustainable management arrangements for customary hunting of marine wildlife (e.g. Goorlil (turtles), odorr (dugongs), joorroo (sharks) and barnamb (rays) etc.) and develop a customary fishing/ hunting guide.	
Develop mechanisms to feedback information from research and monitoring programs to the Mayala Community on the condition of customary hunted animals such as goorlil (turtles) and odorr (dugongs), to support cultural and marine management decisions and facilitate the development and implementation of sustainable management arrangements for customary hunting.	
To ensure that marrgoorr (coral) and marnany (reef) communities are not significantly impacted by reef walking and other human activities within the marine park	
Undertake and/or support research to characterise the diversity and condition of marrgoorr (coral) and marnany (reef) communities in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of marrgoorr (coral) and marnany (reef) communities and the pressures acting on them in the marine park.	
Regulate foot access to intertidal marnany (reef) and other areas unsuitable for visitation (through commercial operator licence conditions, by regulation or other mechanisms as relevant).	
Educate users of the reserves about the ecological importance of marrgoorr (coral) and marnany (reef) communities and the potential detrimental effects of in discriminant marnany (reef) walking, collecting, anchoring and boating activities on communities.	
To ensure mangrove communities are not significantly impacted by human activities in the marine park.	
Undertake and/or support research to characterise the diversity, density, abundance and distribution of mangrove communities in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of mangrove communities and the pressures acting on them within the marine park.	
Educate users of the important ecological role of mangrove communities and the potential impacts of human activities, particularly vessel wash on these communities.	
To ensure the diversity, abundance and condition of noomool (seagrass) and laanyji (macroalgae) communities are not significantly impacted by human activities within the marine park.	

Management actions/ strategies	Compliance with management plan
Undertake and/or support research to characterise the diversity, abundance and distribution of noomool (seagrass) and laanyji (algae) communities in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Monitor the condition of noomool (seagrass) and laanyji (macroalgae) communities and the pressures acting on them within the marine park.	
Educate users of the important ecological role of noomool (seagrass) and laanyji (macroalgae) communities and the potential impacts of human activities, particularly vessel mooring, and nutrient and pollution inputs on these communities.	
To ensure that water and sediment quality are not significantly impacted by human activities in the marine park.	
Develop and implement a biosecurity, mitigation and monitoring program.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Undertake and/or support research on water and sediment quality in the marine park, including establishing baselines for water and sediment quality variables.	
Monitor the condition of water and sediment quality within the marine park and the pressures acting on it.	
Designate areas for vessel sewage discharge and incorporate into education, patrol and enforcement programs to enforce sewage discharge arrangements.	
As part of on-Country work, patrol the shoreline and waters of the marine park for marine debris and remove and record as necessary, and seek support of partners and marine park users to do the same.	No impacts.
Work with relevant departments, marine park users and stakeholders to address sources of marine debris and abandoned infrastructure in the marine park to reduce the amount of floating, submerged and beached debris and pollution entering the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Map the areas of the marine park that are highly sensitive to oil and chemical spills and ensure that this information is accessible to the State Marine Oil Pollution Coordination Group.	
Educate users of the importance of good water and sediment quality, and the potential impacts human activities, particularly nutrient and pollution inputs can have on these communities.	No impacts.
To ensure that the seabed structural complexity, geomorphic processes and coastal landforms are not significantly impacted by human activities within the marine park.	
Undertake and/ or support research to characterise the geomorphic features and processes in the marine park and their associated ecological functions.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth,
Monitor the condition of geomorphology and the pressures acting on it within the marine park	

Management actions/ strategies	Compliance with management plan
Ensure that coastal infrastructure and resource development proposals for the area that have the potential to disturb the geomorphology of the marine park are appropriately assessed in accordance with the EP Act.	state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To ensure that filter feeding communities are not significantly impacted by human activities within the marine park.	
Undertake and support research to characterise the diversity, density, abundance and distribution of filter feeding communities in the marine park.	No impacts.
Educate users of the important ecological role of subtidal filter feed communities and the potential impacts that human activities can have on these communities.	
Monitor the condition of subtidal filter feeding communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To ensure that intertidal sand and mudflat communities are not significantly impacted by human activities within the marine park.	
Undertake and/or support research to characterise the diversity, community composition and condition of intertidal sand and mudflat communities in the marine park.	No impacts.
Monitor the condition of intertidal sand and mudflat communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Educate users of the important ecological role of subtidal filter feed communities and the potential impacts that human activities can have on these communities.	No impacts.
To ensure goorlil are not significantly disturbed by human activities occurring within and on the boundary of the marine park To manage customary harvesting of goorlil for cultural and ecological sustainability**.**	

Management actions/ strategies	Compliance with management plan
Ensure that management of goorlil in the marine park supports relevant international and regional agreements (e.g. Convention of Migratory Species of Wild Animals and MoU on the Conservation and Management of Marine Turtles and their Habitats of Indian Ocean and South-East Asia).	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Undertake and/or support research to characterise natural variability, movement patterns and critical habitats for goorlil within the marine park.	No impacts.
Monitor the condition of goorlil and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Educate users of the marine park on how to reduce damage to goorlil habitat and impacts on individuals and to respect cultural practice.	No impacts.
To ensure non-targeted (those not targeted by recreational and commercial fishers) aarli, joorroo and barnamb species are not significantly impacted by human activities within the marine park. To manage targeted (those targeted by recreational and commercial fishers) aarli, joorroo, and barnamb species for cultural and ecological sustainability**.**	
Undertake and /or support research to characterise aarli, joorroo and barnamb diversity, abundance, biomass/size frequency, movement patterns and critical habitats within the marine park and to understand the ecological role of targeted aarli species and the consequences of their removal.	No impacts.
Monitor the condition of aarli (fish), joorroo (sharks and barnamb (ray) stocks and the pressures acting on them in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.

Management actions/ strategies	Compliance with management plan
Educate users about recreational fishing rules and the ecological importance of aarli (fish), joorroo (sharks) and barnamb (rays).	No impacts.
To ensure odorr are not significantly impacted by human activities in the marine park. To manage customary harvesting of odorr for cultural and ecological sustainability**.**	
Undertake and/or support research on the abundance, distribution, natural variability and habitat requirements of odorr in the marine park.	No impacts.
Monitor the condition of odorr and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Educate users about ways to minimise disturbance to odorr and respect cultural practice	No impacts.
Maintain records of the incidence of boat collisions with odorr	
To ensure miinimbi (whales) and bayalbarr (dolphins) are not significantly impacted by human activities in the marine park.	
Undertake and/or support research to characterise miinimbi and bayalbarr diversity, abundance, natural variability and critical habitats within the marine park.	No impacts.
Monitor the condition of miinimbi and bayalbarr and the pressures acting on them within the marine park	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Facilitate large miinimbi disentanglement response training for relevant departmental staff and Mayala rangers.	No impacts.
Educate users about ways to minimise disturbance to miinimbi and bayalbarr, including rules for miinimbi watching.	
Maintain a record of stranding and mortalities of miinimbi and bayalbarr in the marine park	

Management actions/ strategies	Compliance with management plan
To ensure linygurra (estuarine crocodiles) are not significantly impacted by human activities in the marine park.	
Monitor the condition of linygurra (estuarine crocodiles) and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Undertake and/or support research on the abundance, and condition of linygurra (estuarine crocodiles) in the marine park.	No impacts.
Educate users about known and potential distributions of linygurra (estuarine crocodiles) and of the risk of feeding them and ensure compliance.	
To ensure that sea and shore garrabal (birds) that inhabit or migrate through the marine park are not significantly impacted by human activities in the marine park**.**	
Educate users about ways to minimise disturbance to sea and shorebirds including the use of drones.	No impacts.
Undertake and/or support research to characterise sea and shore garrabal diversity, abundance, natural variability, movement patterns and critical habitats within the marine park	
Monitor the condition of sea and shore garrabal and the pressures acting on them within the marine park	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To ensure non-targeted invertebrate species are not significantly impacted by human activities within the marine park. To manage targeted invertebrate species for cultural and ecological sustainability**.**	
Educate users about ways to minimise disturbance to and taking of invertebrates.	No impacts.
Undertake and/or support research to characterise the diversity, abundance, distribution and habitat requirements of invertebrates within the marine park and to understand the ecological role of targeted invertebrate species and the consequences of their removal [DPIRD for targeted species].	

Management actions/ strategies	Compliance with management plan
Monitor the condition of invertebrates susceptible to localised depletion in the marine park and take remedial action if human activities are impacting these species [DPIRD for targeted species].	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To identify, protect and conserve the natural and cultural values of Tanner Island.	
Ensure cultural heritage values, cultural knowledge and cultural laws and protocols inform land management.	No impacts.
Undertake or support baseline surveys of native plants, animals and ecological communities	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Rename the Tanner Island Nature Reserve to its traditional name.	No impacts.
Implement restrictions on visitor access as required for cultural or environmental reasons (through commercial operator licences, by regulation or other mechanisms as relevant).	
To enable Mayala Traditional Owners to realise livelihoods and achieve economic benefits from their Sea Country, consistent with the purpose of the marine park	
Identify opportunities to provide a range of employment, business and career development opportunities that are culturally appropriate and relevant to the management of the marine park.	No impacts.
Support MIAC to attract funding to assist with management of the marine park.	
Seek to employ or upskill Mayala people in roles relating to the marine park.	
Work with stakeholders to facilitate Mayala employment opportunities in industries such as the tourism industry.	
Encourage and support Mayala people to develop and enhance existing business opportunities on Country.	
To provide for nature-based and cultural tourism activities and ensure that they are managed in a manner that is consistent with maintaining the cultural, ecological and social value of the marine park. To maintain the cultural, ecological and social values of the marine park that are important for nature-based and cultural tourism.	

Management actions/ strategies	Compliance with management plan
To minimise risks to visitors and encourage appropriate behaviour	
Encourage the establishment of Mayala owned commercial tourism business in the marine park.	No impacts.
Ensure promotion and marketing of the marine park is consistent with Mayala's aspirations and cultural protocols.	
In collaboration with Mayala Traditional Owners and MIAC, develop a visitor management plan.	
Work with Mayala people and commercial operators to promote culturally appropriate visitation and facilitate the establishment of high-quality commercial tourism operations that: • Increase visitor enjoyment and safety • Demonstrate a commitment to protect and promote the park's cultural, natural, recreation and tourism values • Ensure staff and passengers behave appropriately and respectfully at cultural sites • Ensure staff and passengers respect and adhere to Mayala protocols for visitation on land and sea • Conduct operations according to departmental policy and licence conditions (Tourism WA) • Foster community stewardship of the marine park • Reduce impacts on sites • Enhance visitor's cultural experience	
Develop a voluntary visitor pass, for the marine park to plan for sustainable and culturally appropriate visitor usage.	
Conduct a visitor survey to gather data on visitor numbers, locations, anchoring points etc. to understand potential impacts and to aid the development of monitoring programs and a mooring and anchoring plan.	
Promote opportunities for sustainable recreation and tourism, including the provision of visitor facilities if required.	
Assess the need for a mooring and anchoring plan in the marine park and implement if required.	
Maintain a quantitative and qualitive spatial data bases of human use in the marine park.	
Conduct periodic visitor risk assessment in the marine park as required and mitigate identified issues.	
Facilitate linygurra (estuarine crocodile) handling and removal training for relevant departmental staff and Mayala rangers.	
Educate marine park users about protocols and regulations for the use of drones in the marine park to minimise impacts and disturbance to marine park values.	
Work with relevant agencies to prepare for and respond to emergencies.	

Management actions/ strategies	Compliance with management plan
Work with relevant agencies and industry bodies to adapt and improve existing mapping programs or apps reflecting marine park risks and zoning.	
Undertake a review of shipping activity in the marine park to determine the need for navigational measures such as compulsory pilotage, speed limit and/or designation of shipping routes.	
Educate marine park users of the risks in the marine park e.g. strong currents, cyclones and linygurra (estuarine crocodiles).	
To maintain the ecological values of the marine park that support recreational fishing. To ensure that, in collaboration with the community and DPIRD, recreational fishing is managed in a manner consistent with maintaining the marine park's cultural and ecological values while providing for social uses and enjoyment. To work collaboratively (with agencies, stakeholders and the community) to maintain and promote safe and enjoyable recreational fishing opportunities in the marine park.	
Through a collaborative approach with traditional owners, Recfishwest and recreational fishers, develop fishing regulations for the SPZ (biocultural conservation) which help ensure recreational fishing is culturally appropriate.	No impacts
Work with MIAC and Elders to develop, communicate and promote a Mayala-led sustainable fishing protocol including traditional seasonal calendars and access restrictions for dissemination to recreational fishers, fishing clubs and commercial tour operators.	
Educate recreational fishers on the zoning scheme, fisheries regulations and any restrictions that may apply to their activities in the marine park, seek information on management issues in the marine park and seek feedback on management responses.	
Conduct and/or support research to determine if ecosystem effects from recreational fishing occur in the marine park and undertake adaptive management actions if required	
Monitor recreational fishing catch and effort in the marine park and report the results to DBCA and the Commission for the periodic reviews of the implementation of the management plan.	
Investigate whether populations of recreationally targeted species are sustainable in the marine park and undertake adaptive management actions if required.	
To maintain the ecological values of the marine park which are important to the continuation of commercial fishing industries. To ensure that, in collaboration with the industry and DPIRD, commercial fishing is managed in a manner that is consisted with maintaining the values of the marine park	
Ensure Mayala are kept informed and involved in the monitoring and management measures for commercial fishing stocks in the marine park.	No impacts.
Work with commercial fishers, through peak stakeholder bodies to ensure operations are conducted in a culturally sensitive manner.	

Management actions/ strategies	Compliance with management plan
Conduct research to determine if ecosystem effects from commercial fishing occur in the marine park and undertake adaptive management actions if required.	
Monitor commercial fishing catch and effort in the marine park to inform periodic reviews of the implementation of the management plan and make data available to MIAC/JMB.	
Investigate the extent and significance of interactions between commercial fishing and marine mammals and other protected species and address as required.	
To maintain the ecological values of the marine park which are important to the continuation of a viable aquaculture industry. To ensure that, in collaboration with the industry and DPIRD, aquaculture is managed in a manner that is consistent with maintaining the values of the marine park.	
Ensure that aquaculture authorisations are consistent with the management plan and include appropriate monitoring programs, lighting, navigational marking and site utilisation conditions.	No impacts.
Work with the Aquaculture Council of Western Australia and aquaculture proponents to ensure environmental best practice aquaculture management is applied in the marine park.	
Work with aquaculture companies and DPIRD to help them conduct operations in a culturally sensitive manner.	
To maintain the ecological values of the marine park which are important to the continuation of a viable pearling industry. To ensure that, in collaboration with the industry and DPIRD, pearling is managed in a manner that is consistent with maintaining the values of the marine park.	
Ensure that pearling authorisations are consistent with the management plan and include appropriate monitoring programs, lighting, navigational marking and site utilisations conditions.	No impacts.
Work with pearling proponents and other relevant stakeholders to ensure environmental best practice management is applied in the marine park.	
Work with pearling companies and DPIRD to help them conduct operations in a culturally sensitive manner.	
To ensure that, in collaboration with the Western Australian Museum, human activity does not significantly affect historical sites or shipwrecks in the marine park. To increase awareness of maritime heritage within the local community and among visitors.	
Identify sites with maritime heritage value within the marine park and development and implement plans of management for identified sites (WAM, Heritage Council of WA)	No impacts.
Provide interpretive information to enhance visitor enjoyment of, and where appropriate to mitigate or stop impacts on, maritime heritage values in the marine park.	
To ensure industry, development and associated activities are managed in a manner consistent with the objectives of the marine park.	
Develop a memorandum of understanding (MoU) with KPA to ensure complementary management arrangements.	No impacts.

Management actions/ strategies	Compliance with management plan
Provide formal advice to the Commission, the EPA and/or the Minister for Environment relating to mineral, petroleum and pipeline activities in and adjacent to the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Provide advice on the assessment, setting of conditions, and monitoring and reporting requirements for mineral, petroleum and pipeline activities consistent with management objectives and management targets for values of the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Consider the quality of the remote seascapes of the marine park in site planning and assessment of development proposals.	No impacts.
To obtain increased understanding of the biodiversity, biocultural and cultural values and key ecological process and socio-economic uses within the marine park to inform management. To promote research that improves knowledge of the values of the marine park to inform management decisions. To maximise the integration of conservation science with traditional ecological knowledge in all aspects of research in the marine park	
Encourage and promote involvement of Mayala people in research projects where possible.	No impacts.
Ensure that new knowledge from research and monitoring is communicated to MIAC and the Mayala community.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Prepare a research plan which is informed by existing research and considers the research strategies and priorities listed in this joint management plan and/or emerging priorities nominated by the JMB.	
Develop a communication framework to guide the communication of science and knowledge to MIAC and the Mayala community.	
Collate and review existing research information to inform development of a research plan.	
Identify and communicate high priority research projects which address key knowledge gaps to appropriate external organisations and funding bodies.	No impacts.

Management actions/ strategies	Compliance with management plan
Develop and implement protocols (where possible utilising or adapting existing protocols) to ensure research is culturally appropriate, commences only with appropriate permissions and that information shared by Traditional Owners is used in a culturally appropriate manner.	
Develop scientific and research protocols and partnership agreement frameworks through the JMB that support genuine scientific and research partnerships with MIAC.	
Where possible, support two-way science programs in schools.	
Facilitate or support research in the marine park, including projects by external organisations, by providing assistance where possible.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Ensure granting and renewal of permits relating to scientific research is consistent with the management plan and complies with DBCA's Science Policy (No.28) and associated guidelines and any protocols developed with MIAC.	No impacts.
To monitor key cultural, ecological and social values in the marine park within a 'condition pressure-management response' framework, to provide a basis to assess, adapt and improve management.	
Facilitate knowledge transfer and uptake of research and monitoring findings to adaptive marine park management, planning and policy, and where relevant report on conservation achievements and challenges.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Encourage monitoring in the marine park which aligns with Mayala and departmental priorities.	
Collate and review existing monitoring information and techniques to inform the development of a monitoring plan	
Prepare a monitoring plan which considers the strategies and priorities listed in this joint management plan and/or emerging priorities nominated by the JMB.	
Develop a cultural values monitoring framework (and data storage and access process) to guide these activities in a joint management context, with respect to cultural Law and governance.	No impacts.
Develop and implement protocols to ensure monitoring is culturally appropriate and that any cultural information shared is used in a culturally appropriate manner e.g. supporting ISWAG/ KISSP protocols.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described
Investigate opportunities and develop a process to integrate traditional ecological knowledge with monitoring, where appropriate.	

Management actions/ strategies	Compliance with management plan
Liaise with industry, other government agencies and nongovernment organisations to access information held on ecological monitoring in the area.	in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Provide necessary information and support for assessments of management plan implementation by the Commission.	
To increase understanding of climate change on the marine park and increase the resilience of values to climate change.	
Support international and national climate change initiatives where relevant in marine park research and adaptive management.	No impacts.
Ensure that impacts of climate change are considered in monitoring programs of the KPI's for the marine park.	
Assess areas, habitats and species which are most at risk from the effects of climate change and increase their resilience by reducing other pressures where possible.	
Monitor marine park values and the climate-related pressures acting on them to inform the development of local and regional level adaptive management responses for the protection of park values.	
Educate marine park users about the effects of climate change on the values of the marine park and encourage users to reduce their carbon emissions where possible.	
Support or provide necessary information to contribute to climate forecast models to help predict the impacts of climate change on the values of the marine park.	
To ensure the marine park has appropriate legal, administrative, financial, operational and human resource frameworks in place so that it is effectively jointly managed in a collaborative setting.	
Ensure the objectives detailed in the JMA are applied to all management activities in the marine park.	No impacts.
Collaborate with and provide advice to agencies, stakeholders and adjacent land managers, where necessary, to ensure the protection of marine park values and complementary management of adjacent reserves.	
Implement all legal provisions necessary to establish and jointly manage the marine park including execution of the JMA, gazettal of the zoning scheme under the CALM Act and gazettal of orders under the FRM Act.	
Develop governance tools to support effective and efficient decision-making by the JMB, including terms of references, code of conduct and conflict resolution policy.	
Develop and maintain appropriate staff structures, funding, operational equipment including vessels and infrastructure to adequately implement the joint management plan and JMA.	
Develop and maintain understanding of and support for the marine park governance, management plan and activities by the local Mayala community.	
Investigate the need for, and if required, support MIAC to develop procedures to guide the JMB on what cultural decisions need to be referred to MIAC.	

Management actions/ strategies	Compliance with management plan
Develop and maintain an understanding about the delegation of authority from the MIAC to JMB and vice versa, in relation to advice given to external parties and marine park management decisions, consistent with the joint management plan	
Promote culturally inclusive hiring processes by inviting MIAC nominated JMB representative/s to participate in hiring processes for positions related to the marine park.	
Provide licences and permits with appropriate conditions where required.	
Develop annual work plans.	
Develop collaborative operational plans for the implementation of relevant strategies in the plan.	
Work with the MIAC and Mayala Traditional Owners to develop commercial tour operator licence conditions to manage access in special purpose zones (cultural protection) to ensure activities including fishing are compatible with the purpose of protecting the land and waters to the culture and heritage of Traditional Owners.	
Facilitate regional annual meetings between the JMBs of Mayala, Bardi Jawi and Lalang-gaddam marine parks.	
In accordance with DPIRD's responsibilities under the FRM Act, Pearling Act, and ARM Act (when implemented), develop a framework for DPIRDs involvement in the joint management of the marine park including mechanisms for DPIRD to attend JMB meetings.	
Develop materials to aid communication of the management plan to the Mayala community and support MIAC and JMB in the implementation of the plan.	
Pursue external funding opportunities to implement strategies in the joint management plan.	
DPIRD to provide advice to and attend JMB meetings as required.	
Undertake routine inspections and maintenance of department managed infrastructure in the marine park, particularly zone markers and signage.	
Undertake a five-year review of the permitted activities in the special purpose zones.	
Consider the need for temporary or longer-term restrictions e.g. speed limits and/or additional measures where necessary to protect threatened species, ecological communities, and natural features or for safety reasons.	
To enhance community understanding of and support for the marine park and achieve a high level of compliance with regulations, permitted uses and other management arrangements within the marine park.	
Ensure marine park users, including researchers, obtain and comply with appropriate formal permissions.	No impacts.
Encourage voluntary compliance and peer enforcement of regulations.	

Management actions/ strategies	Compliance with management plan
Develop an education and interpretation program which communicates: • the importance of the marine park's values • the purposes of management zones and regulations • appropriate behaviour to reduce human impacts and ensure public safety • Mayala native title rights and visitor protocols on sea and land; and • considers all education and interpretation strategies listed in the management plan.	
Develop and implement a collaborative patrol and enforcement plan.	
Monitor, promote and enforce compliance with fisheries and marine park legislation, including illegal foreign fishing.	
Install zone markers and educational signage for the marine park where appropriate.	
Noting remoteness of the marine park, where possible develop and implement a public participation plan for the marine park which encourages community involvement in management through a range of opportunities including education, research and monitoring.	
Develop, monitor and maintain a database of compliance statistics and adapt management strategies to address any non-compliance issues.	
Facilitate cross-authorisation of enforcement officers as appropriate including training Mayala rangers in CALM Act compliance with the intention of them obtaining the status of honorary enforcement officers pursuant to the CALM Act.	
Facilitate training of Mayala Rangers in FRM Act compliance, to engage in DPIRD compliance activities.	
To assess and evaluate management effectiveness.	
Develop and implement a performance assessment process that is suitable in a joint management setting that is consistent with DBCA and Commission policy and ensure results are reported back to the Mayala Community.	No impacts.
Through the JMB, support MIAC to conduct periodic reviews of the effectiveness of plan implementation in meeting cultural, capacity building and other priority objectives.	
Develop and implement a monitoring and evaluation framework to assess joint management effectiveness for the marine park.	
Provide necessary information and support for the performance assessment process.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the values of the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described

Management actions/ strategies	Compliance with management plan
	in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.

Assessment of the Beehive-1 exploration drilling LoWC spill risk against Bardi Jawi Gaarra Marine Park Joint Management Plan 2022 (DBCA, 2022)

The following information summarises the probabilities of exposure (%) to the Bardi Jawi Gaarra Marine Park based on the RPS (2022) report *Beehive-1 – Exploration Drilling, Crude Oil Spill Modelling with Surface Dispersant Application* (noting the results presented are for the unmitigated case)

Broome Shoreline Sector	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Shoreline	1	-	-	-	-	-	1	-	-
Entrained – 0-10 m below sea surface	2		-	7		-	1		-

Derby-West Kimberley Shoreline Sector	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Shoreline	2	-	-	2	-	-	-	-	-
Entrained – 0-10 m below sea surface	8		-	13		1	5		-

Cunningham Island	Summer			Transitional			Winter		
	Low	Mod	High	Low	Mod	High	Low	Mod	High
Dissolved – 0-10 m below sea surface	-	-	-	1	-	-	1	-	-
Entrained – 0-10 m below sea surface	4		-	9		-	2		-

Management actions/ strategies	Compliance with management plan
To uphold Bardi and Jawi's connection to Country and ensure activities in the marine park do not adversely affect opportunities for Bardi and Jawi people to have ongoing cultural connection to Country and economic opportunities. To promote increased understanding and respect for Bardi and Jawi living cultural landscape and concepts of the marine park	
Support Bardi and Jawi people to maintain their connection to Country, through on-Country trips, employment and enterprise development.	No impacts.
Support Bardi and Jawi people to develop and implement cultural awareness communication tools, emphasising the importance of cultural and heritage values for both Traditional Owners and the wider community.	
Design and develop management tools to address the impacts of human activities that may prevent cultural fulfilment to uphold Traditional Owner cultural rights and obligations.	
Support Bardi and Jawi to define a framework to ensure the right cultural processes are used for assessment and approval of proposals in the marine park	
Assess and monitor human activities that impact on the continuity of cultural fulfilment and upholding the cultural rights and obligations to continue the enjoyment of Country.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Develop cultural awareness training material and implement training for government employees and/or contractors working in the marine park.	No impacts.
Support Bardi and Jawi to develop protocols for visitors on Bardi and Jawi Country and educate visitors about appropriate behaviour, respecting privacy and access restrictions where applicable.	
To facilitate and maintain the opportunity for Bardi and Jawi people to care for Country and keep it healthy so that future generations can continue to experience Country. To conserve and protect sites of cultural significance	
Ensure marine park management is consistent with cultural Laws and protocols.	No impacts.
Ensure cultural Elders and younger generations are involved in the management of the marine park.	
Ensure the management programs for the marine park complement and integrate with those developed and implemented for other areas of Bardi and Jawi Country such as the Bardi Jawi IPA plan.	

Management actions/ strategies	Compliance with management plan
Develop and implement tools to measure and monitor effects of visitor and management activities on cultural heritage values and sites and implement strategies to address issues where appropriate	
In collaboration with Bardi and Jawi Traditional Owners develop and apply commercial operator licence conditions to ensure culturally sensitive and appropriate visitation in the marine park especially for cultural heritage sites.	
Implement regulations to restrict or control access to areas within the marine park that Bardi and Jawi Traditional Owners consider unsuitable for visitation (through commercial operator licences, by regulation or other mechanism as relevant).	
Support BJNAC to explore and implement tailored training, education and mentoring to enable Bardi and Jawi people to fulfil positions of employment relating to the management of the marine park.	
Support BJNAC to build their capacity in the management of the marine park and work collaboratively to develop succession plans, career pathways and support networks.	
Ensure cultural heritage sites in the marine park are protected, particularly significant and sensitive sites at risk.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Assess the use and condition of cultural sites and implement further strategies to improve the spiritual and physical condition of them where possible.	No impacts.
Collaborate with Bardi and Jawi Rangers to patrol, educate and enforce zoning and management arrangements particularly for the special purpose zones (cultural protection) and restricted access areas.	
To apply language and traditional knowledge and integrate it with conservation science management in education about the marine park.	
Where possible, use Bardi and Jawi place names and Bardi and Jawi language in signage, educational material, reporting and naming facilities.	No impacts.
Continue to support the transfer of traditional knowledge through on-Country learning opportunities.	
Work with Bardi and Jawi to support Bardi and Jawi's language program where relevant to the marine park.	
Undertake and support research to gain a better understanding of Bardi and Jawi traditional knowledge applicable to the marine park and develop a database to capture this knowledge.	

Management actions/ strategies	Compliance with management plan
Investigate opportunities and develop a process for integrating Bardi and Jawi's traditional ecological knowledge, and knowledge holders, with conservation science and management applicable to the marine park.	
Recognition of and support for the right of Bard Jawi people to continue customary practices and to benefit from their Country, consistent with the purpose of the marine park	
Support Bardi and Jawi people to continue to carry out customary activities, including customary fishing and hunting, in the marine park.	No impacts.
As part of the education and interpretation plan develop mechanisms to inform users of the marine park about Bardi and Jawi rights, as the recognised Traditional Owners, to enjoy Bardi and Jawi Country and maintain their customary practices.	
Work with Bardi and Jawi people and other traditional owner groups to develop sustainable management arrangements plan for customary fishing and hunting of marine wildlife (e.g. goorlil (turtles), odorr (dugongs), joorroo (sharks) and barnamb (rays) etc. and develop a customary fishing/ hunting guide.	
Develop mechanisms to feedback information to the Bardi and Jawi Community on the condition of customary hunted animals such as green turtles and odorr (dugongs), to support cultural and marine management decisions and facilitate the development and implementation of sustainable management arrangements for customary hunting.	
To ensure that marrgoorr and marnany communities are not significantly impacted by reef walking and other human activities within the marine park.	
Undertake and/or support research on marrgoorr and marnany communities in the marine park.	No impacts.
Monitor the condition of marrgoorr and marnany communities and the pressures acting on them in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Regulate foot access to intertidal marnany and other areas unsuitable for visitation (through commercial operator licences, by regulation or other mechanisms as relevant).	No impacts.
Educate users of the marine park about the ecological importance of marrgoorr (coral) and marnany (reef) communities and the potential detrimental effects of indiscriminate marnany (reef) walking, collecting, anchoring and boating activities on communities.	

Management actions/ strategies	Compliance with management plan
To ensure mangrove communities are not significantly impacted by human activities in the marine park.	
Educate users of the important ecological role and cultural value of mangrove and saltmarsh communities and the potential impacts of human activities, particularly vehicle damage.	No impacts.
Undertake and/or support research to characterise the diversity, density, abundance and distribution of mangrove and saltmarsh communities in the marine park.	
Monitor the condition of mangrove and saltmarsh communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To ensure the diversity, abundance and condition of noomool and laanyji communities are not significantly impacted by human activities within the marine park	
Undertake and/or support research to characterise the diversity, density, abundance and distribution of noomool and laanyji communities in the marine park.	No impacts.
Monitor the condition of noomool and laanyji communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Educate users of the important ecological role of noomool and laanyji communities and the potential impacts of human activities, particularly vessel mooring, and nutrient and pollution inputs on these communities.	No impacts.
To ensure that water and sediment quality are not significantly impacted by human activities in the marine park.	
Develop and implement a biosecurity, detection and mitigation program.	No impacts.
Undertake and/or support research on water and sediment quality in the marine park, including establishing baselines for water and sediment quality.	
Monitor the condition of water and sediment quality within the marine park including establishing baselines for water and sediment quality variables and identifying the pressures acting on it.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any

Management actions/ strategies	Compliance with management plan
Map the areas of the marine park that are highly sensitive to oil and chemical spills and ensure that this information is accessible to the State Marine Oil Pollution Coordination Group.	potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Designate areas for vessel sewage discharge and incorporate into education, patrol and enforcement programs to enforce sewage discharge arrangements.	No impacts.
As part of on-Country work, patrol the shoreline and waters of the marine park for marine debris and remove and record as necessary, and seek support of partners and marine park users to do the same.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Work with relevant departments, marine park users and stakeholders to address sources of marine debris and abandoned infrastructure in the marine park to reduce the amount of floating, submerged and beached debris and pollution entering the marine park.	
Educate users of the importance of good water and sediment quality, and the potential impacts human activities, particularly nutrient and pollution inputs can have on these communities.	No impacts.
To ensure that the seabed structural complexity, geomorphic processes and coastal landforms are not significantly impacted by human activities within the marine park.	
Undertake and/or support research to characterise the geomorphic features and processes in the marine park.	No impacts.
Monitor the condition of geomorphology and the pressures acting on it within the marine park.	
Ensure that coastal infrastructure and resource development proposals for the area that have the potential to disturb the geomorphology of the marine park are appropriately assessed in accordance with the EP Act.	
To ensure that filter feeding communities are not significantly impacted by human activities within the marine park.	
Educate users of the important ecological role of subtidal filter feed communities and the potential impacts that human activities can have on these communities.	No impacts.
Undertake and support research to characterise the diversity, density, abundance and distribution of filter feeding communities in the marine park.	
Monitor the condition of subtidal filter feeding communities and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described

Management actions/ strategies	Compliance with management plan
	in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To ensure that intertidal sand and mudflat communities are not significantly impacted by human activities within the marine park.	
Undertake and/ or support research to characterise the diversity, community composition and condition of intertidal sand and mudflat communities and oombans in the marine park.	No impacts.
Monitor the condition of intertidal sand and mudflat communities and oombans and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Educate users of the important ecological role of intertidal sand and mudflat communities and the potential impacts that human activities can have on these communities.	No impacts.
To ensure goorlil are not significantly disturbed by human activities occurring within and on the boundary of the marine park. To manage customary harvesting of goorlil for cultural and ecological sustainability.	
Ensure that management of goorlil in the marine park supports relevant international and regional agreements (e.g. Convention of Migratory Species of Wild Animals and MoU on the Conservation and Management of Marine Turtles and their Habitats of Indian Ocean and South-East Asia).	No impacts.
Undertake and/or support research to characterise natural variability, movement patterns and critical habitats for goorlil within the marine park.	
Monitor the condition of goorlil and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.

Management actions/ strategies	Compliance with management plan
Educate users of the marine park on how to reduce damage to goorlil habitat and impacts on individuals and to respect cultural practice.	No impacts.
To ensure non-targeted (those not targeted by recreational and commercial fishers) aarli, joorroo and barnamb species are not significantly impacted by human activities within the marine park. To manage targeted (those targeted by recreational and commercial fishers) aarli, joorroo and barnamb species for cultural and ecological sustainability	
Undertake or support research to characterise aarli, joorroo and barnamb diversity, abundance, biomass/size frrequency, movement patterns and critical habitats within the marine park and to understand the ecological role of targeted aarli species and the consequences of their removal.	No impacts.
Monitor the condition of aarli, joorroo and barnamb stocks and the pressures acting on them in the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Educate users about recreational fishing rules and the ecological importance of aarli (fish), joorroo (sharks) and barnamb (rays).	No impacts.
To ensure odorr are not significantly impacted by human activities in the marine park. To manage customary harvesting of odorr for cultural and ecological sustainability.	
Undertake and/or support research on the abundance, distribution, natural variability and habitat requirements of odorr in the marine park.	No impacts.
Monitor the condition of odorr and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Educate users about ways to minimise disturbance to odorr and respect cultural practice.	No impacts.
Maintain records of the incidence of boat collisions with odorr.	
To ensure miinimbi and bayalbarr are not significantly impacted by human activities in the marine park	

Management actions/ strategies	Compliance with management plan
Facilitate large whale disentanglement response training for relevant departmental staff and Bardi Jawi Rangers.	No impacts.
Educate users about ways to minimise disturbance to miinimbi (whales) and bayalbarr (dolphins), including rules for whale watching.	
Maintain a record of stranding and mortalities of miinimbi (whales) and bayalbarr (dolphins) in the marine park.	
Monitor the condition of miinimbi and bayalbarr and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Undertake and/or support research to characterise miinimbi and bayalbarr diversity, abundance, natural variability and critical habitats within the marine park.	No impacts.
To ensure linygurra are not significantly impacted by human activities in the marine park.	
Educate users about known and potential distributions of linygurra and of the risk of feeding them and ensure compliance.	No impacts.
Undertake and/or support research on the abundance and condition of linygurra in the marine park.	
Monitor the condition of linygurra and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To ensure that sea and shore garrabal (birds) that inhabit or migrate through the marine park are not significantly impacted by human activities in the marine park.	
Educate users about ways to minimise disturbance to sea and shore garrabal including the use of drones.	No impacts.
Undertake and/or support research to characterise sea and shore garrabal diversity, abundance, natural variability, movement patterns and critical habitats within the marine park.	

Management actions/ strategies	Compliance with management plan
Monitor the condition of sea and shore garrabal and the pressures acting on them within the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To ensure non-targeted invertebrate species are not significantly impacted by human activities within the marine park. To manage targeted invertebrate species for cultural and ecological sustainability	
Educate users about ways to minimise disturbance and taking of invertebrates (e.g. trumpet shells and clams).	No impacts.
Undertake and/or support research to characterise the diversity, abundance, natural variability, distribution and habitat requirements of invertebrates within the marine park and to understand the ecological role of targeted invertebrate species and the consequences of their removal.	
Monitor the condition of invertebrates susceptible to localised depletion in the marine park and take remedial action if human activities are impacting these species.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
To identify, protect and conserve the natural and cultural values of Swan Island	
Ensure cultural heritage values, cultural knowledge and cultural Laws and protocols inform land management.	No impacts.
Rename the Swan Island Nature Reserve to its traditional name.	
Implement restrictions on visitor access as required for cultural or environmental reasons (through commercial operator licences, by regulation or other mechanisms as relevant).	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.

Management actions/ strategies	Compliance with management plan
Undertake or support baseline surveys of native plants, animals and ecological communities.	No impacts.
To enable Bardi and Jawi Traditional Owners to realise livelihoods and achieve economic benefits from their Sea Country, consistent with the purpose of the marine park	
Identify opportunities to provide a range of employment, business and career development opportunities that are culturally appropriate and relevant to the management of the marine park.	No impacts.
Seek to employ or train Bardi and Jawi people in roles relating to the management of the marine park.	
Work with stakeholders to facilitate Bardi and Jawi employment opportunities in industries such as the tourism industry.	
Encourage and support Bardi and Jawi people to develop and enhance business opportunities on-Country.	
Support BJNAC to attract funding to assist with management of the marine park.	
To provide for nature-based and cultural tourism activities and ensure that they are managed in a manner that is consistent with maintaining the cultural, ecological and social value of the marine park. To maintain the cultural, ecological and social values of the marine park that are important for nature-based and cultural tourism. To minimise risks to visitors and encourage appropriate behaviour.	
Encourage the establishment of Bardi and Jawi owned commercial tourism businesses in the marine park.	No impacts.
Ensure promotion and marketing of the marine park is consistent with Bardi and Jawi's aspirations and cultural protocols.	
Work with Bardi and Jawi people and commercial operators to promote culturally appropriate visitation and facilitate the establishment of high-quality commercial tourism operations that: • Increase visitor enjoyment and safety • Demonstrate a commitment to protect and promote the park's cultural, natural, recreation and tourism values • Ensure staff and passengers behave appropriately and respectfully at cultural sites • Conduct operations according to Parks and Wildlife Service policy and licence conditions • Foster community stewardship of the marine park • Reduce impacts on sites • Enhance visitor's cultural experiences	
In collaboration with Bardi and Jawi Traditional Owners and BJNAC, develop a visitor management plan.	
Develop a voluntary visitor pass, for the marine park to plan for sustainable and culturally appropriate visitor usage.	
Conduct a visitor survey to gather data on use of the marine park including visitor numbers, locations and anchoring points to understand potential impacts and direct monitoring programs.	

Management actions/ strategies	Compliance with management plan
Assess the need for a mooring and anchoring plan in the marine park and implement if required.	
Conduct periodic visitor risk assessment in the marine park as required and mitigate identified issues.	
Undertake a review of shipping activity in the marine park to determine the need for navigational measures such as compulsory pilotage, speed limit and/or designation of shipping routes.	
Maintain a quantitative and qualitative spatial database of human use in the marine park.	
Work with relevant agencies and industry bodies to adapt and improve existing mapping programs or apps reflecting marine park risks and zoning.	
Educate marine park users of the risks in the marine park including strong currents, cyclones and crocodiles.	
Facilitate linygurra (estuarine crocodile) handling and removal training for relevant departmental staff and Mayala rangers.	
Work with relevant agencies to prepare for and respond to emergencies situations e.g. search and rescue.	
Educate marine park users about protocols and regulations for the use of drones in the marine park to minimise impacts and disturbance to marine park values.	
Promote opportunities for sustainable recreation and tourism, including the provision of visitor facilities if required.	
To maintain the ecological values of the marine park that support recreational fishing. To ensure that, in collaboration with the community and DPIRD, recreational fishing is managed in a manner consistent with maintaining the marine park's cultural and ecological values while providing for social uses and enjoyment. To work collaboratively with agencies, stakeholders and the community to maintain and promote safe and enjoyable recreational fishing opportunities in the marine park.	
Through a collaborative approach with traditional owners Recfishwest, and recreational fishers, develop fishing regulations for the SPZ (biocultural conservation) which help ensure recreational fishing is culturally appropriate.	No impacts.
Work with BJNAC and Elders to develop, communicate and promote a Bardi and Jawi-led sustainable fishing protocol including traditional seasonal calendars and access restrictions for dissemination to recreational fishers, fishing clubs and commercial tour operators.	
Educate recreational fishers on the zoning scheme, fisheries regulations and any restrictions that may apply to their activities in the marine park.	
Conduct research to determine if ecosystem effects from recreational fishing occur in the marine park and undertake adaptive management actions if required.	

Management actions/ strategies	Compliance with management plan
Monitor recreational fishing catch and effort in the marine park and report the results to DBCA and the Commission for the periodic reviews of the implementation of the management plan.	
Investigate whether the take of recreationally targeted species is sustainable in the marine park and undertake adaptive management actions if required.	
To maintain the ecological values of the marine park which are important to the continuation of commercial fishing industries. To ensure that, in collaboration with the industry and DPIRD, commercial fishing is managed in a manner that is consisted with maintaining the values of the marine park.	
Ensure Bardi and Jawi are kept informed and where possible involved in the monitoring and management measures for commercial aarli (fish) stocks in the marine park.	No impacts.
Work with commercial fishers, through peak stakeholder bodies, to ensure operations are conducted in a culturally sensitive manner.	
Conduct research to determine if ecosystem effects from commercial fishing occur in the marine park and undertake adaptive management actions if required.	
Investigate the extent and significance of interactions between commercial fishing and marine mammals and other protected species and address as required.	
Monitor commercial fishing catch and effort in the marine park to inform periodic reviews of the implementation of the management plan and make data available to MIAC/ JMB.	
To maintain the ecological values of the marine park which are important to the continuation of a viable aquaculture industry. To ensure that, in collaboration with the industry and DPIRD, aquaculture is managed in a manner that is consistent with maintaining the values of the marine park.	
Work with the Aquaculture Council of Western Australia and aquaculture proponents to ensure environmental best practice aquaculture management is applied in the marine park.	No impacts.
Work with aquaculture companies and DPIRD to help them conduct operations in a culturally sensitive manner.	
Monitor, promote and enforce compliance with fisheries and marine park legislation.	
Ensure that aquaculture authorisations are consistent with the management plan and include appropriate monitoring programs, lighting, navigational marking and site utilisation conditions.	
To maintain the ecological values of the marine park which are important to the continuation of a viable pearling industry. To ensure that, in collaboration with the industry and DPIRD, pearling is managed in a manner that is consistent with maintaining the values of the marine park.	
Work with the Pearl Producers Association and pearling proponents to ensure environmental best practice management is applied in the marine park.	No impacts.
Work with pearling companies and DPIRD to help them conduct operations in a culturally sensitive manner.	

Management actions/ strategies	Compliance with management plan
Monitor, promote and enforce compliance with fisheries and marine park legislation.	
Ensure that pearling authorisations are consistent with the management plan and include appropriate monitoring programs, lighting, navigational marking and site utilisation conditions.	
To ensure that, in collaboration with the Western Australian Museum, human activity does not significantly affect historical sites or shipwrecks in the marine park. To increase awareness of maritime heritage within the local community and among visitors.	
Identify sites with maritime heritage value within the marine park and develop and implement plans of management for identified sites.	No impacts.
Provide interpretive information to enhance visitor enjoyment of and, where appropriate, to mitigate or stop impacts on maritime heritage values in the marine park.	
To ensure industry, development and associated activities are managed in a manner consistent with the objectives of the marine park.	
Provide formal advice to the Commission, the EPA and/or the Minister for Environment relating to mineral, petroleum and pipeline activities in and adjacent to the marine park.	No impacts.
Provide advice on the assessment, setting of conditions, and monitoring and reporting requirements for mineral, petroleum and pipeline activities consistent with management objectives and management targets for values of the marine park.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Consider the quality of the remote seascapes of the marine park in site planning and assessment of development proposals.	
To obtain increased understanding of the biodiversity, biocultural and cultural values and key ecological process and socio-economic uses within the marine park to inform management. To promote research that improves knowledge of the values of the marine park to inform management decisions. To maximise the integration of conservation science with traditional ecological knowledge in all aspects of research in the marine park	
Encourage involvement of Bardi and Jawi people in research projects where possible.	No impacts.
Ensure that new knowledge from research and monitoring is communicated to BJNAC and the Bardi Jawi community.	
Prepare a research plan which is informed by existing research and considers the research strategies and priorities listed in this joint management plan and/or emerging priorities nominated by the JMB.	
Develop a communication framework to guide the communication of science and knowledge to BJNAC and the Bardi Jawi community.	

Management actions/ strategies	Compliance with management plan
Identify and communicate high priority research projects which address key knowledge gaps to appropriate external organisations and funding bodies and ensure results are shared with marine park managers.	
Develop and implement protocols (where possible utilising or adapting existing protocols) to ensure research is culturally appropriate, commences only with appropriate permissions and that information shared by Traditional Owners is used in a culturally appropriate manner.	
Develop scientific and research protocols and partnership agreement frameworks through the JMB that support genuine scientific and research partnerships with BJNAC.	
Where possible, support two-way science programs in schools.	
Facilitate or support research in the marine park, including projects by external organisations, by providing assistance where possible.	
Ensure granting and renewal of permits relating to scientific research is consistent with the management plan and complies with DBCA's Science Policy (No.28) and associated guidelines and any protocols developed with BJNAC.	
To monitor key cultural, ecological and social values in the marine park within a 'condition pressure-management response' framework, to provide a basis to assess, adapt and improve management.	
Facilitate knowledge transfer and uptake of monitoring findings to adaptive marine park management, planning and policy, and where relevant report on conservation achievements and challenges.	No impacts.
Encourage monitoring in the marine park which aligns with Mayala and departmental priorities.	
Collate and review existing monitoring information and techniques to inform the development of a monitoring plan.	
Prepare a monitoring plan which considers the strategies and priorities listed in this joint management plan and/or emerging priorities nominated by the JMB.	
Develop a cultural values monitoring framework (and data storage and access process) to guide these activities in a joint management context, with respect to cultural Law and governance.	
Develop and implement protocols to ensure monitoring is culturally appropriate and that any cultural information shared is used in a culturally appropriate manner e.g. ISWAG/KISSP protocols are supported.	
Investigate opportunities and develop a process to integrate traditional ecological knowledge with monitoring, where appropriate.	
Liaise with industry, other government agencies and non-government organisations to access information held on ecological monitoring in the area.	

Management actions/ strategies	Compliance with management plan
Provide necessary information and support for assessments of management plan implementation by the Commission.	
To increase understanding of the effects of climate change on the values of the marine park and increase the resilience of values to climate change.	
Support international and national climate change initiatives where relevant in marine park research and adaptive management.	No impacts.
Ensure that impacts of climate change are considered in monitoring programs of the KPI's for the marine park.	
Assess areas, habitats and species which are most at risk from the effects of climate change and increase their resilience by reducing other pressures where possible.	
Monitor marine park values and the climate-related pressures acting on them to inform the development of local and regional level adaptive management responses for the protection of park values.	
Educate marine park users of impacts of climate change on marine park values and encourage them to reduce their carbon emissions where possible.	
Support or provide necessary information to contribute to climate forecast models to help predict the impacts of climate change on the values of the marine park.	
To ensure the marine park has appropriate legal, administrative, financial, operational and human resource frameworks in place so that it is effectively jointly managed in a collaborative setting	
Ensure the objectives detailed in the JMA are applied to all management activities in the marine park.	No impacts.
Collaborate with and provide advice to agencies, stakeholders and adjacent land managers, where necessary, to ensure the protection of marine park values and complementary management of adjacent reserves.	
Implement all legal provisions necessary to establish and jointly manage the marine park including execution of the JMA, gazettal of the zoning scheme under the CALM Act and gazettal of orders under the FRM Act.	
Develop governance tools to support effective and efficient decision-making by the JMB including terms of references, code of conduct and conflict resolution policy.	
Develop and maintain appropriate staff structures, funding, operational equipment, including vessels, and infrastructure to adequately implement the joint management plan and JMA.	
Develop and maintain understanding of and support for the marine park governance, management plan and activities, by the local Bardi Jawi community.	
Investigate the need for, and if required, support BJNAC to develop procedures to guide the JMB on what cultural decisions need to be referred to BJNAC.	

Management actions/ strategies	Compliance with management plan
Develop and maintain an understanding about the delegation of authority from the BJNAC to JMB and vice versa, in relation to advice given to external parties and marine park management decisions, consistent with the joint management plan.	
Promote culturally inclusive hiring processes by inviting BJNAC nominated JMB representative/s to participate in hiring processes for positions related to the marine park.	
Provide licences and permits with appropriate conditions where required.	
Develop annual work plans.	
Develop collaborative operational plans for implementation of relevant strategies in the plan.	
Work with the BJNAC and Bardi and Jawi Traditional Owners to develop commercial tour operator licence conditions to manage access in special purpose zones (cultural protection) to ensure activities including fishing are compatible with the purpose of protecting the land and waters to the culture and heritage of Traditional Owners.	
Facilitate regional annual meetings between the JMBs of Bardi, Jawi, Mayala and Lalang-gaddam marine park.	
In accordance with DPIRD's responsibilities under the FRM Act, Pearling Act, and ARM Act (when implemented), develop a framework for DPIRDs involvement in the joint management of the marine park including mechanisms for DPIRD to attend JMB meetings.	
Develop materials to aid communication of the management plan to the Bardi and Jawi community and support BJNAC and JMB in the implementation of the plan.	
Pursue external funding opportunities to implement strategies in the joint management plan.	
Develop and implement a monitoring and evaluation framework to assess joint management effectiveness for the marine park.	
Undertake a five-year review of the permitted activities in the special purpose zones.	
Undertake routine inspections and maintenance of department managed infrastructure in the marine park, particularly zone markers and signage.	
Consider the need for temporary or longer-term restrictions e.g. speed limits and/or additional measures where necessary to protect threatened species, ecological communities, and natural features or for safety reasons.	
To enhance community understanding of and support for the marine park and achieve a high level of compliance with regulations, permitted uses and other management arrangements within the marine park.	
Ensure marine park users, including researchers, obtain and comply with appropriate formal permissions.	In the event of a Level 2 or 3 oil spill, the OPEP and OSMIP will be implemented to monitor and mitigate any

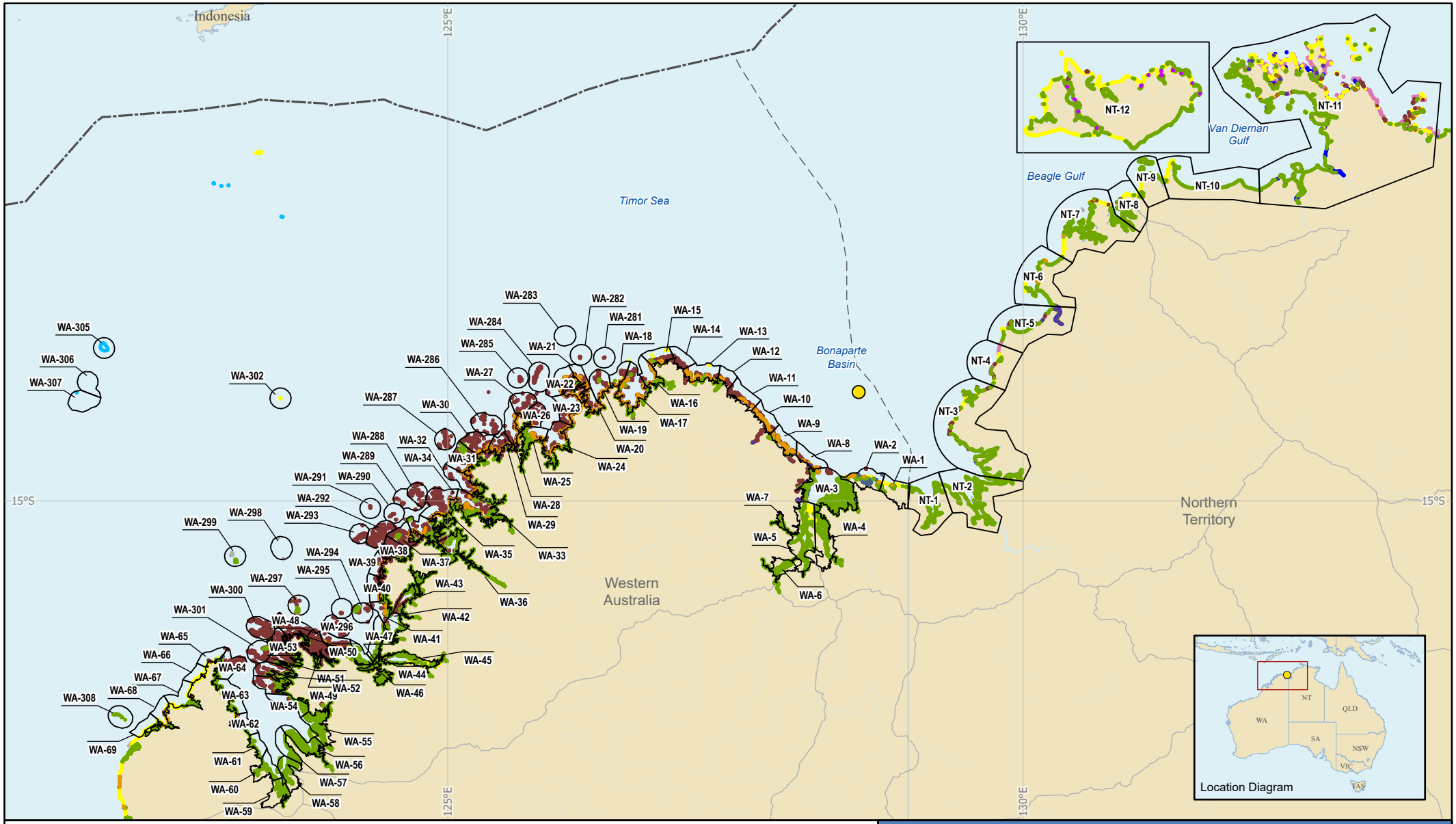
Management actions/ strategies	Compliance with management plan
	potential impacts. Arrangements with Commonwealth, state and territory government agencies are described in the OPEP and OSMIP. Traditional owners and Indigenous owner groups will be notified in the event of a spill and will be invited to assist in response strategies, such as shoreline assessment and responses.
Encourage voluntary compliance and peer enforcement of regulations.	No impacts.
Develop an education and interpretation plan which communicates: • the importance of the marine park's values • the purposes of management zones and regulations • appropriate behaviour to reduce human impacts and ensure public safety • Bardi and Jawi native title rights and visitor protocols on sea and land; and • Consideration of all education and interpretation strategies listed in the management plan	
Develop and implement a collaborative patrol and enforcement program.	
Monitor, promote and enforce compliance with fisheries and marine park legislation, including illegal foreign fishing.	
Install zone markers and educational signage for the marine park where appropriate.	
Develop and implement a public participation plan for the marine park, which encourages community involvement in management through a range of opportunities including in education, research and monitoring.	
Develop, monitor and maintain a database of compliance statistics and adapt management strategies to address any non-compliance issues.	
Facilitate cross-authorisation of enforcement officers as appropriate including training Bardi Jawi Rangers in CALM Act compliance with the intention of them obtaining the status of honorary enforcement officers pursuant to the CALM Act.	
Facilitate training of Bardi Jawi Rangers in FRM Act compliance, to engage in DPIRD compliance activities.	
Investigate and implement, where necessary, mechanisms to restrict vehicle access in the marine park to designated areas only.	
To assess and evaluate management effectiveness.	
Develop and implement a performance assessment process that is suitable in a joint management setting and is consistent with DBCA and Commission policy and ensure results are reported back to the Bardi and Jawi Community.	No impacts.

Management actions/ strategies	Compliance with management plan
Through the JMB, support BJNAC to conduct periodic reviews of the effectiveness of plan implementation in meeting cultural aspirations, capacity building and other priority objectives.	
Develop and implement a monitoring and evaluation framework to assess joint management effectiveness for the marine park.	
Provide necessary information and support for the performance assessment process.	
Implement management strategies to mitigate or stop any impacts from human activities within the marine park which are negatively impacting the values of the marine park.	

Appendix 15
NT Aboriginal Heritage Map

Provided to NOPSEMA separately as ‘sensitive information’ under Regulation 26(8) of the OPGGS(E)

Appendix 16
Shoreline Types within the EMBA



LEGEND

- Beehive-1
- Coast cells
- Australian Exclusive Economic Zone
- Offshore State Boundaries

Shoreline

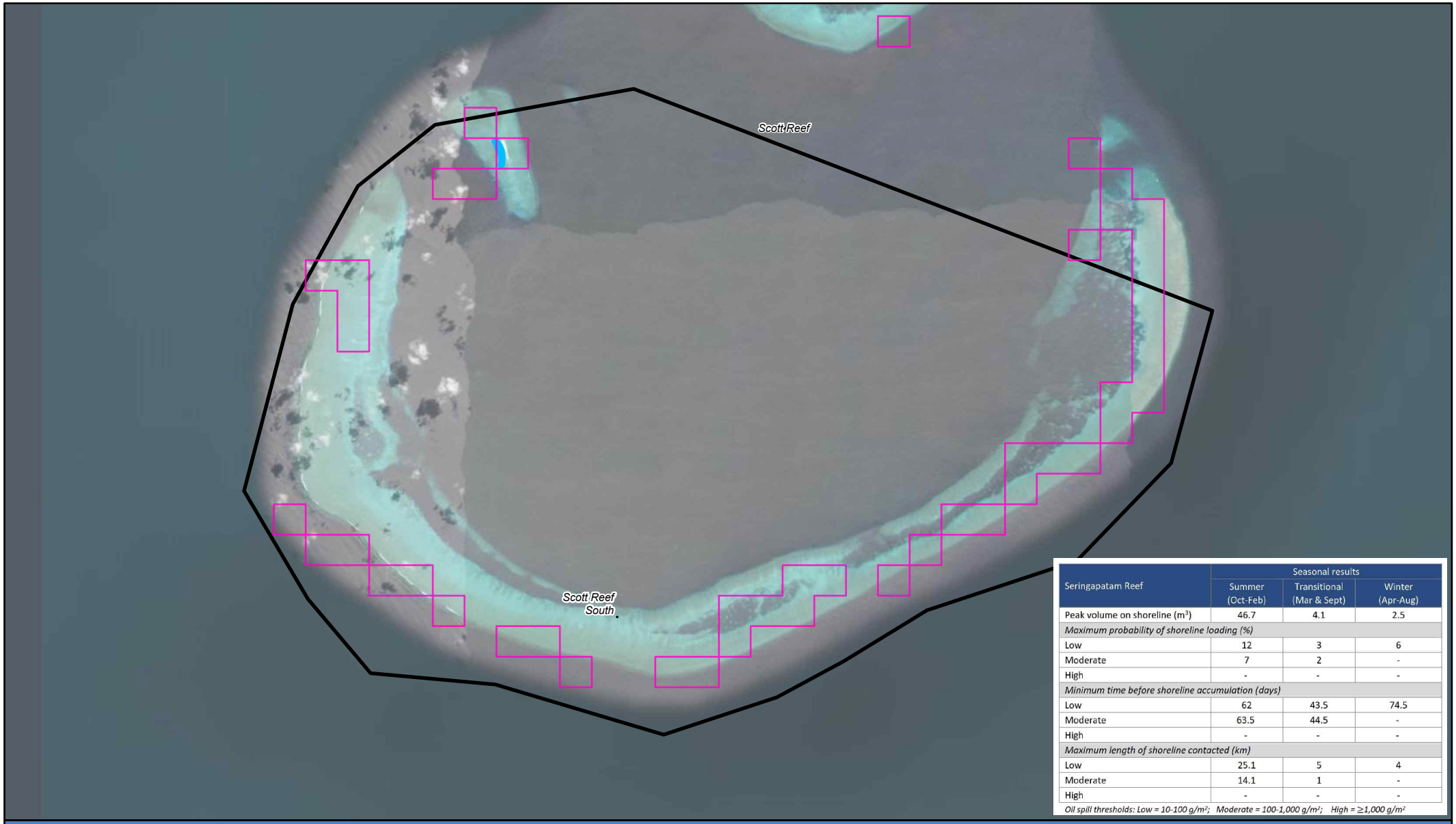
- *Alluvial sediment \ plain*
- *Beach sediment \ ridges*
- *Colluvium*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Marshy sediment flats \ Marshy saline sediment flats*
- *Mixed sandy shore \ Mixed sandy sediments on bedrock*
- *Muddy sediments \ alluvium \ sediment flats*
- *Reef \ Coral outer with sandy shore*
- *Rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Sediment plain \ sediment deposits*
- *Soft bedrock*
- *Unclassified*

SHORELINE RECEPTOR MAP - OVERVIEW

eog

PROJECT: Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:5,000,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series Overview	SHEET: INDEX	REV: E

0 100 200 km



Seringapatam Reef	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	46.7	4.1	2.5
Maximum probability of shoreline loading (%)			
Low	12	3	6
Moderate	7	2	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	62	43.5	74.5
Moderate	63.5	44.5	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	25.1	5	4
Moderate	14.1	1	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - SERINGAPATAM REEF (WAMOPRA DOT CELL 307)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

Shoreline

- *Reef \ Coral outer with sandy shore*

eog

PROJECT: **Beehive EOG**

DATE	STATUS	PRODUCED
13/12/2022	DRAFT	MVC Services
SCALE: 1:170,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 1 of 64	REV: E

0 5 km

Ashmore Reef	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	22.2	2.5	3
Maximum probability of shoreline loading (%)			
Low	12	2	6
Moderate	3	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	63	49.5	64
Moderate	63.5	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	18.1	4	6
Moderate	11.1	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - ASHMORE REEF (WAMOPRA DOT CELL 306)

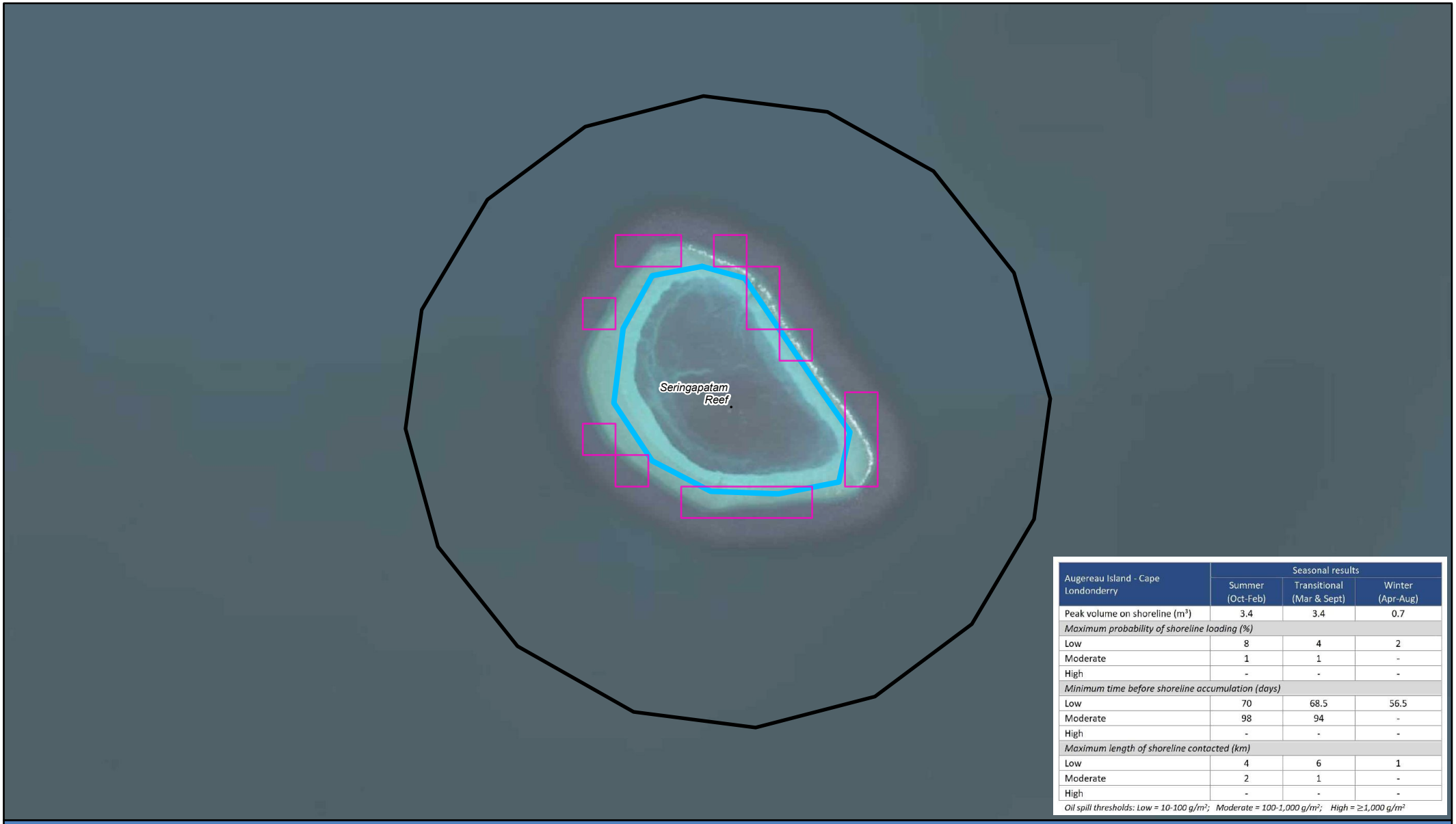
LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

eog

PROJECT		
Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:205,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 2 of 64	REV: E

0 5 10 km



Augereau Island - Cape Londonderry	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	3.4	3.4	0.7
Maximum probability of shoreline loading (%)			
Low	8	4	2
Moderate	1	1	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	70	68.5	56.5
Moderate	98	94	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	4	6	1
Moderate	2	1	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - AUGEREAU ISLAND - CAPE LONDONDERRY (WAMOPRA DOT CELL 305)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

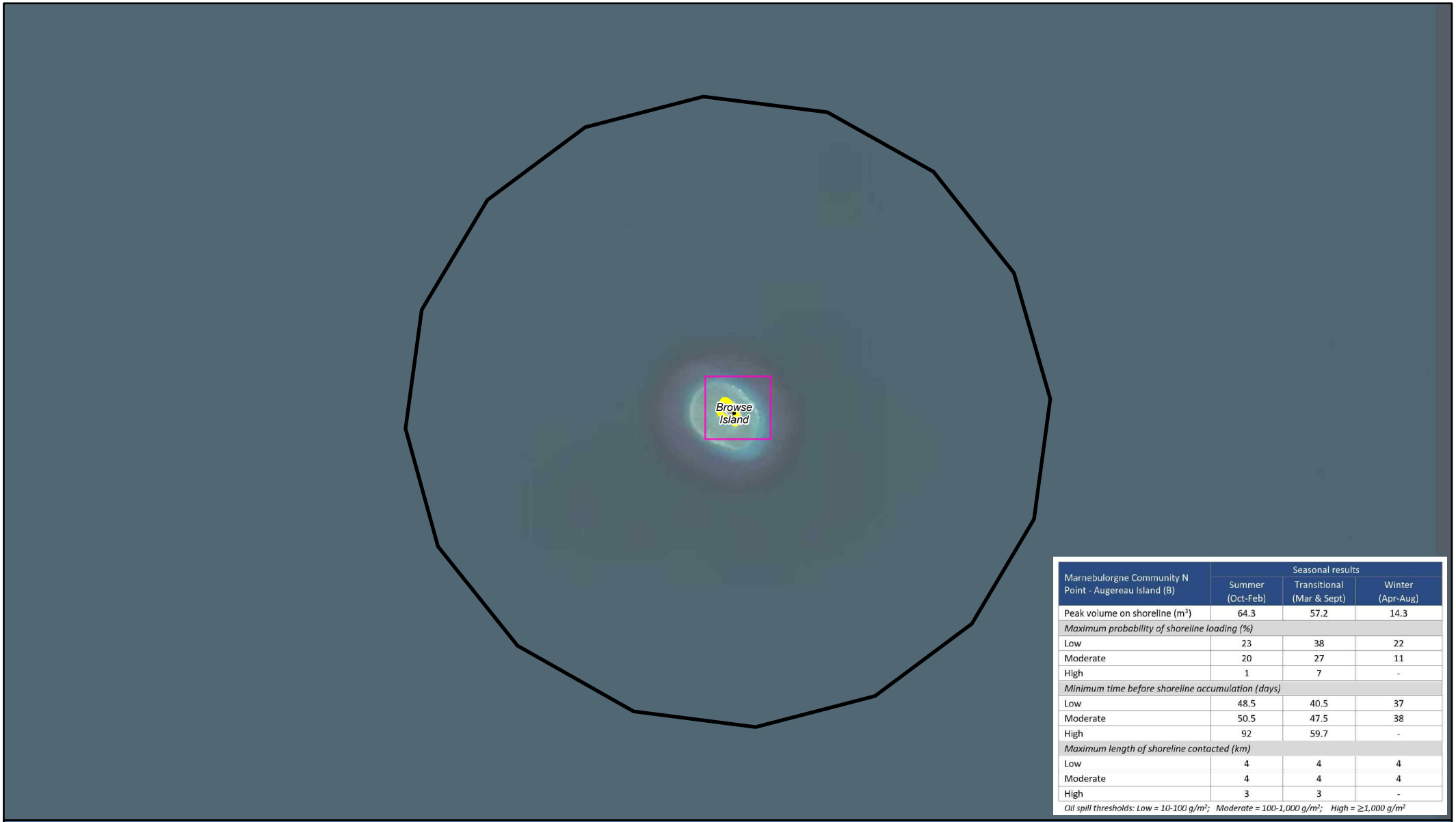
Shoreline

- *Reef \ Coral outer with sandy shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:165,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 3 of 64	REV E

0 5 km



Marnebulorgne Community N Point - Augereau Island (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	64.3	57.2	14.3
Maximum probability of shoreline loading (%)			
Low	23	38	22
Moderate	20	27	11
High	1	7	-
Minimum time before shoreline accumulation (days)			
Low	48.5	40.5	37
Moderate	50.5	47.5	38
High	92	59.7	-
Maximum length of shoreline contacted (km)			
Low	4	4	4
Moderate	4	4	4
High	3	3	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - MARNEBULORGNE COMMUNITY N POINT - AUGEREAU ISLAND (B) (WAMOPRA DOT CELL 302)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

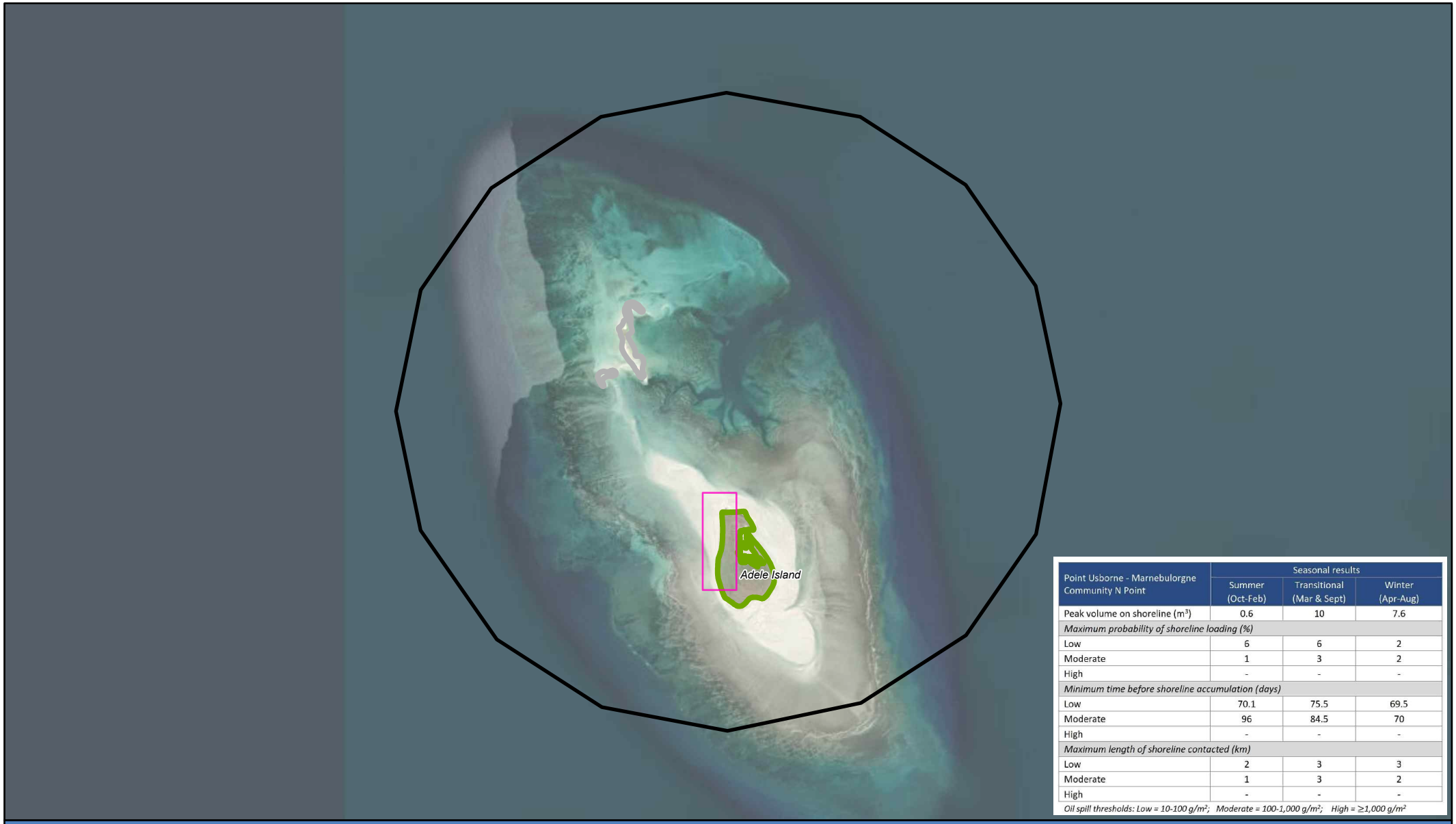
Shoreline

- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT: Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:165,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 4 of 64	REV: E

0 5 km



Point Usborne - Marnebulorgne Community N Point	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	0.6	10	7.6
Maximum probability of shoreline loading (%)			
Low	6	6	2
Moderate	1	3	2
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	70.1	75.5	69.5
Moderate	96	84.5	70
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	2	3	3
Moderate	1	3	2
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - POINT USBORNE - MARNEBULORGNE COMMUNITY N POINT (WAMOPRA DOT CELL 299)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

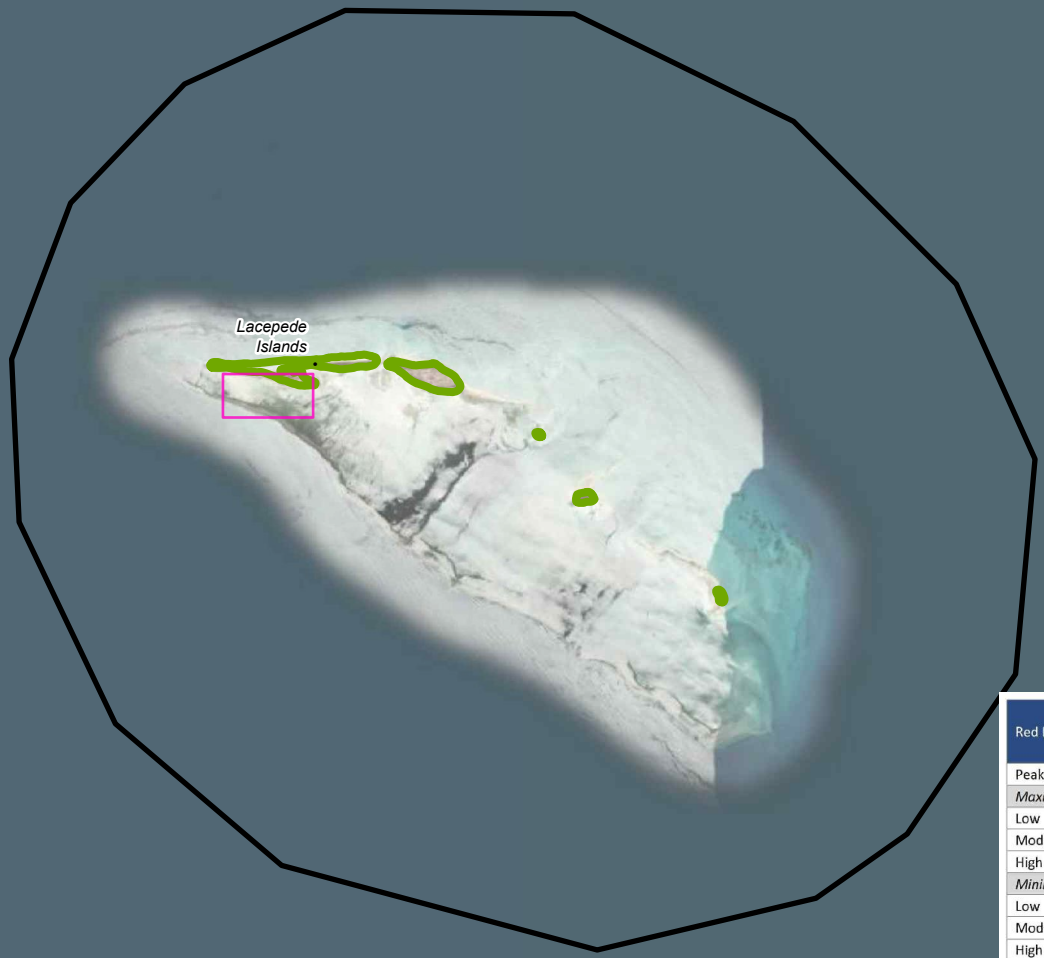
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Unclassified*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:160,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 5 of 64	REV E

0 5 km



Red Bluff - Chimney Rocks (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	0.5	0.6	-
Maximum probability of shoreline loading (%)			
Low	1	1	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	95.5	74	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	1	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - RED BLUFF - CHIMNEY ROCKS (B) (WAMOPRA DOT CELL 308)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

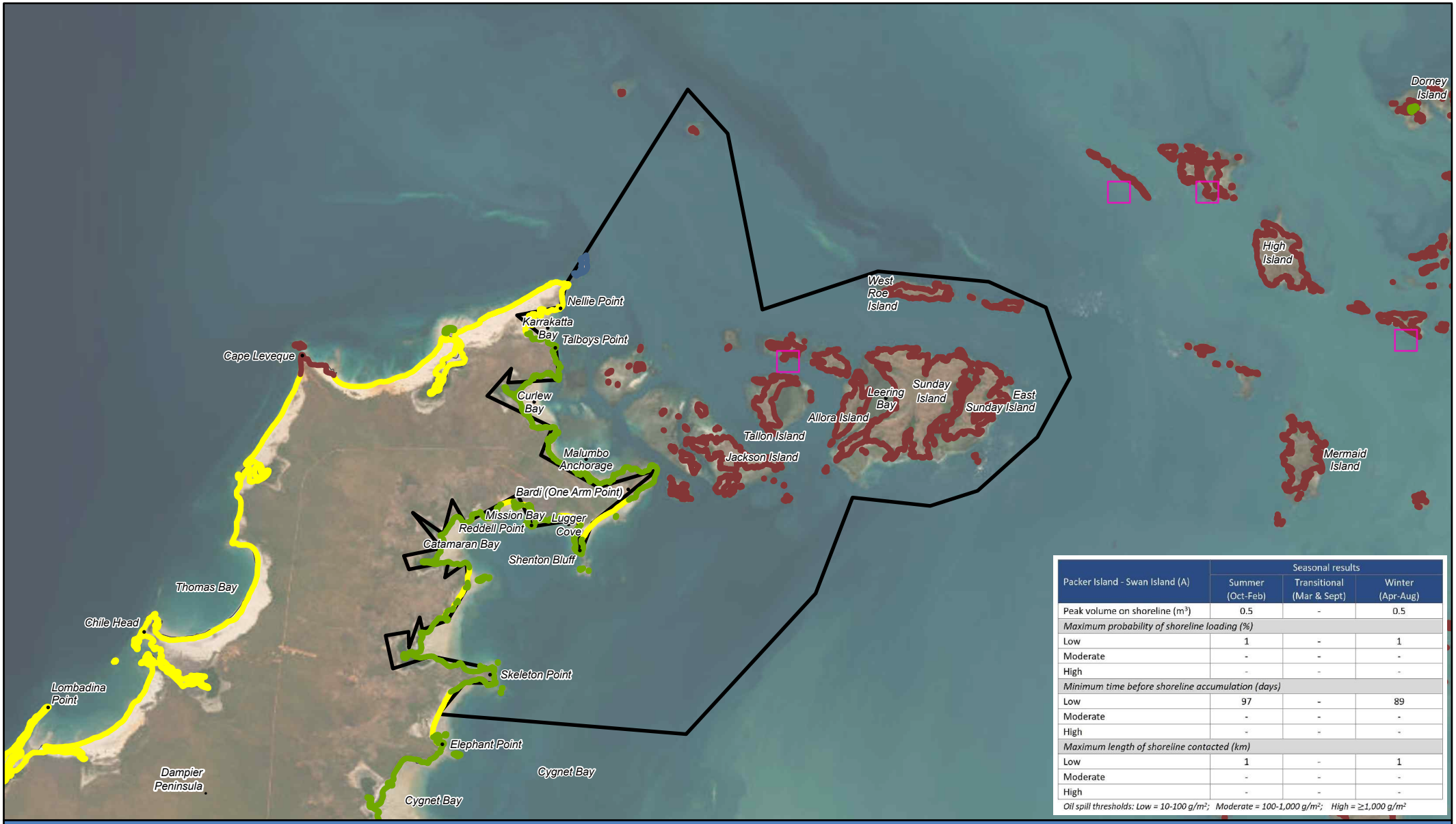
Shoreline

- *Tidal flats (sand, mud, sediment)* \ *Mangroves*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:175,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 6 of 64	REV E

0 5 km



Packer Island - Swan Island (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	0.5	-	0.5
Maximum probability of shoreline loading (%)			
Low	1	-	1
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	97	-	89
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	1
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - PACKER ISLAND - SWAN ISLAND (A) (WAMOPRA DOT CELL 64)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

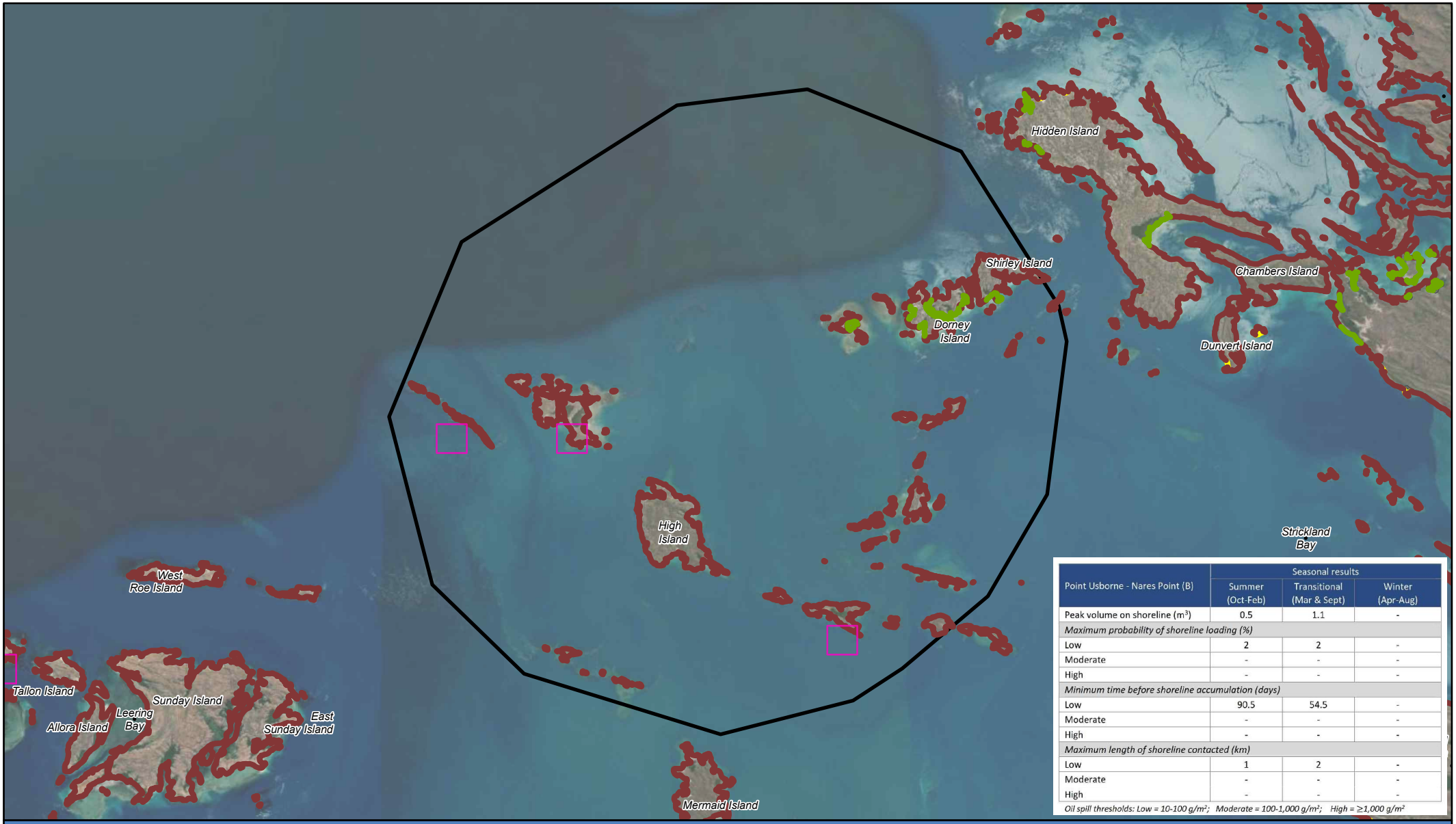
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:245,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 7 of 64	REV E

0 5 10 km



Point Usborne - Nares Point (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	0.5	1.1	-
Maximum probability of shoreline loading (%)			
Low	2	2	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	90.5	54.5	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	2	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - POINT USBORNE - NARES POINT (B) (WAMOPRA DOT CELL 301)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

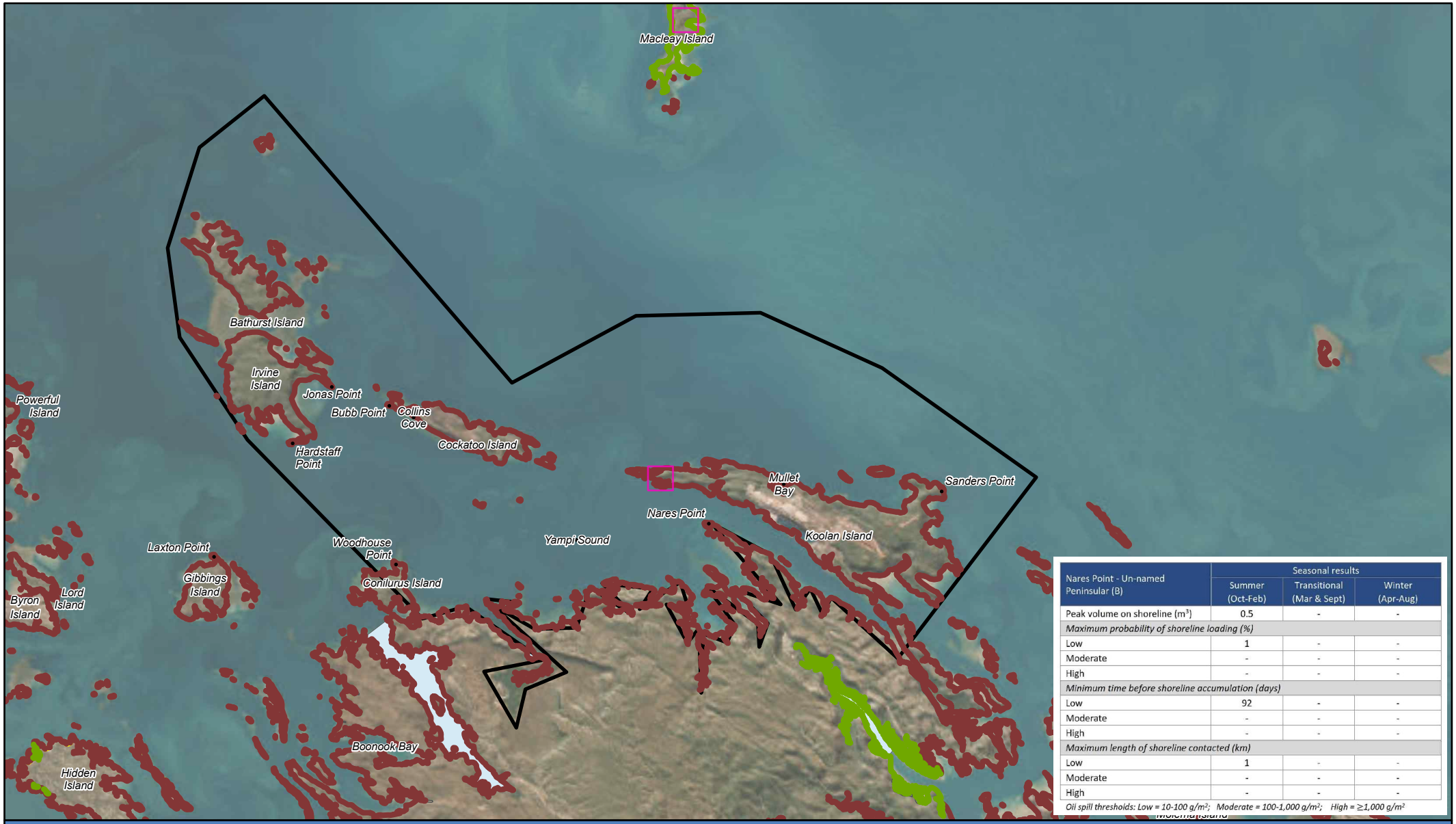
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:180,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 8 of 64	REV E

0 5 km



Nares Point - Un-named Peninsular (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	0.5	-	-
Maximum probability of shoreline loading (%)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	92	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - NARES POINT - UN-NAMED PENINSULAR (B) (WAMOPRA DOT CELL 50)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

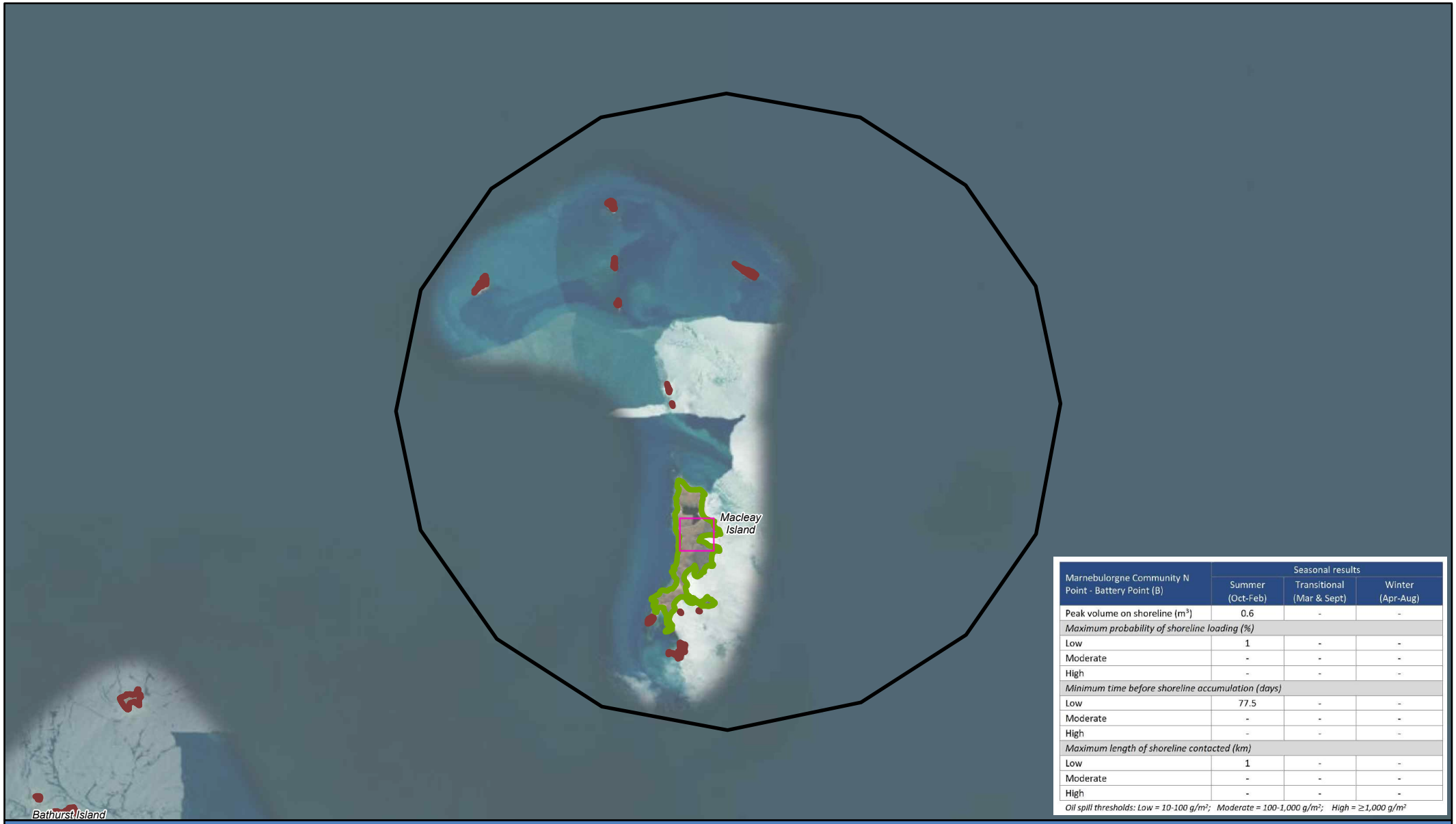
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:215,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 10 of 64	REV E

0 5 10 km



Marnebulorgne Community N Point - Battery Point (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	0.6	-	-
Maximum probability of shoreline loading (%)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	77.5	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - MARNEBULORGNE COMMUNITY N POINT - BATTERY POINT (B) (WAMOPRA DOT CELL 297)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

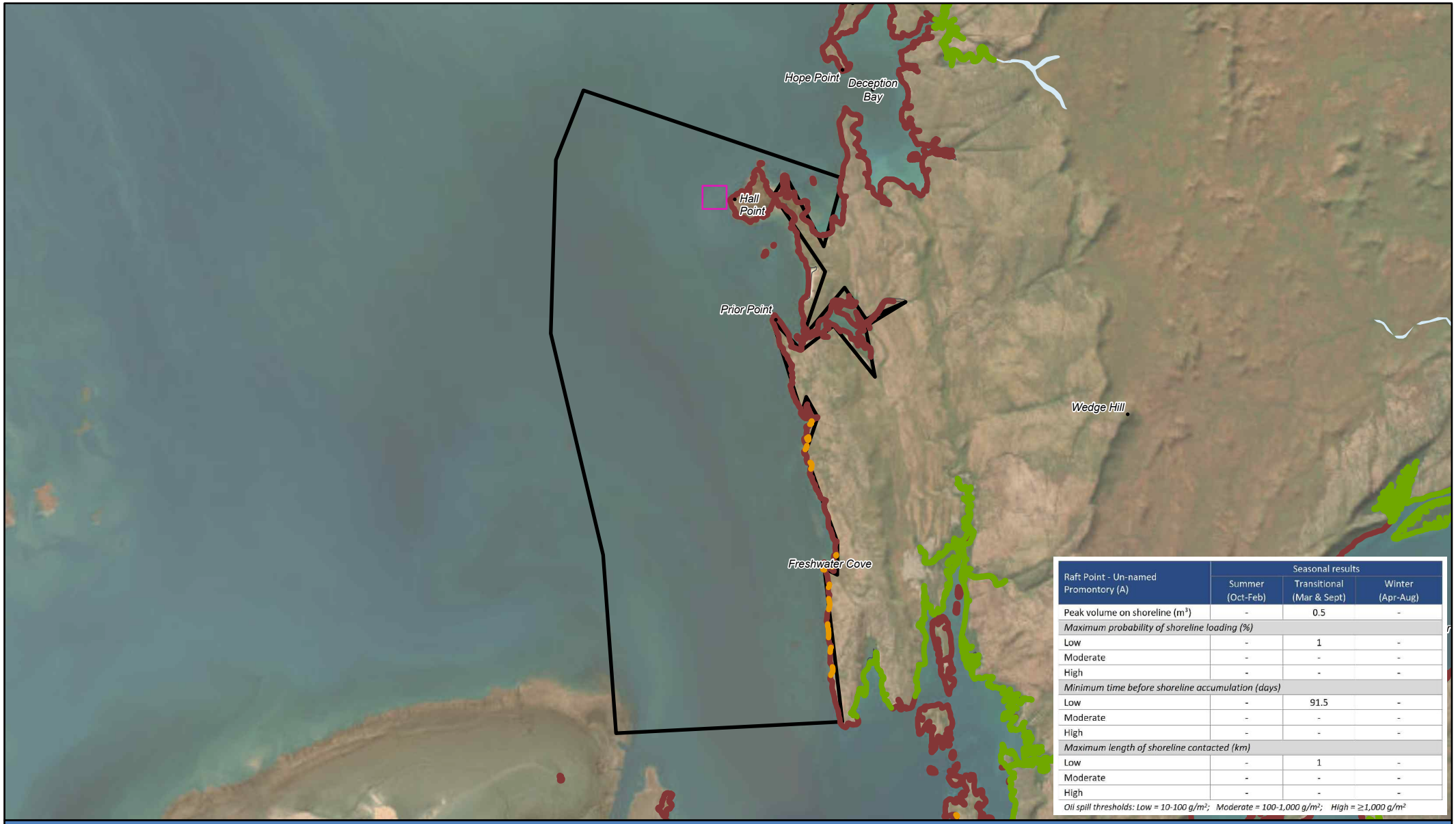
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:160,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 11 of 64	REV E

0 5 km



Raft Point - Un-named Promontory (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	-	0.5	-
Maximum probability of shoreline loading (%)			
Low	-	1	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	-	91.5	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	1	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - RAFT POINT - UN-NAMED PROMONTORY (A) (WAMOPRA DOT CELL 40)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

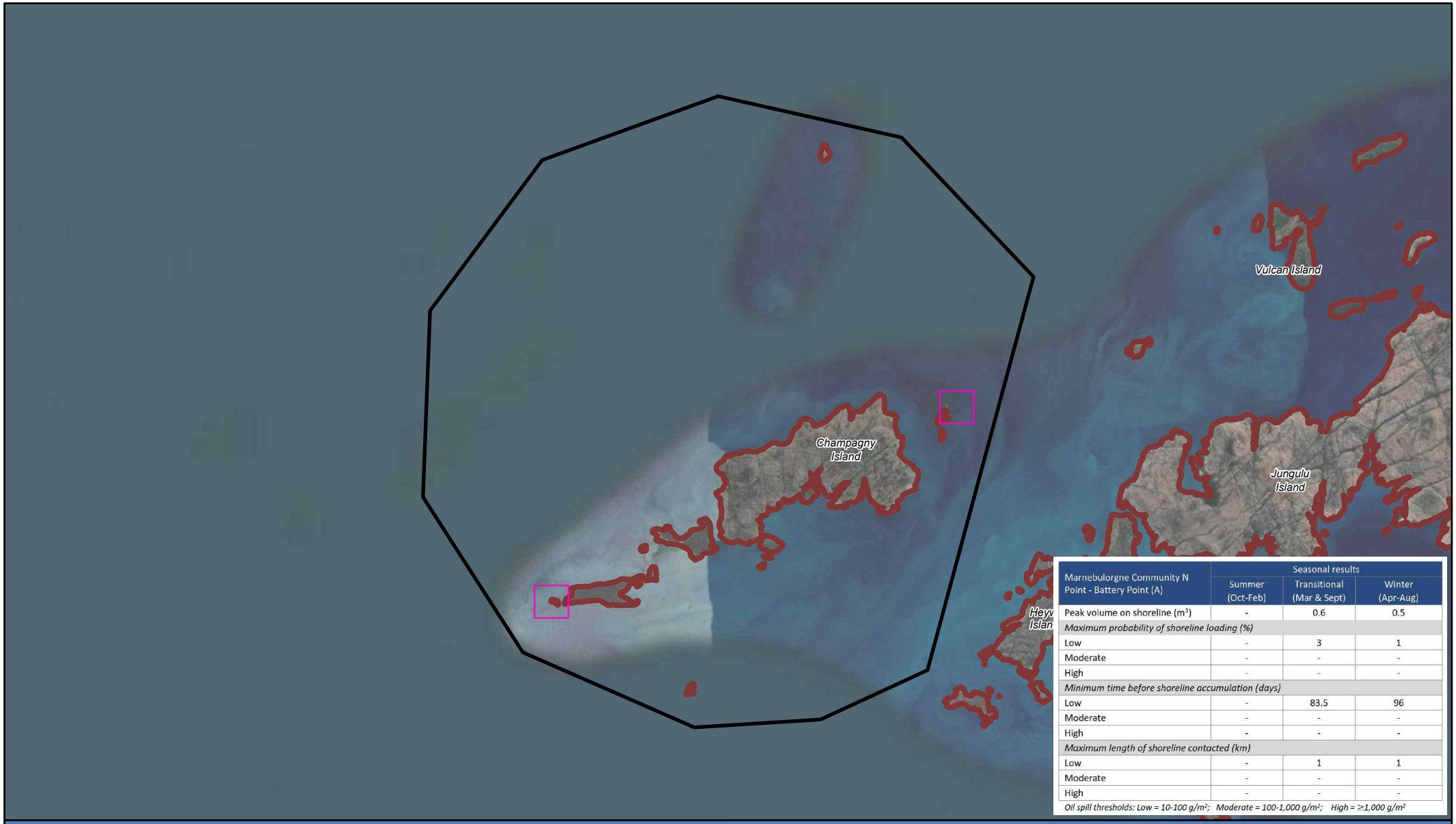
Shoreline

- *Beach sediment \ ridges*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:225,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 12 of 64	REV E

0 5 10 km



Marnebulorgne Community N Point - Battery Point (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	-	0.6	0.5
Maximum probability of shoreline loading (%)			
Low	-	3	1
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	-	83.5	96
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	1	1
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = >1,000 g/m²

SHORELINE RECEPTORS - MARNEBULORGNE COMMUNITY N POINT - BATTERY POINT (A) (WAMOPRA DOT CELL 293)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

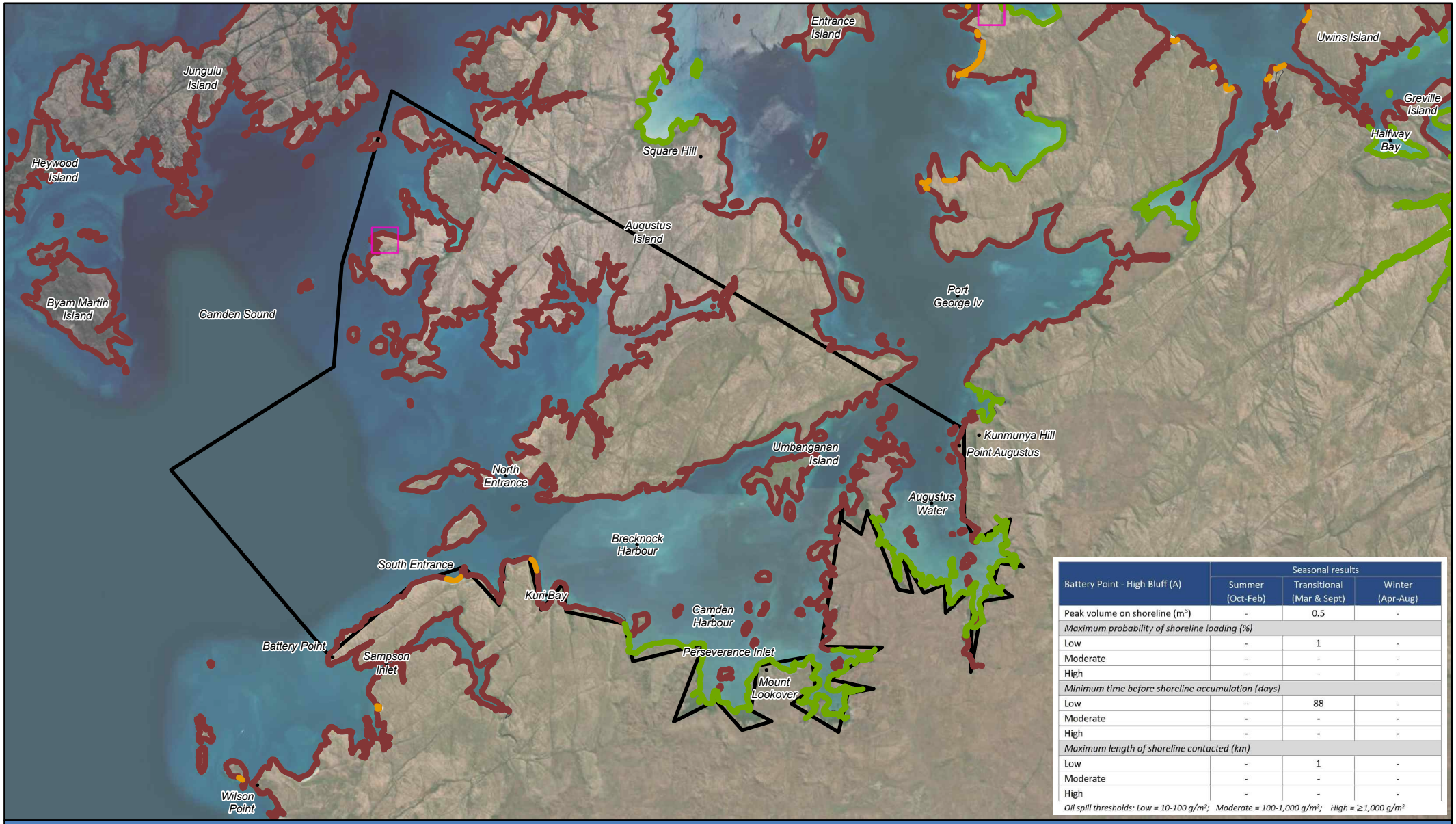
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:160,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 13 of 64	REV: E

0 5 km



Battery Point - High Bluff (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	-	0.5	-
Maximum probability of shoreline loading (%)			
Low	-	1	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	-	88	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	1	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - BATTERY POINT - HIGH BLUFF (A) (WAMOPRA DOT CELL 38)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

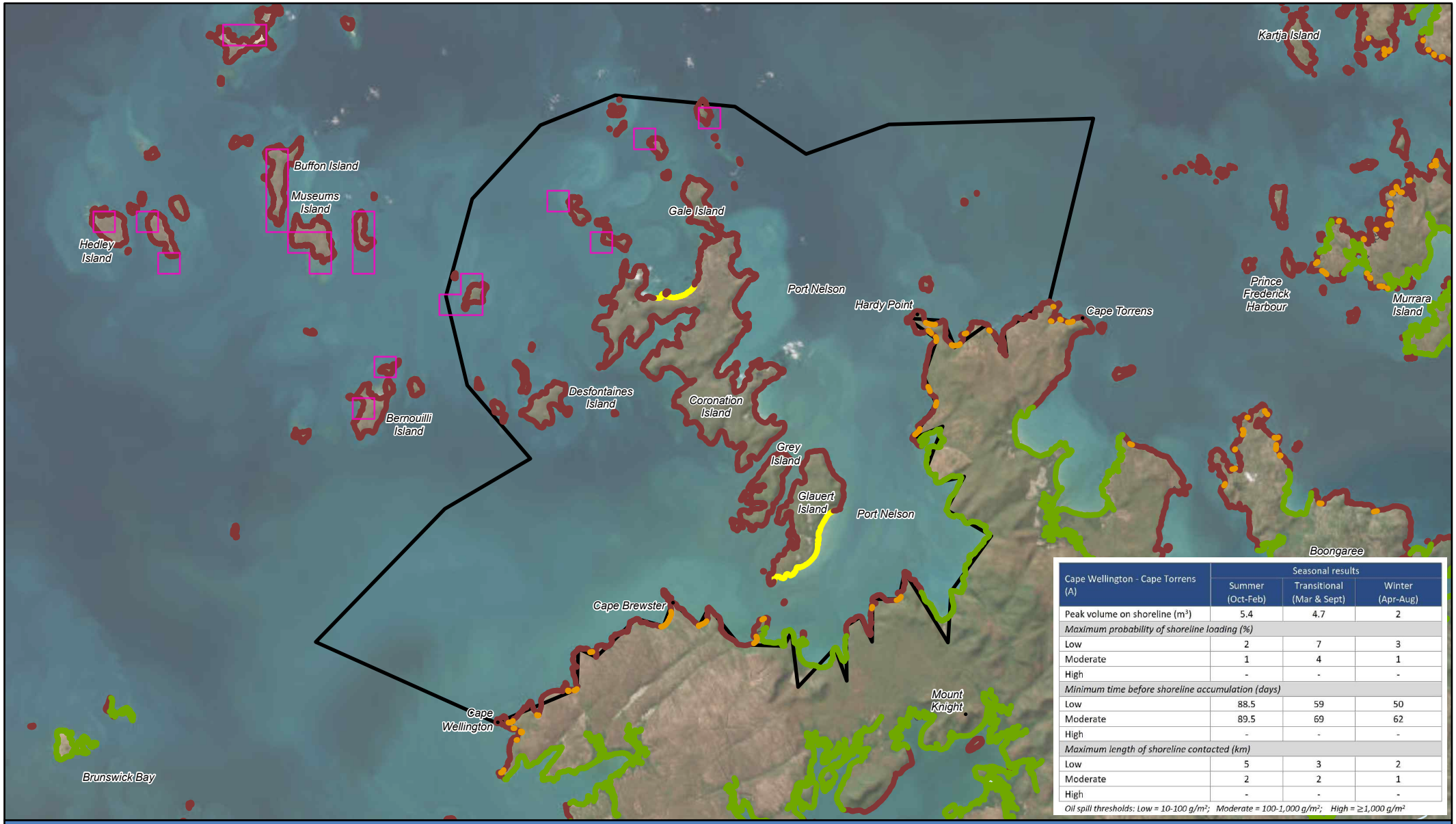
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:205,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 15 of 64	REV E

0 5 10 km



Cape Wellington - Cape Torrens (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	5.4	4.7	2
Maximum probability of shoreline loading (%)			
Low	2	7	3
Moderate	1	4	1
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	88.5	59	50
Moderate	89.5	69	62
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	5	3	2
Moderate	2	2	1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE WELLINGTON - CAPE TORRENS (A) (WAMOPRA DOT CELL 34)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:250,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 16 of 64	REV E

0 5 10 km

Cape Wellington - Cape Torrens (C)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	27.7	6.7	4.8
Maximum probability of shoreline loading (%)			
Low	9	15	5
Moderate	4	7	2
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	71.5	61	46
Moderate	89	70.5	59.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	7	8	5
Moderate	4	3	1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE WELLINGTON - CAPE TORRENS (C) (WAMOPRA DOT CELL 288)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

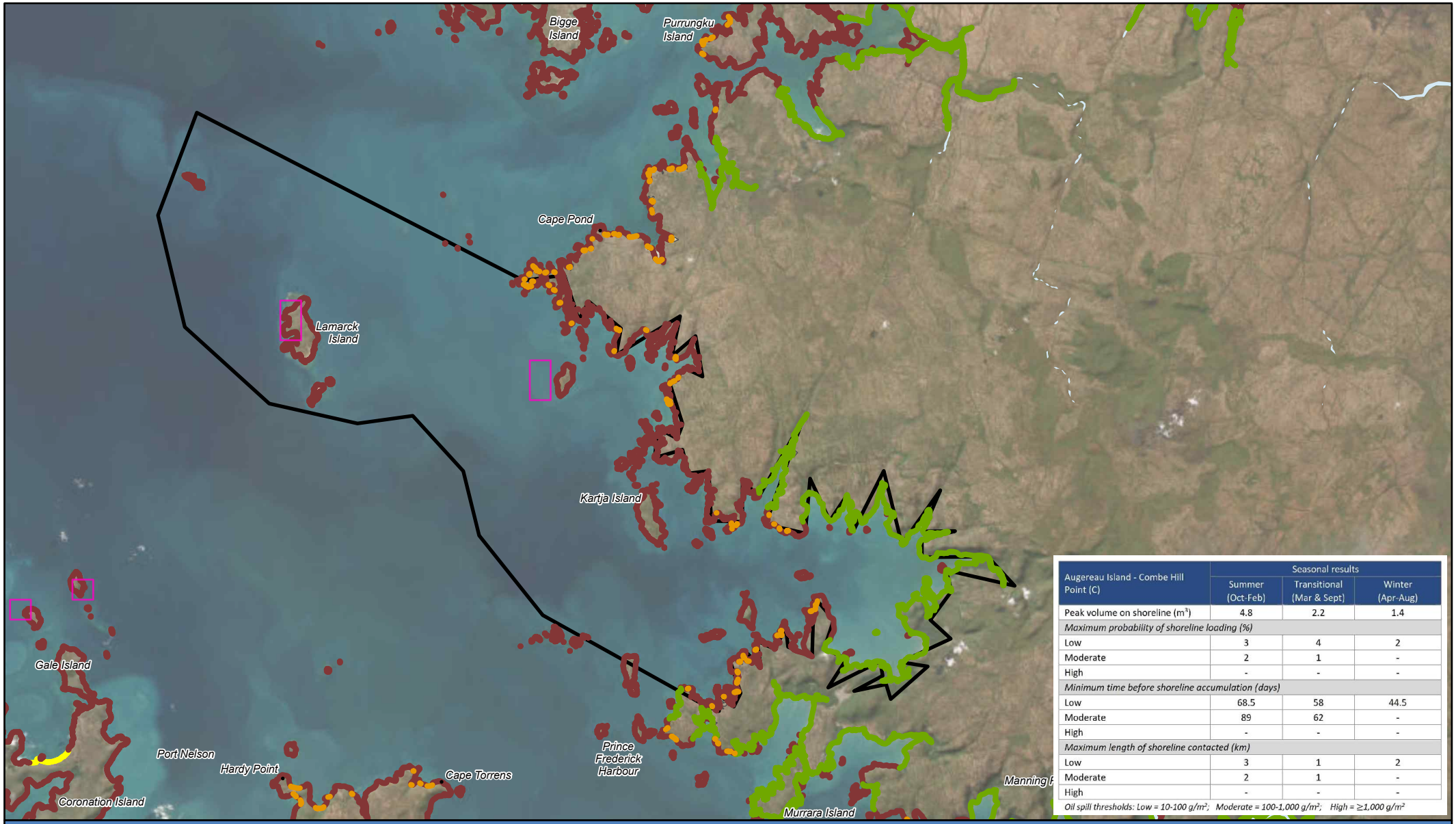
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:200,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 17 of 64	REV: E

0 5 10 km



Augereau Island - Combe Hill Point (C)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	4.8	2.2	1.4
Maximum probability of shoreline loading (%)			
Low	3	4	2
Moderate	2	1	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	68.5	58	44.5
Moderate	89	62	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	1	2
Moderate	2	1	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - AUGEREAU ISLAND - COMBE HILL POINT (C) (WAMOPRA DOT CELL 32)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

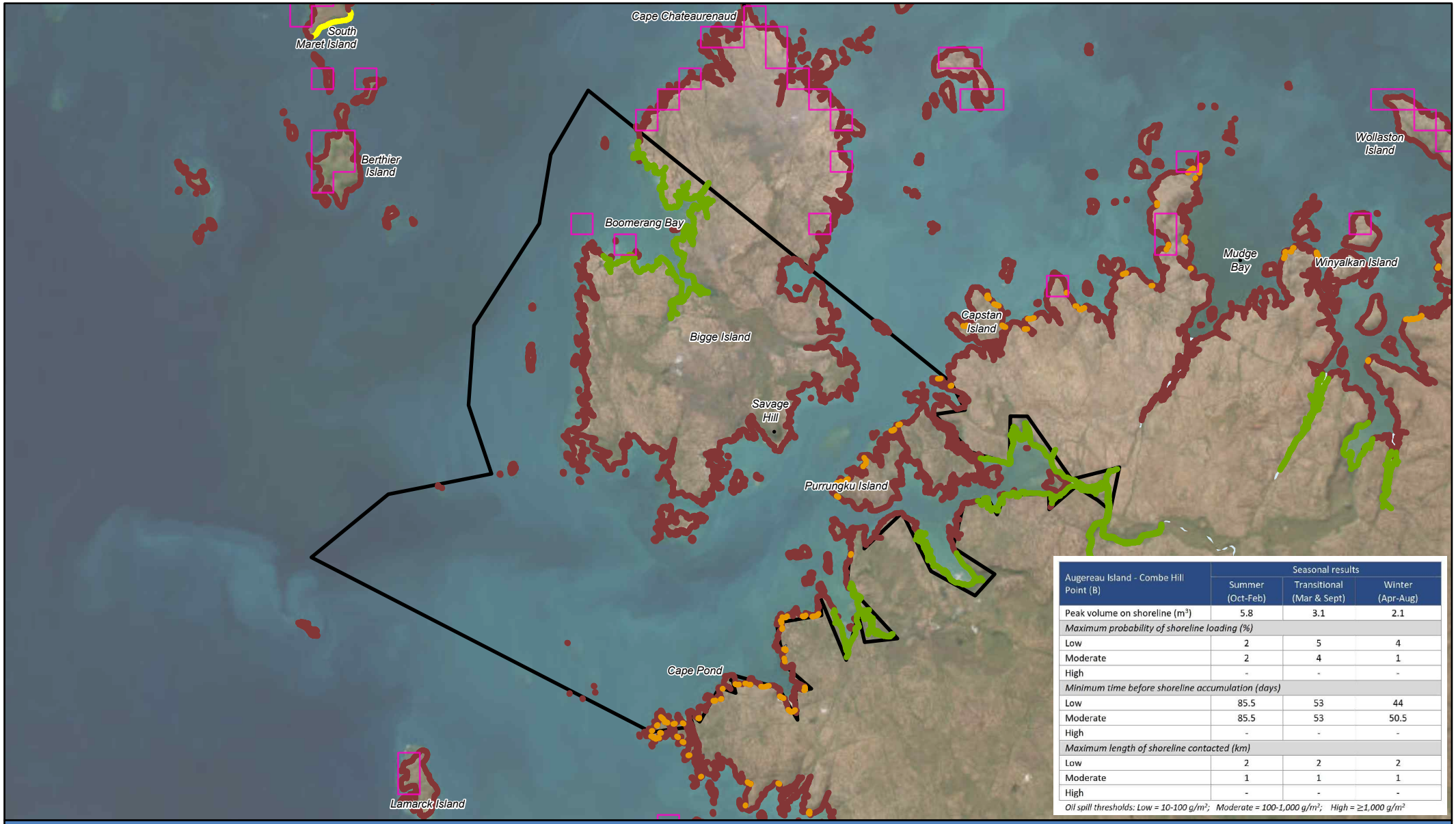
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT		
Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:260,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 18 of 64	REV: E

0 5 10 km



Augereau Island - Combe Hill Point (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	5.8	3.1	2.1
Maximum probability of shoreline loading (%)			
Low	2	5	4
Moderate	2	4	1
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	85.5	53	44
Moderate	85.5	53	50.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	2	2	2
Moderate	1	1	1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - AUGEREAU ISLAND - COMBE HILL POINT (B) (WAMOPRA DOT CELL 31)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

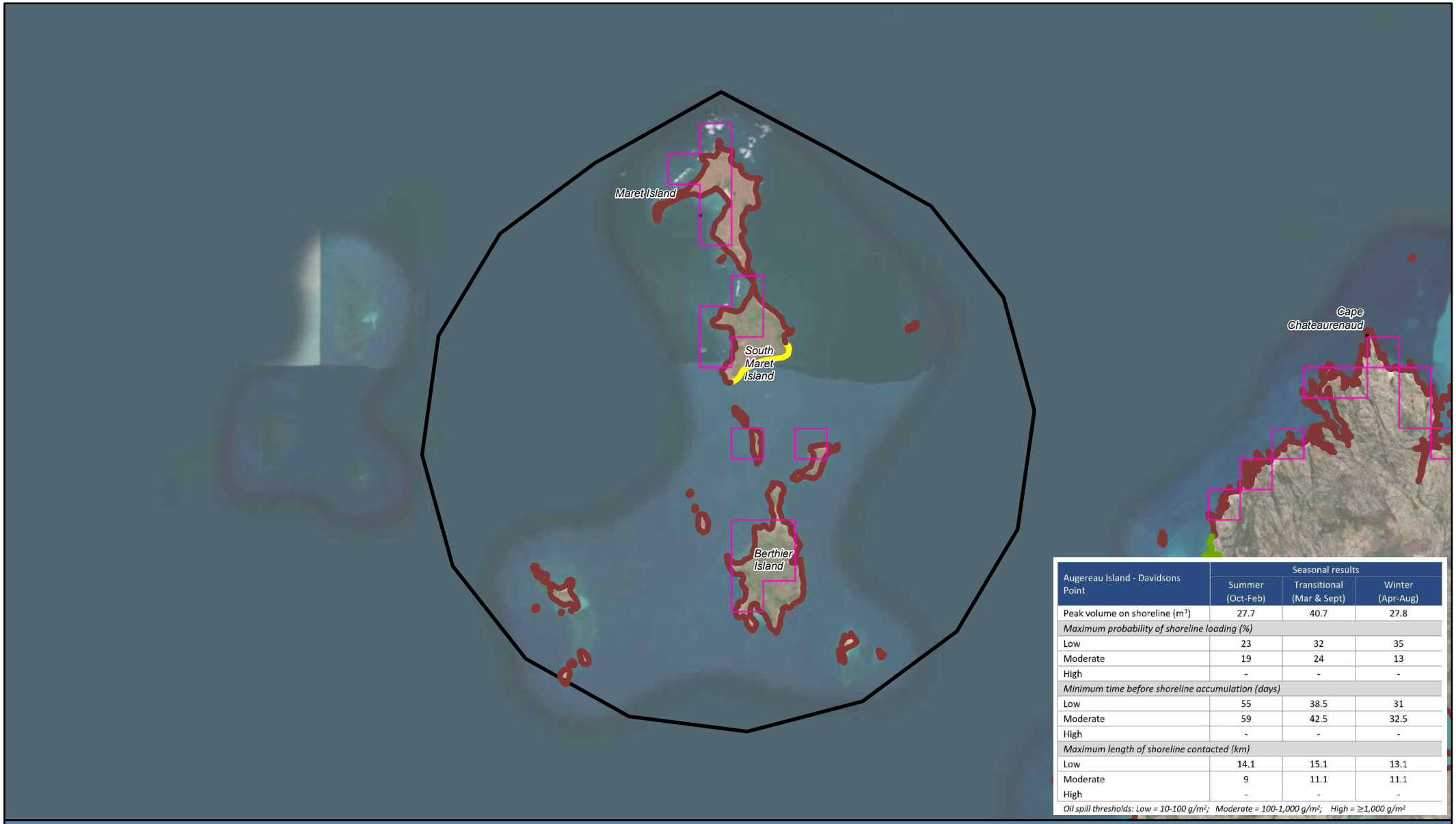
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:250,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 19 of 64	REV E

0 5 10 km



Augereau Island - Davidsons Point	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	27.7	40.7	27.8
Maximum probability of shoreline loading (%)			
Low	23	32	35
Moderate	19	24	13
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	55	38.5	31
Moderate	59	42.5	32.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	14.1	15.1	13.1
Moderate	9	11.1	11.1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - AUGEREAU ISLAND - DAVIDSONS POINT (WAMOPRA DOT CELL 287)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

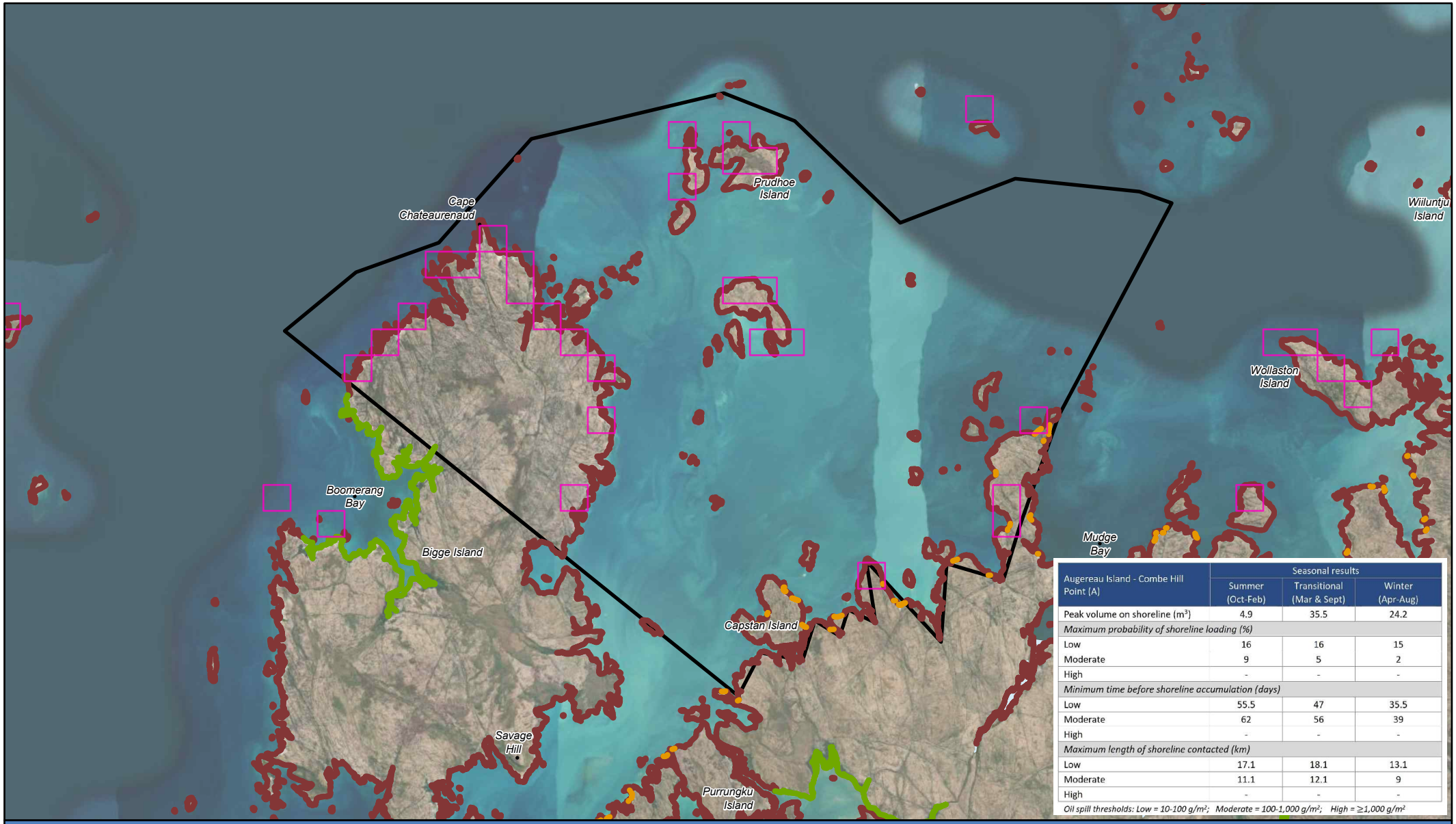
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:170,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 20 of 64	REV: E

0 — 5 km



Augereau Island - Combe Hill Point (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	4.9	35.5	24.2
Maximum probability of shoreline loading (%)			
Low	16	16	15
Moderate	9	5	2
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	55.5	47	35.5
Moderate	62	56	39
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	17.1	18.1	13.1
Moderate	11.1	12.1	9
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - AUGEREAU ISLAND - COMBE HILL POINT (A) (WAMOPRA DOT CELL 30)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

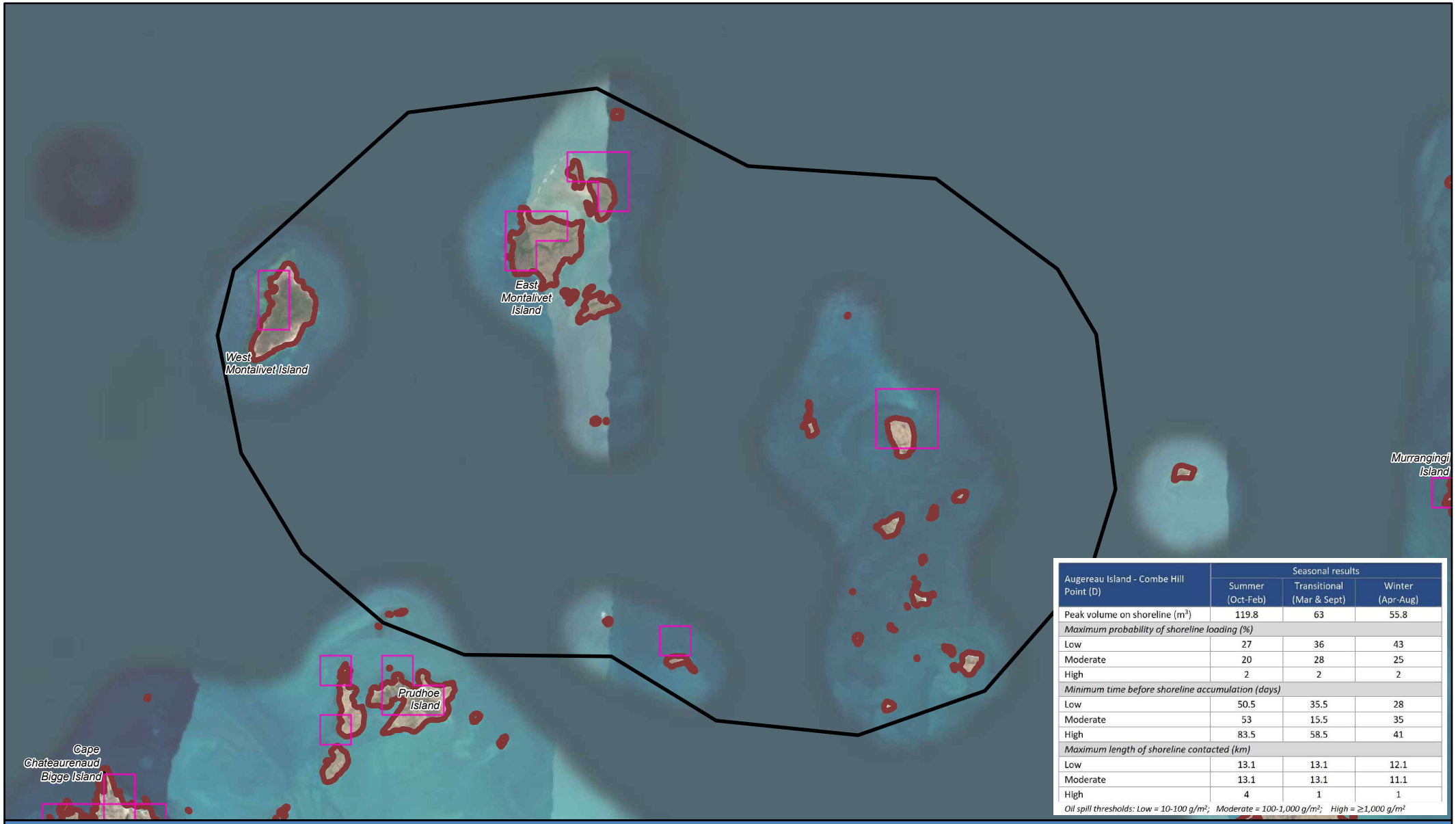
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:200,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 21 of 64	REV E

0 5 10 km



Augereau Island - Combe Hill Point (D)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	119.8	63	55.8
Maximum probability of shoreline loading (%)			
Low	27	36	43
Moderate	20	28	25
High	2	2	2
Minimum time before shoreline accumulation (days)			
Low	50.5	35.5	28
Moderate	53	15.5	35
High	83.5	58.5	41
Maximum length of shoreline contacted (km)			
Low	13.1	13.1	12.1
Moderate	13.1	13.1	11.1
High	4	1	1

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - AUGEREAU ISLAND - COMBE HILL POINT (D) (WAMOPRA DOT CELL 286)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

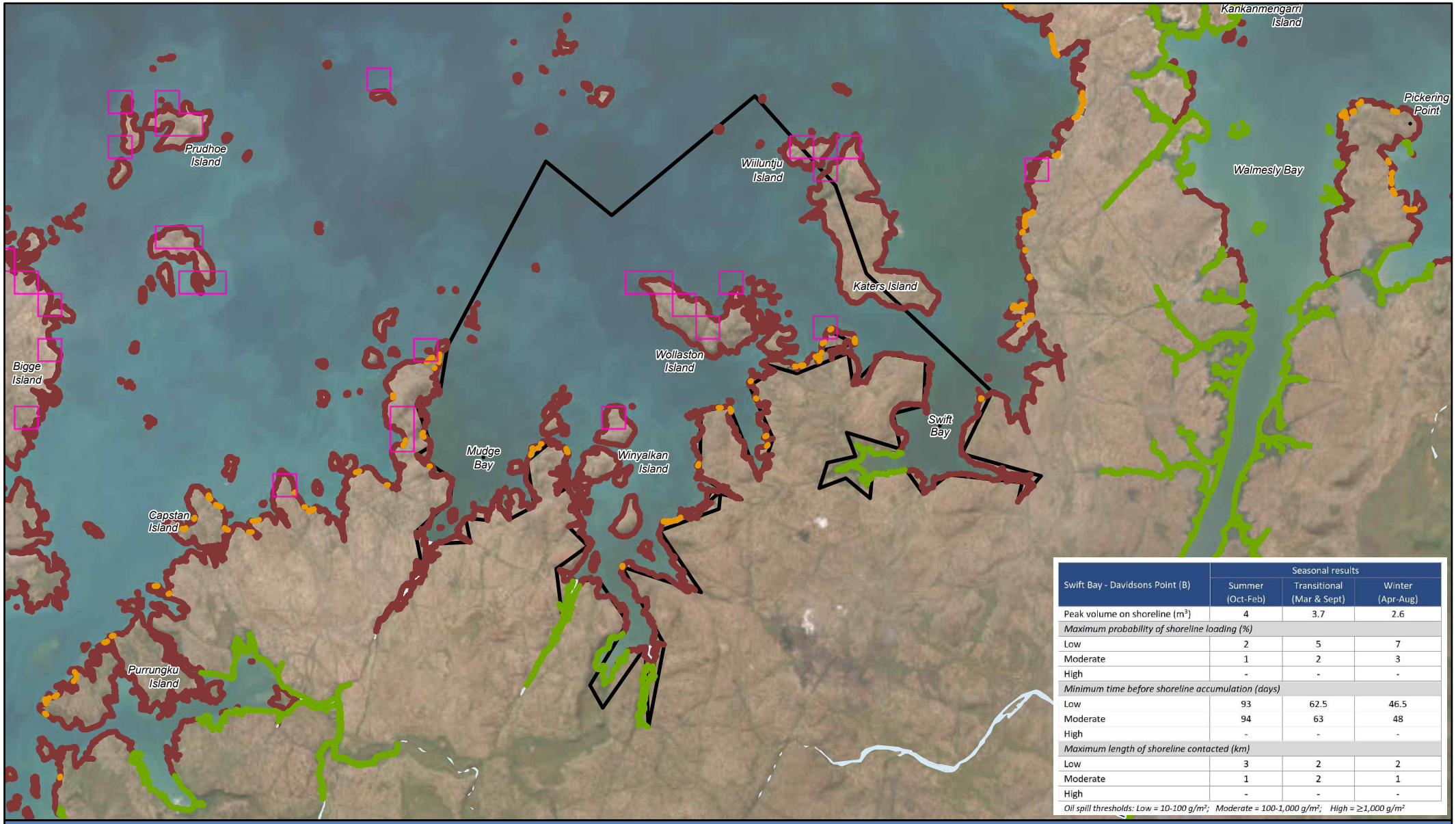
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:175,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 22 of 64	REV E

0 5 km



Swift Bay - Davidsons Point (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	4	3.7	2.6
Maximum probability of shoreline loading (%)			
Low	2	5	7
Moderate	1	2	3
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	93	62.5	46.5
Moderate	94	63	48
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	2	2
Moderate	1	2	1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - SWIFT BAY - DAVIDSONS POINT (B) (WAMOPRA DOT CELL 29)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

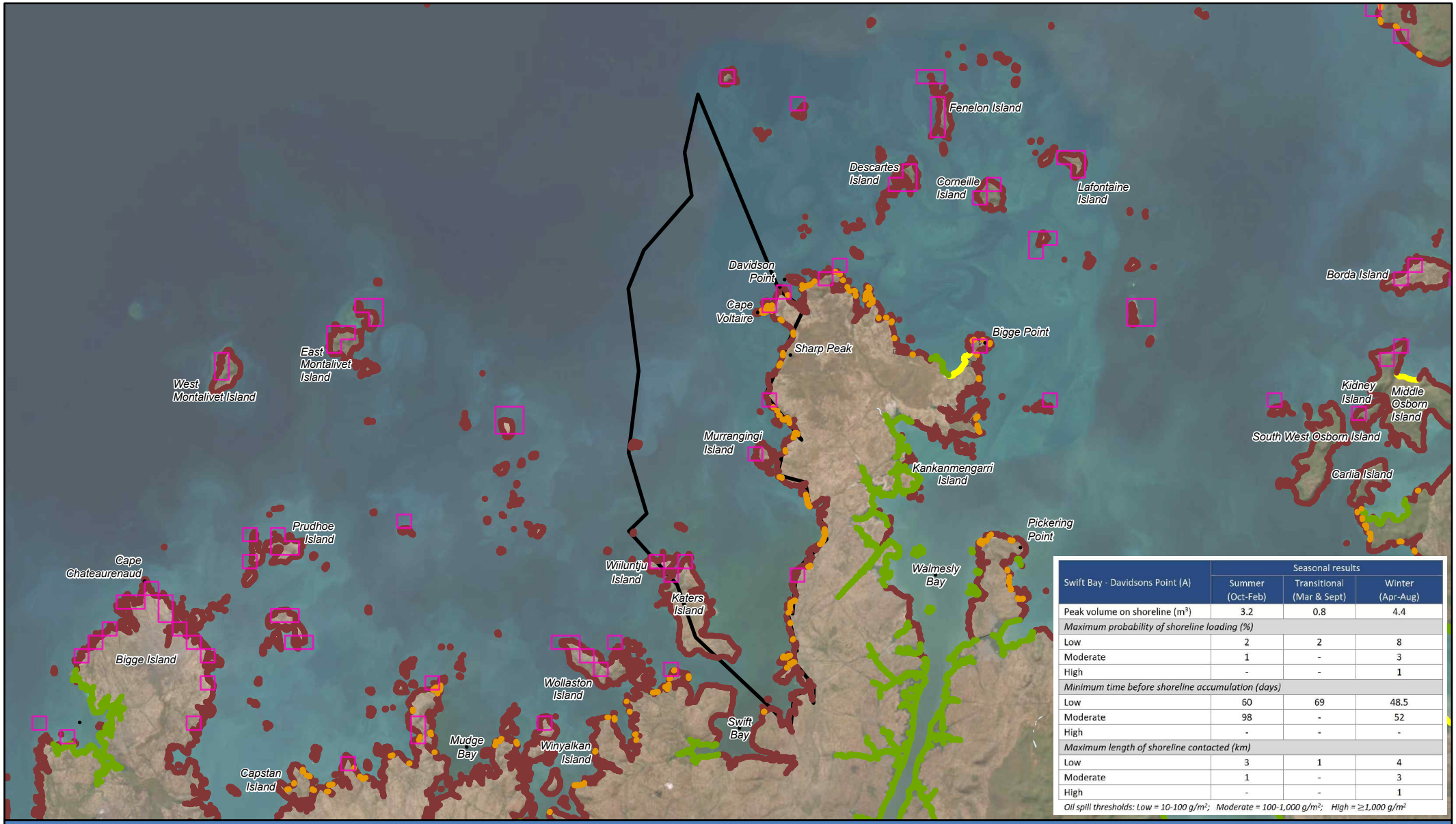
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:230,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 23 of 64	REV E

0 5 10 km



Swift Bay - Davidsons Point (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	3.2	0.8	4.4
Maximum probability of shoreline loading (%)			
Low	2	2	8
Moderate	1	-	3
High	-	-	1
Minimum time before shoreline accumulation (days)			
Low	60	69	48.5
Moderate	98	-	52
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	1	4
Moderate	1	-	3
High	-	-	1

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - SWIFT BAY - DAVIDSONS POINT (A) (WAMOPRA DOT CELL 28)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

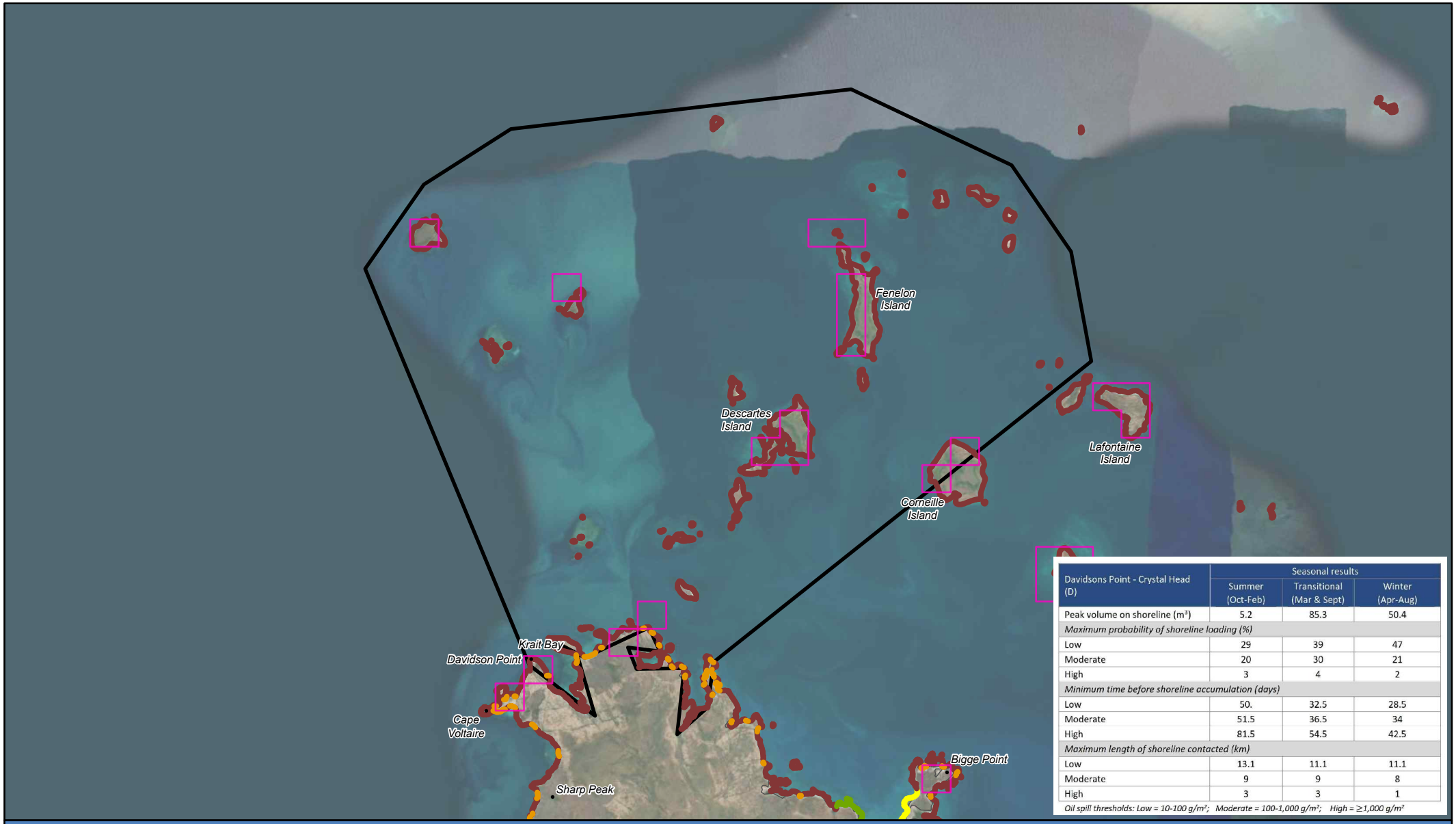
Shoreline

- *Beach sediment \ ridges*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:385,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 24 of 64	REV E

0 5 10 15 20 km



Davidsons Point - Crystal Head (D)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	5.2	85.3	50.4
Maximum probability of shoreline loading (%)			
Low	29	39	47
Moderate	20	30	21
High	3	4	2
Minimum time before shoreline accumulation (days)			
Low	50.	32.5	28.5
Moderate	51.5	36.5	34
High	81.5	54.5	42.5
Maximum length of shoreline contacted (km)			
Low	13.1	11.1	11.1
Moderate	9	9	8
High	3	3	1

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - DAVIDSONS POINT - CRYSTAL HEAD (D) (WAMOPRA DOT CELL 27)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

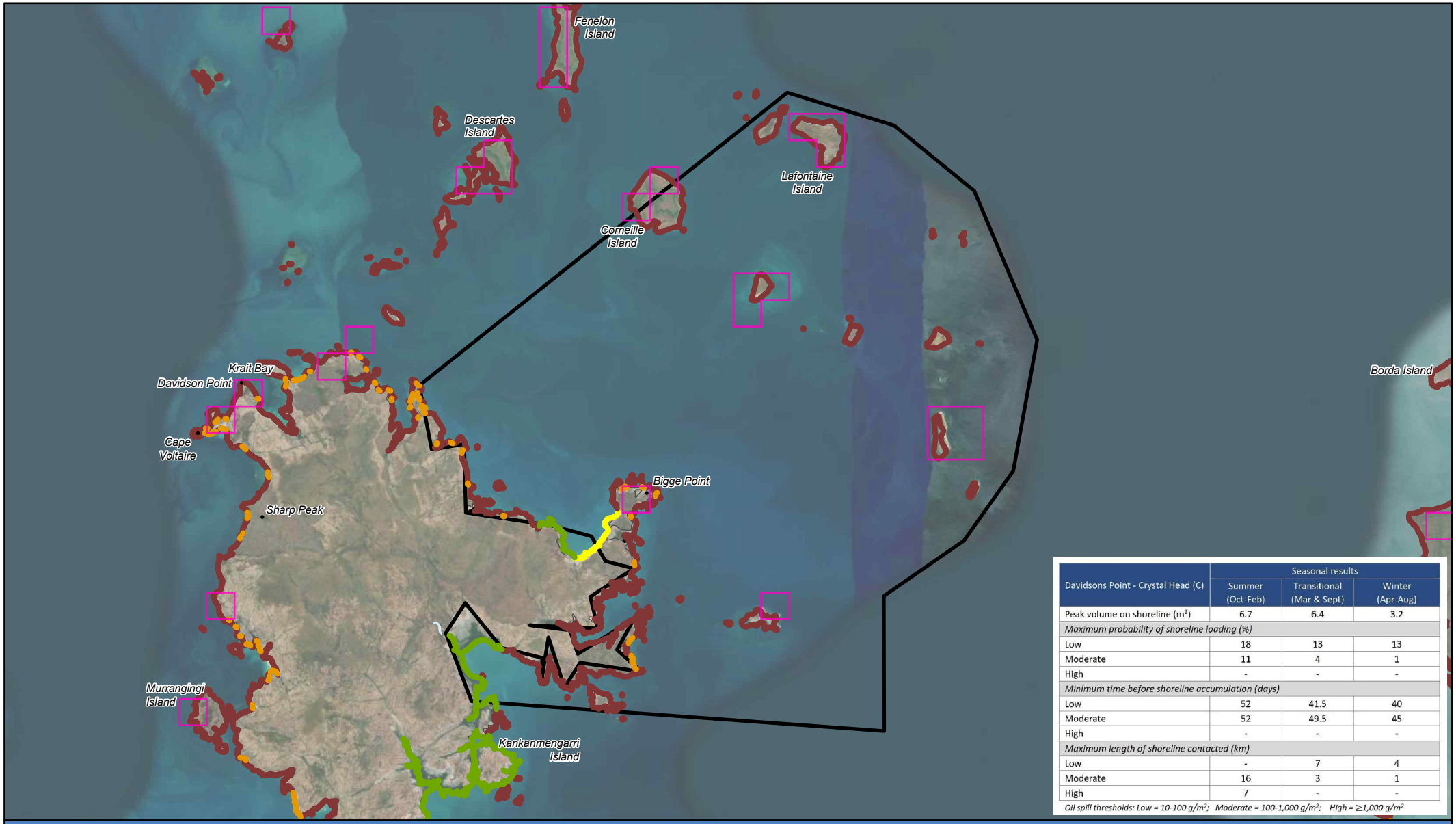
Shoreline

- *Beach sediment \ ridges*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:190,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 25 of 64	REV E

0 5 10 km



Davidsons Point - Crystal Head (C)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	6.7	6.4	3.2
Maximum probability of shoreline loading (%)			
Low	18	13	13
Moderate	11	4	1
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	52	41.5	40
Moderate	52	49.5	45
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	7	4
Moderate	16	3	1
High	7	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - DAVIDSONS POINT - CRYSTAL HEAD (C) (WAMOPRA DOT CELL 26)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

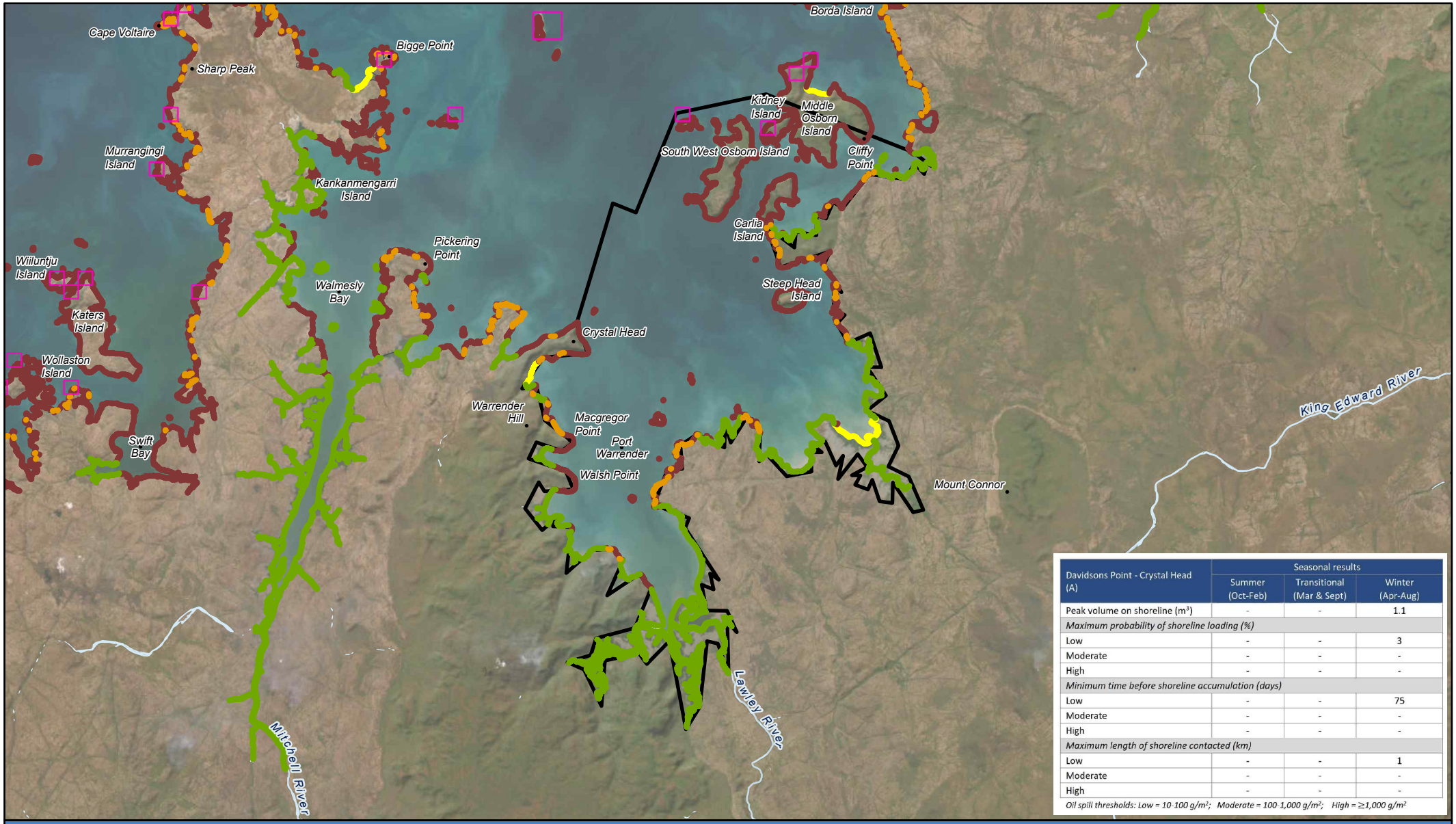
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:195,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 26 of 64	REV: E

0 5 10 km



Davidsons Point - Crystal Head (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	-	-	1.1
Maximum probability of shoreline loading (%)			
Low	-	-	3
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	-	-	75
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	-	1
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - DAVIDSONS POINT - CRYSTAL HEAD (A) (WAMOPRA DOT CELL 24)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

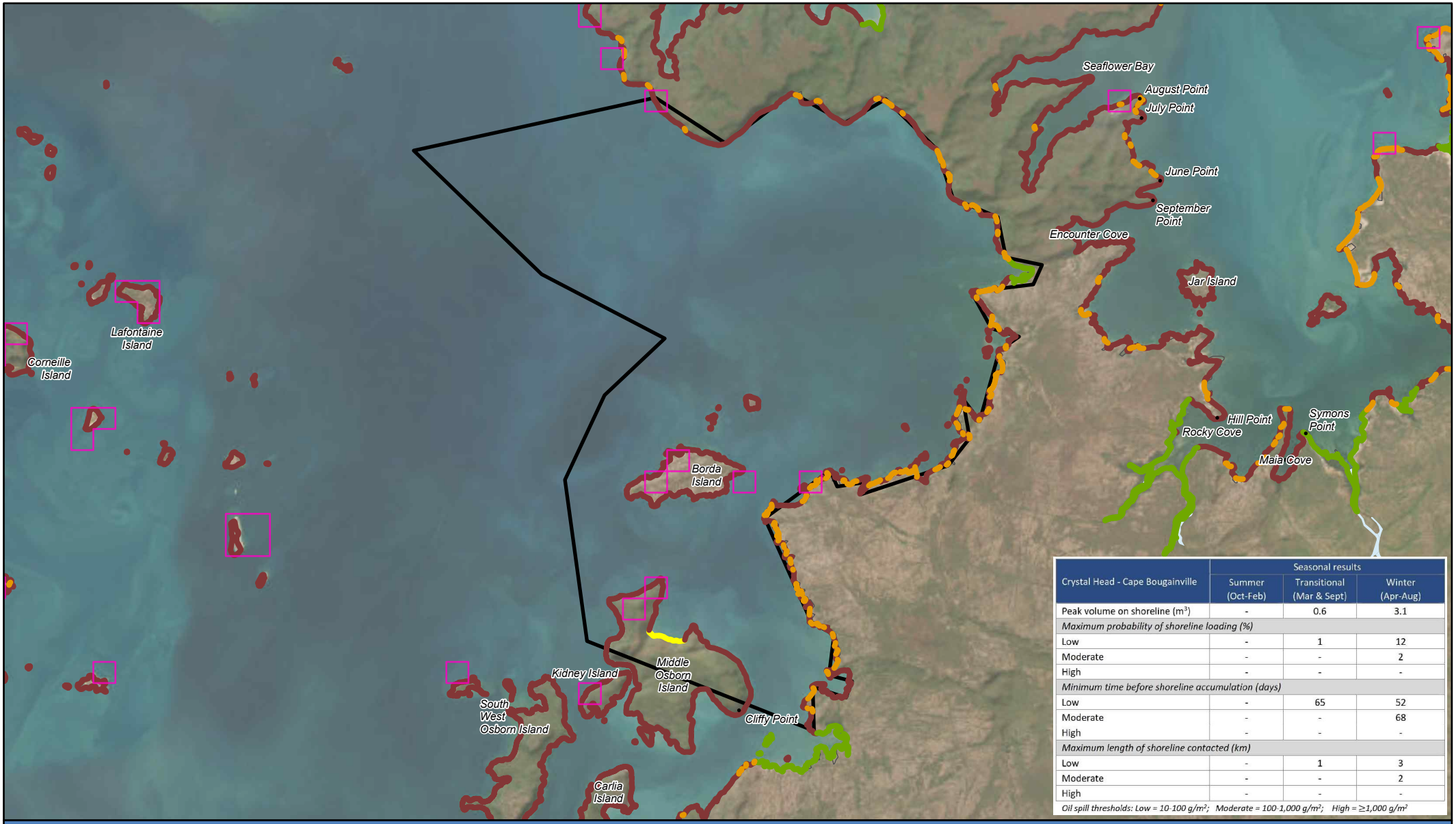
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:380,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 28 of 64	REV E

0 5 10 15 20 km



Crystal Head - Cape Bougainville	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	-	0.6	3.1
Maximum probability of shoreline loading (%)			
Low	-	1	12
Moderate	-	-	2
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	-	65	52
Moderate	-	-	68
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	1	3
Moderate	-	-	2
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CRYSTAL HEAD - CAPE BOUGAINVILLE (WAMOPRA DOT CELL 23)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

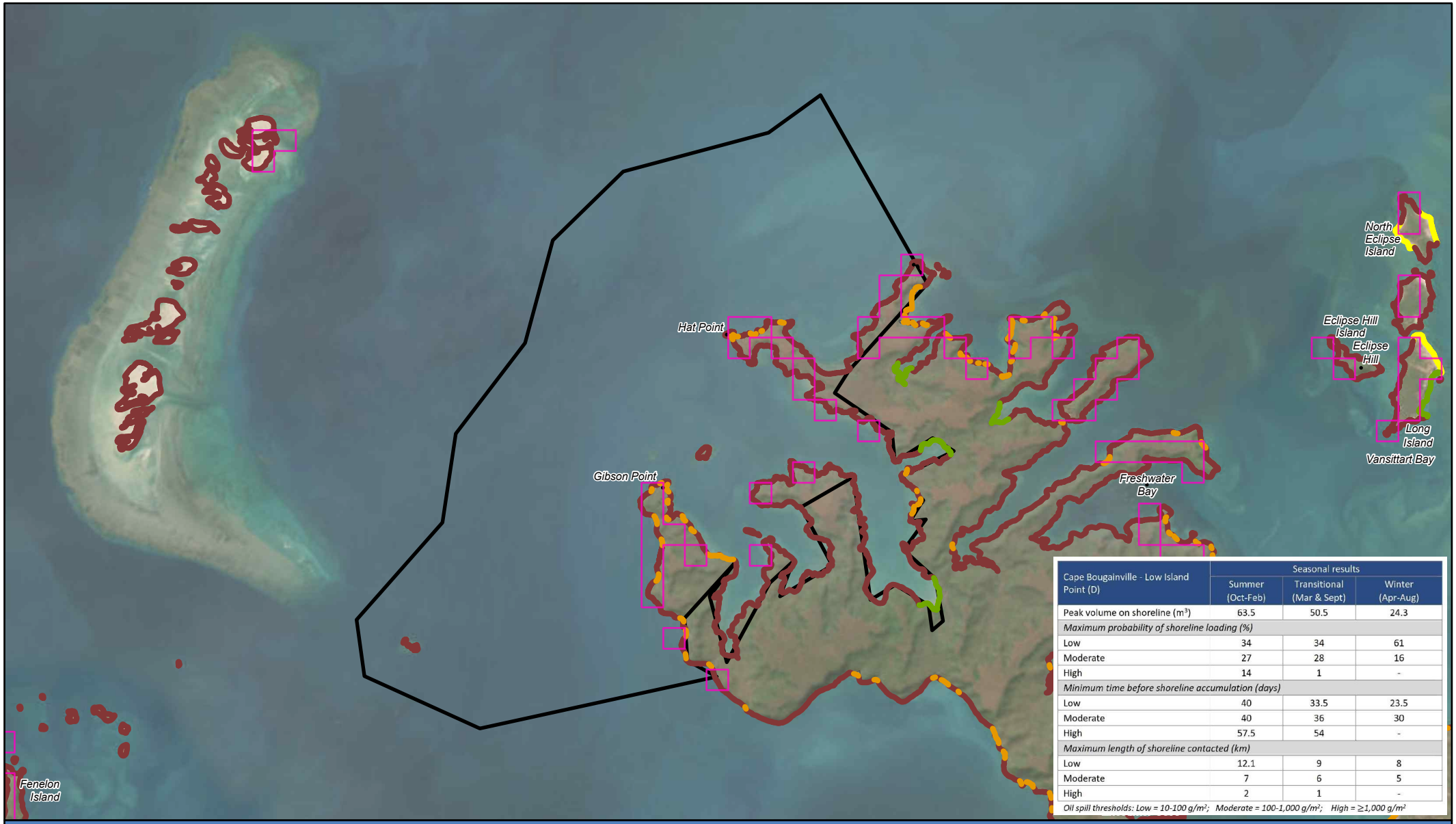
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:245,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 29 of 64	REV E

0 5 10 km



Cape Bougainville - Low Island Point (D)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	63.5	50.5	24.3
Maximum probability of shoreline loading (%)			
Low	34	34	61
Moderate	27	28	16
High	14	1	-
Minimum time before shoreline accumulation (days)			
Low	40	33.5	23.5
Moderate	40	36	30
High	57.5	54	-
Maximum length of shoreline contacted (km)			
Low	12.1	9	8
Moderate	7	6	5
High	2	1	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE BOUGAINVILLE - LOW ISLAND POINT (D) (WAMOPRA DOT CELL 22)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

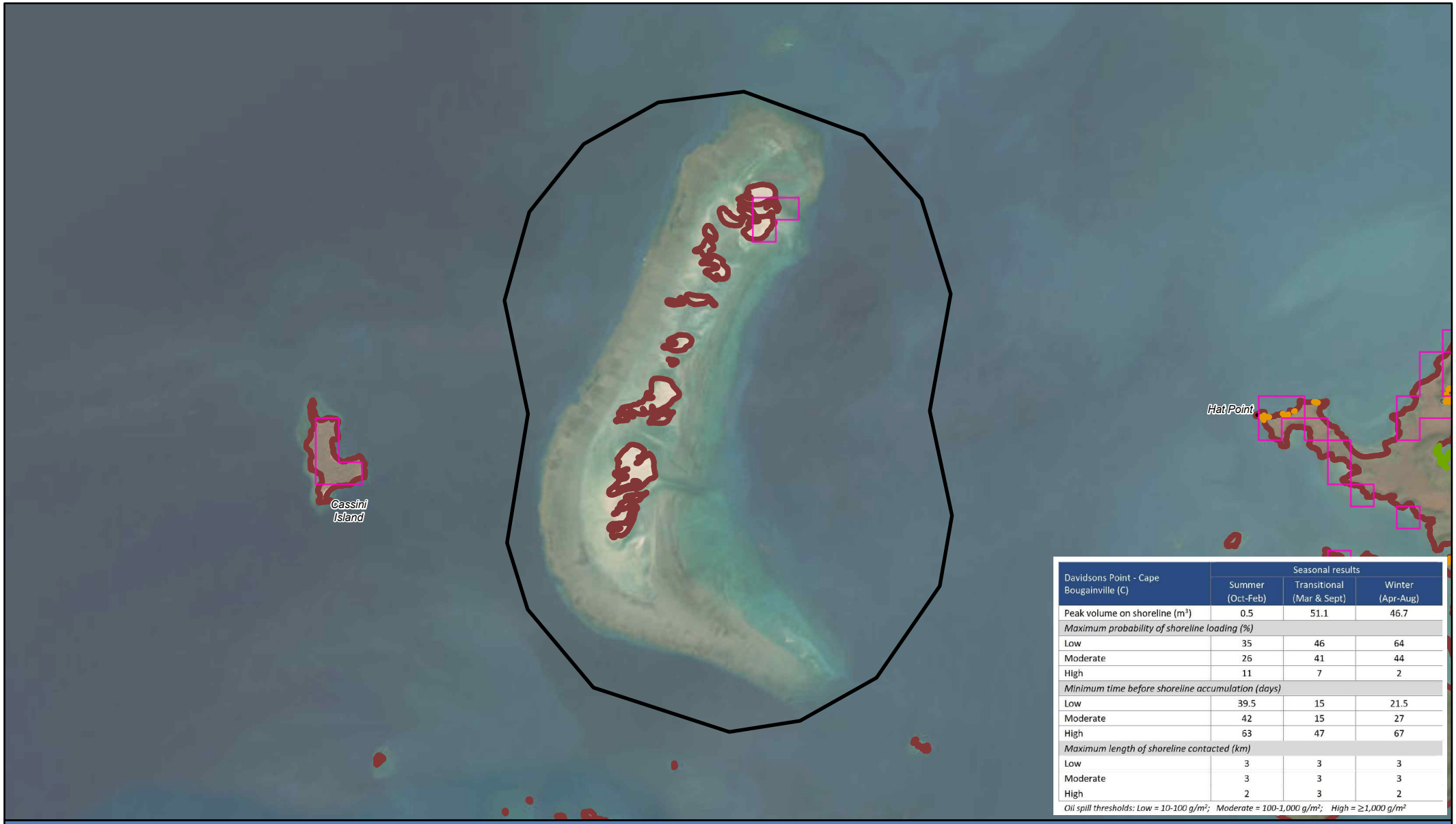
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:250,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 30 of 64	REV E

0 5 10 km



Davidsons Point - Cape Bougainville (C)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	0.5	51.1	46.7
Maximum probability of shoreline loading (%)			
Low	35	46	64
Moderate	26	41	44
High	11	7	2
Minimum time before shoreline accumulation (days)			
Low	39.5	15	21.5
Moderate	42	15	27
High	63	47	67
Maximum length of shoreline contacted (km)			
Low	3	3	3
Moderate	3	3	3
High	2	3	2

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - DAVIDSONS POINT - CAPE BOUGAINVILLE (C) (WAMOPRA DOT CELL 284)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:235,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 31 of 64	REV E

0 5 10 km

Davidsons Point - Cape Bougainville (D)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	78.3	65.6	36.4
Maximum probability of shoreline loading (%)			
Low	36	46	60
Moderate	29	41	37
High	14	7	1
Minimum time before shoreline accumulation (days)			
Low	40.5	13	24.5
Moderate	41	15.5	24.5
High	58.5	43.5	79
Maximum length of shoreline contacted (km)			
Low	4	4	4
Moderate	4	4	3
High	3	3	2

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - DAVIDSONS POINT - CAPE BOUGAINVILLE (D) (WAMOPRA DOT CELL 285)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

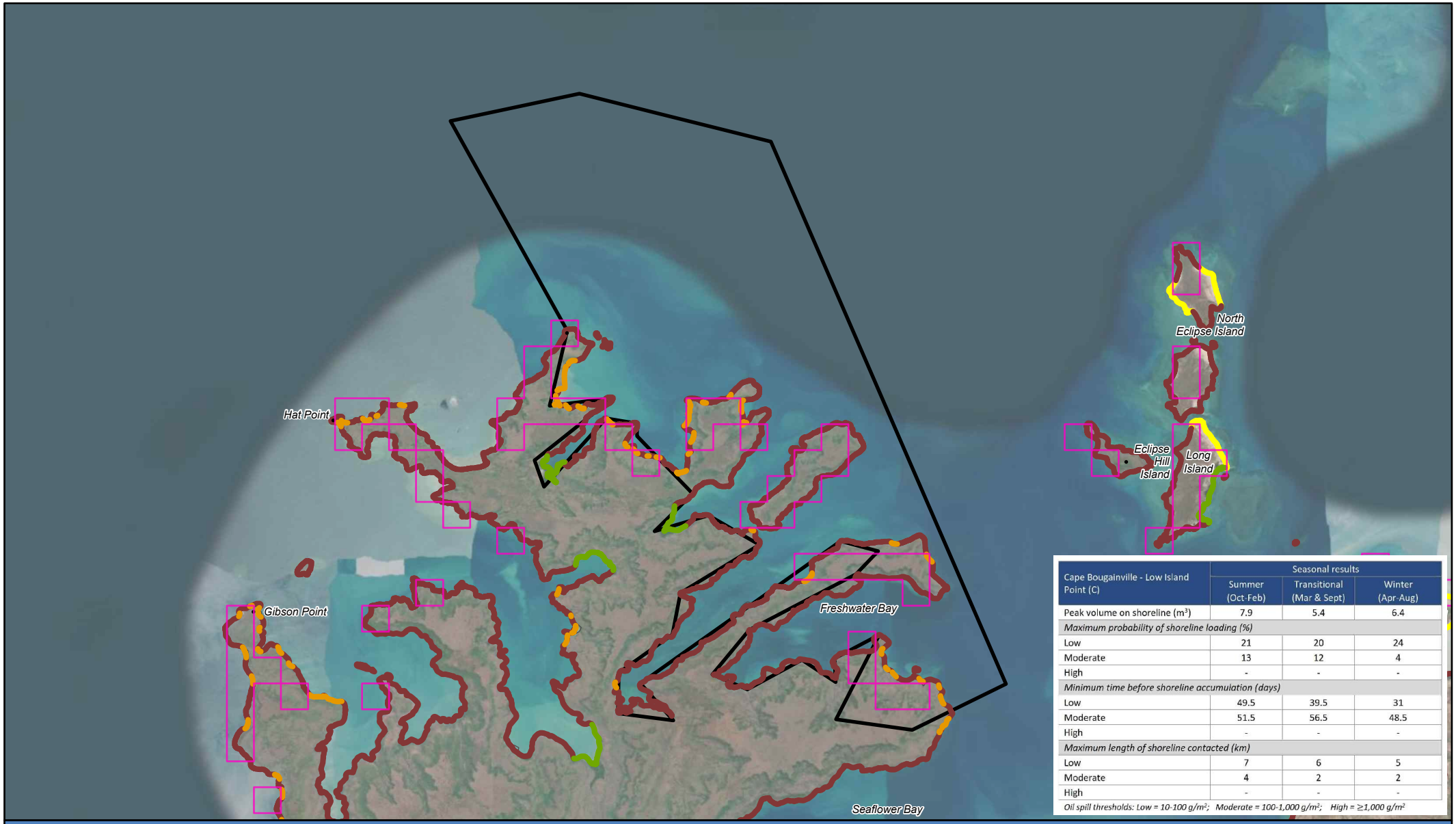
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:160,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 32 of 64	REV E

0 5 km



Cape Bougainville - Low Island Point (C)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	7.9	5.4	6.4
Maximum probability of shoreline loading (%)			
Low	21	20	24
Moderate	13	12	4
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	49.5	39.5	31
Moderate	51.5	56.5	48.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	7	6	5
Moderate	4	2	2
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE BOUGAINVILLE - LOW ISLAND POINT (C) (WAMOPRA DOT CELL 21)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

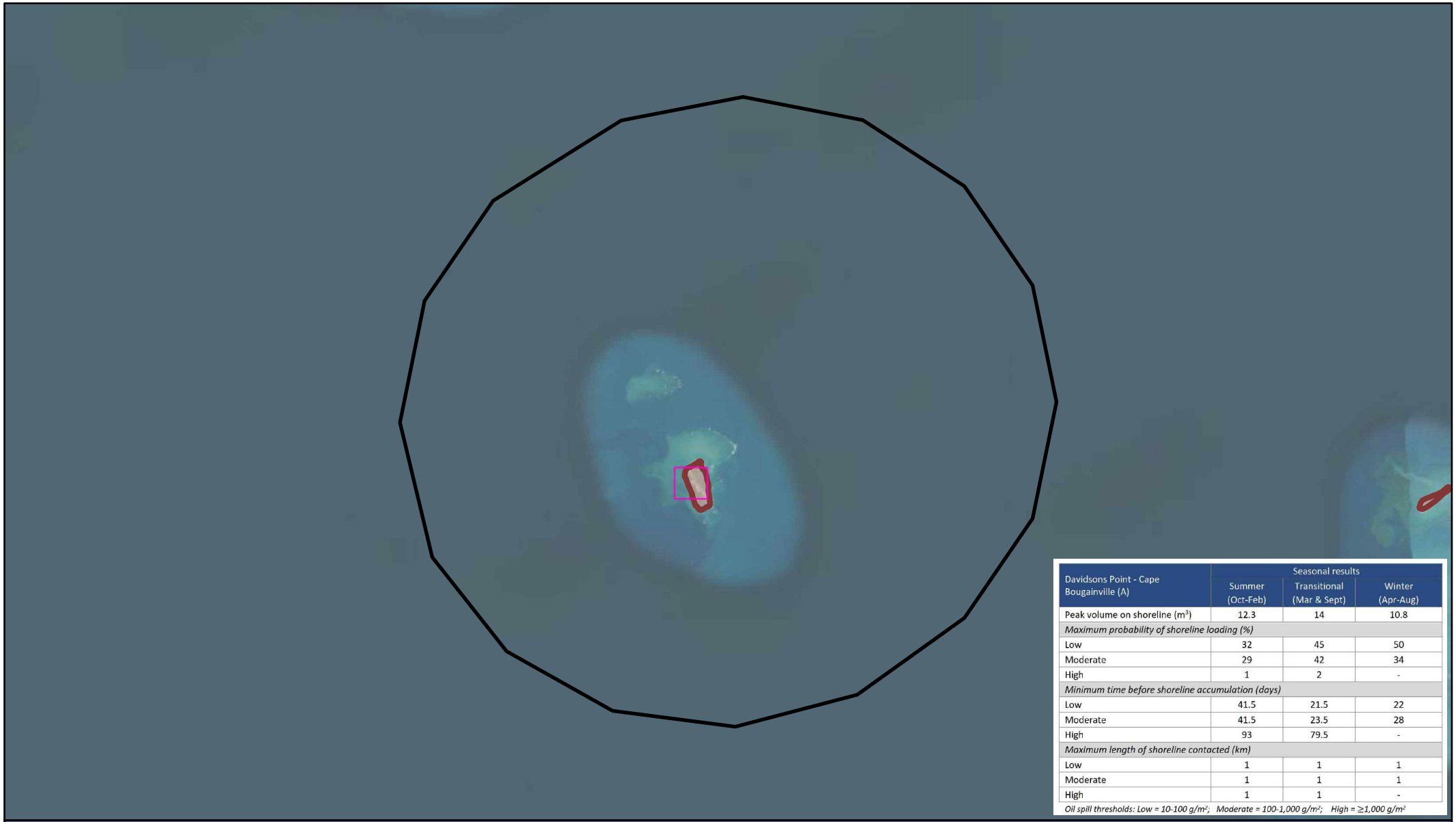
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:200,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 33 of 64	REV E

0 5 10 km



Davidsons Point - Cape Bougainville (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	12.3	14	10.8
Maximum probability of shoreline loading (%)			
Low	32	45	50
Moderate	29	42	34
High	1	2	-
Minimum time before shoreline accumulation (days)			
Low	41.5	21.5	22
Moderate	41.5	23.5	28
High	93	79.5	-
Maximum length of shoreline contacted (km)			
Low	1	1	1
Moderate	1	1	1
High	1	1	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - DAVIDSONS POINT - CAPE BOUGAINVILLE (A) (WAMOPRA DOT CELL 282)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

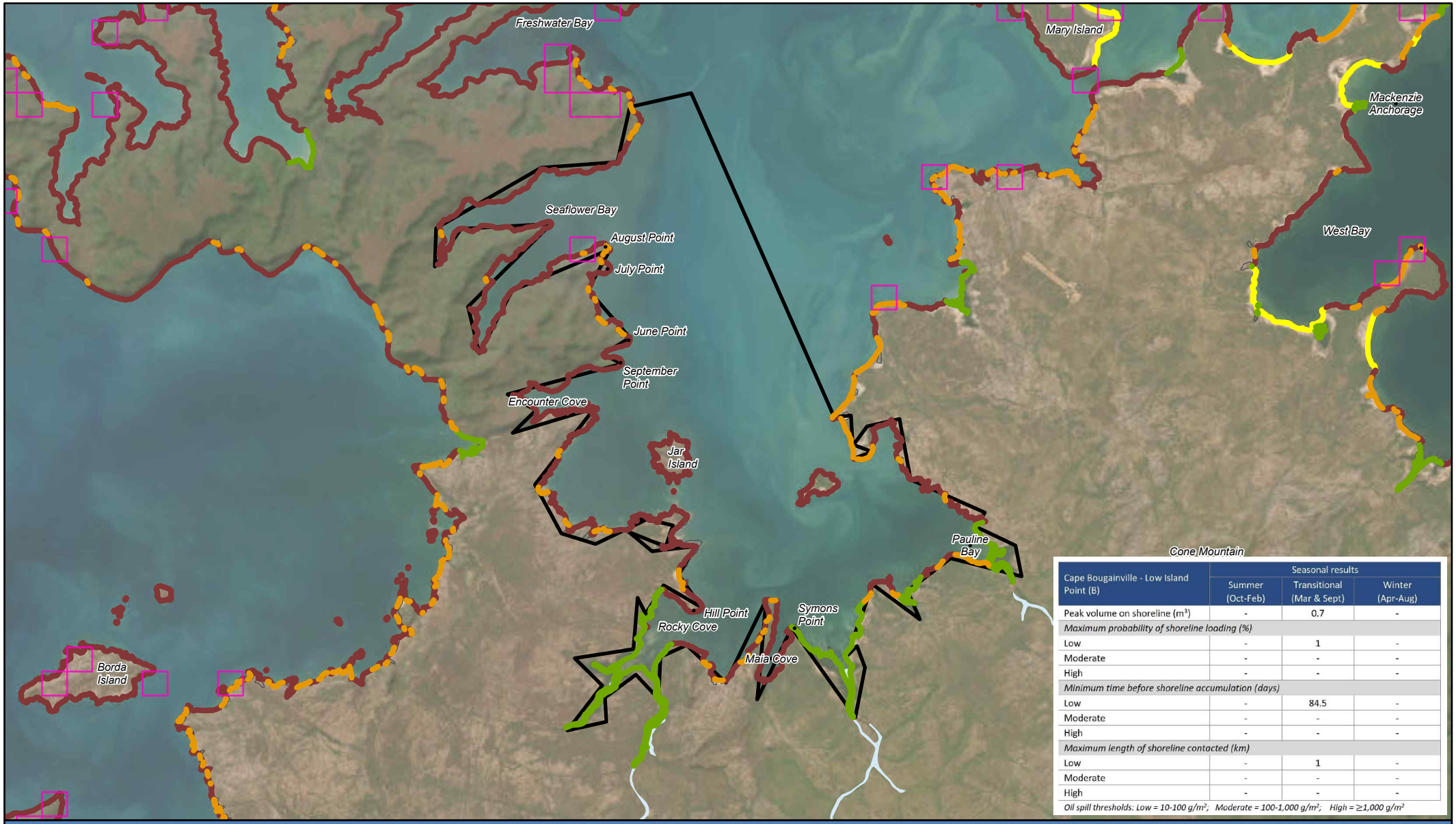
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:165,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 34 of 64	REV E

0 5 km



Cape Bougainville - Low Island Point (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	-	0.7	-
Maximum probability of shoreline loading (%)			
Low	-	1	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	-	84.5	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	-	1	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE BOUGAINVILLE - LOW ISLAND POINT (B) (WAMOPRA DOT CELL 20)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

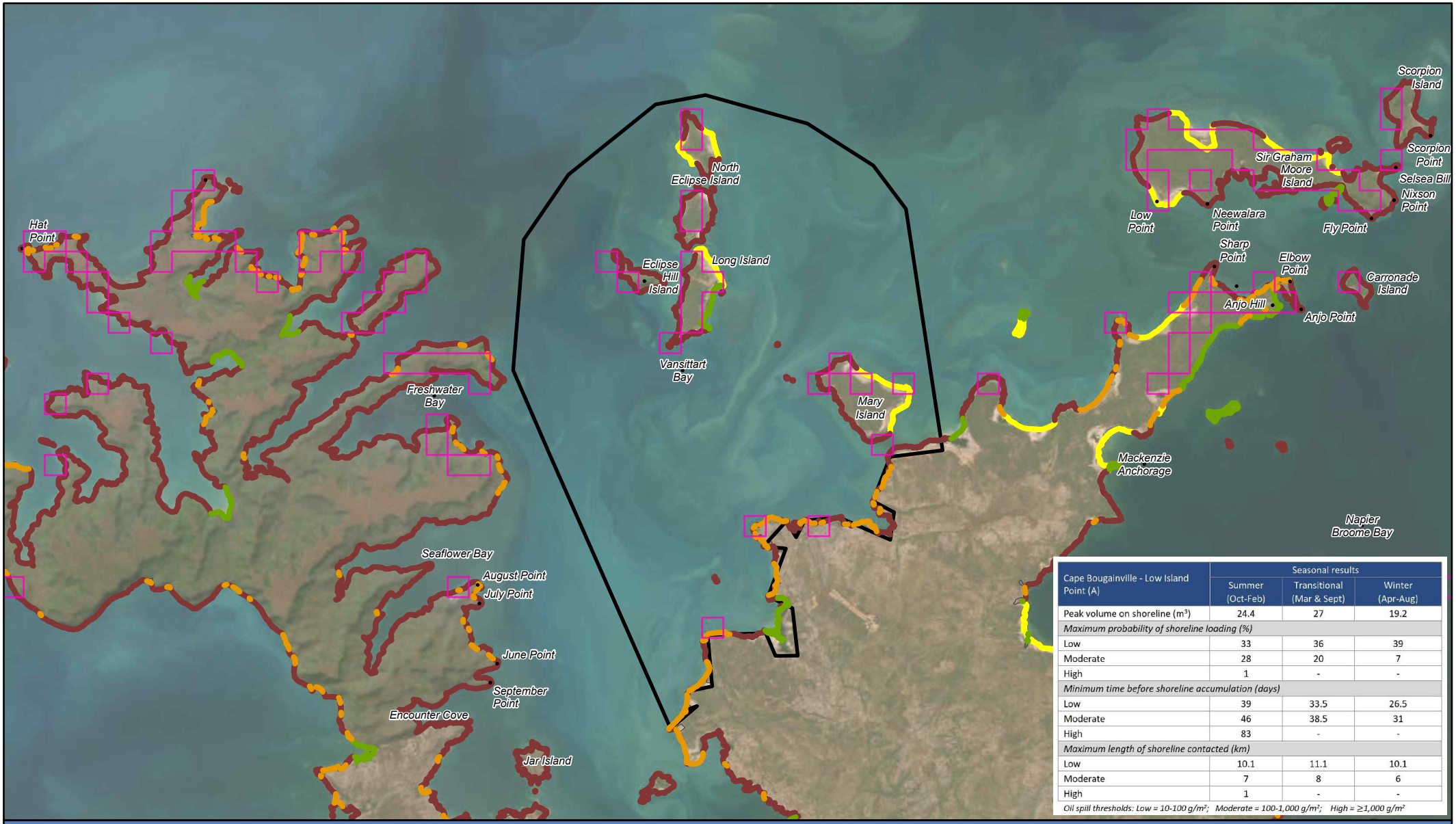
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:215,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 35 of 64	REV E

0 5 10 km



Cape Bougainville - Low Island Point (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	24.4	27	19.2
Maximum probability of shoreline loading (%)			
Low	33	36	39
Moderate	28	20	7
High	1	-	-
Minimum time before shoreline accumulation (days)			
Low	39	33.5	26.5
Moderate	46	38.5	31
High	83	-	-
Maximum length of shoreline contacted (km)			
Low	10.1	11.1	10.1
Moderate	7	8	6
High	1	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE BOUGAINVILLE - LOW ISLAND POINT (A) (WAMOPRA DOT CELL 19)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

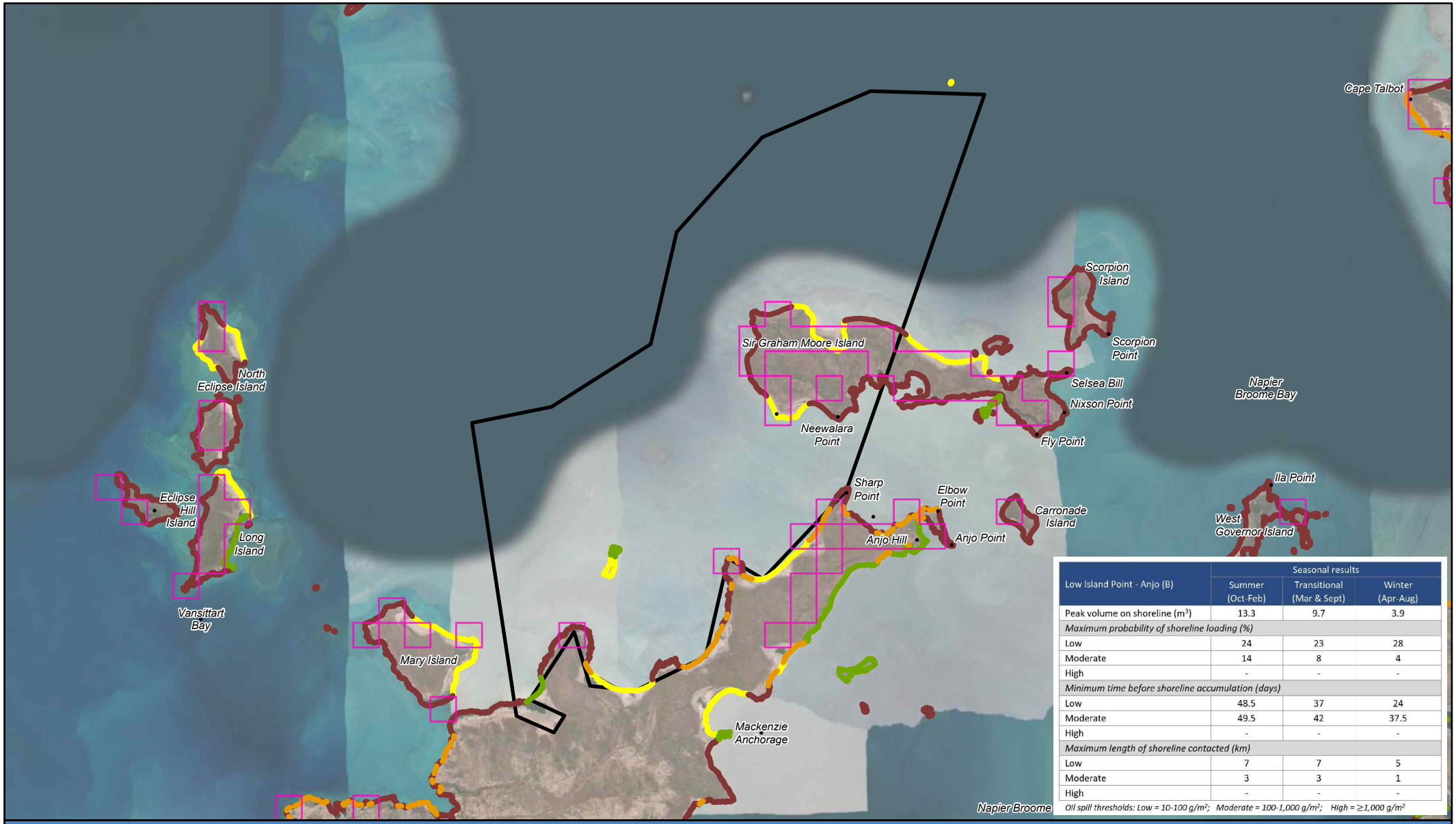
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:255,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 36 of 64	REV E

0 5 10 km



Low Island Point - Anjo (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	13.3	9.7	3.9
Maximum probability of shoreline loading (%)			
Low	24	23	28
Moderate	14	8	4
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	48.5	37	24
Moderate	49.5	42	37.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	7	7	5
Moderate	3	3	1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - LOW ISLAND POINT - ANJO (B) (WAMOPRA DOT CELL 18)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

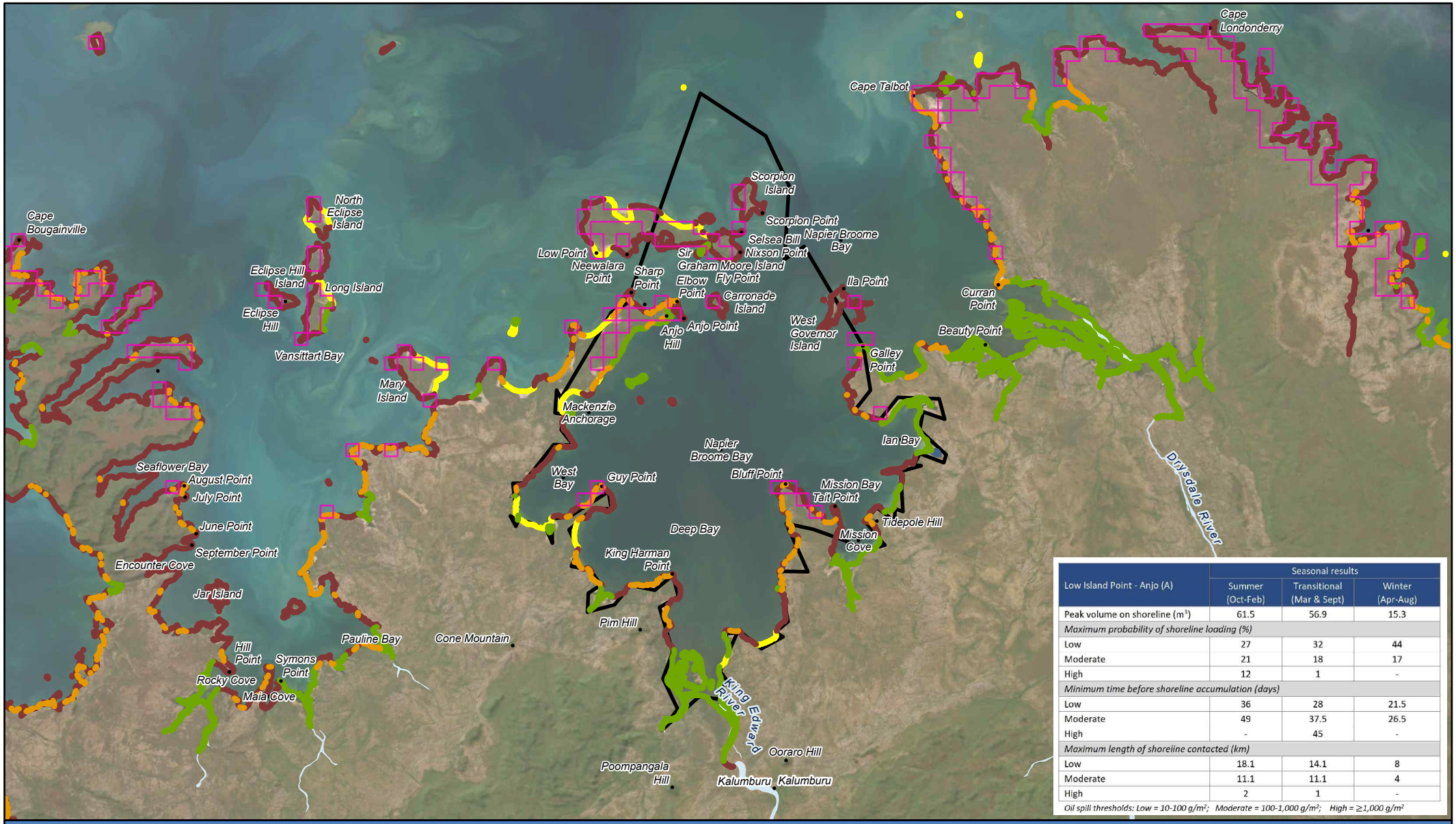
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:210,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 37 of 64	REV E

0 5 10 km



Low Island Point - Anjo (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	61.5	56.9	15.3
Maximum probability of shoreline loading (%)			
Low	27	32	44
Moderate	21	18	17
High	12	1	-
Minimum time before shoreline accumulation (days)			
Low	36	28	21.5
Moderate	49	37.5	26.5
High	-	45	-
Maximum length of shoreline contacted (km)			
Low	18.1	14.1	8
Moderate	11.1	11.1	4
High	2	1	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - LOW ISLAND POINT - ANJO (A) (WAMOPRA DOT CELL 17)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

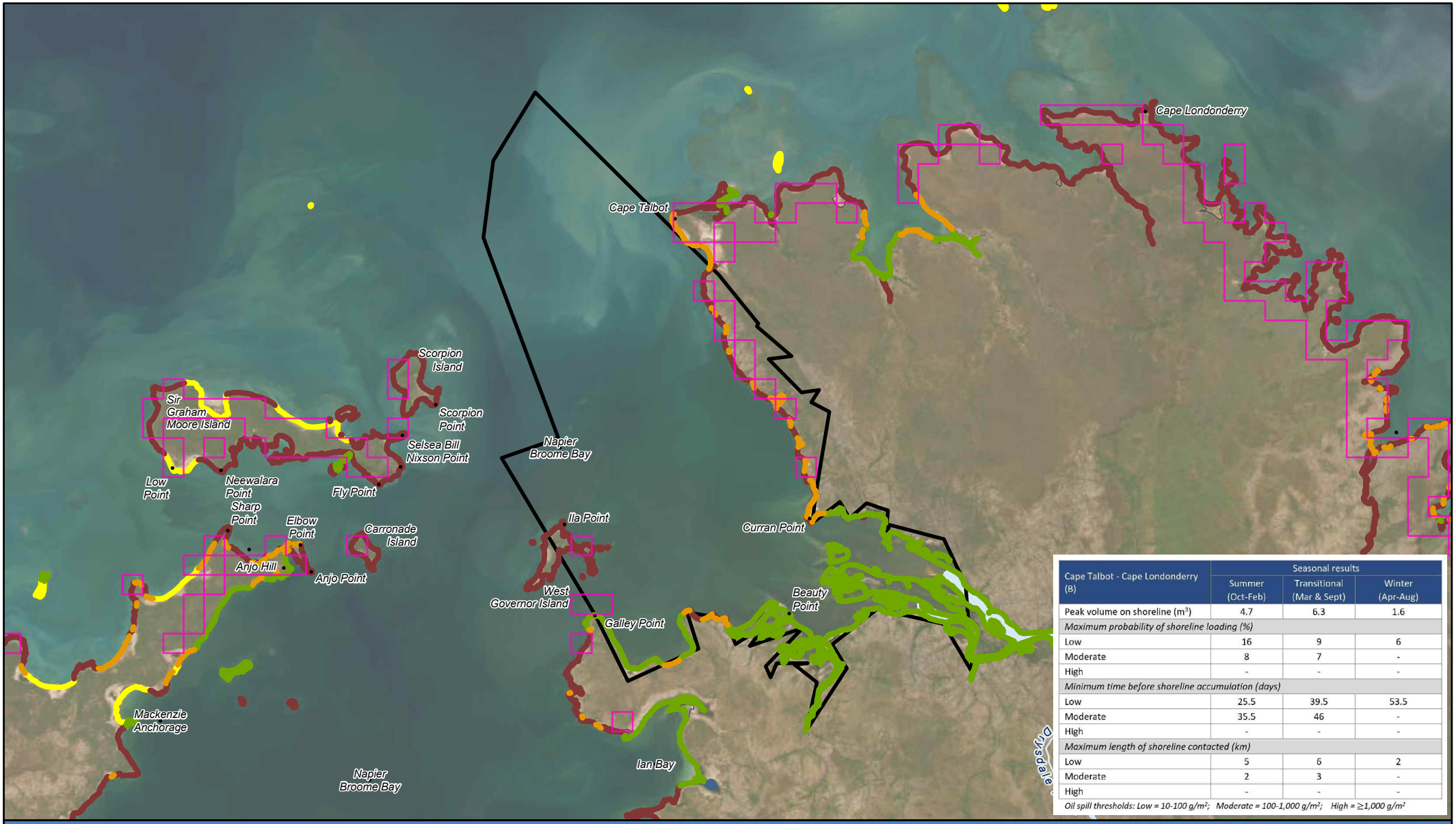
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:420,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 38 of 64	REV E

0 5 10 15 20 km



Cape Talbot - Cape Londonderry (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	4.7	6.3	1.6
Maximum probability of shoreline loading (%)			
Low	16	9	6
Moderate	8	7	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	25.5	39.5	53.5
Moderate	35.5	46	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	5	6	2
Moderate	2	3	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE TALBOT - CAPE LONDONDERRY (B) (WAMOPRA DOT CELL 16)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

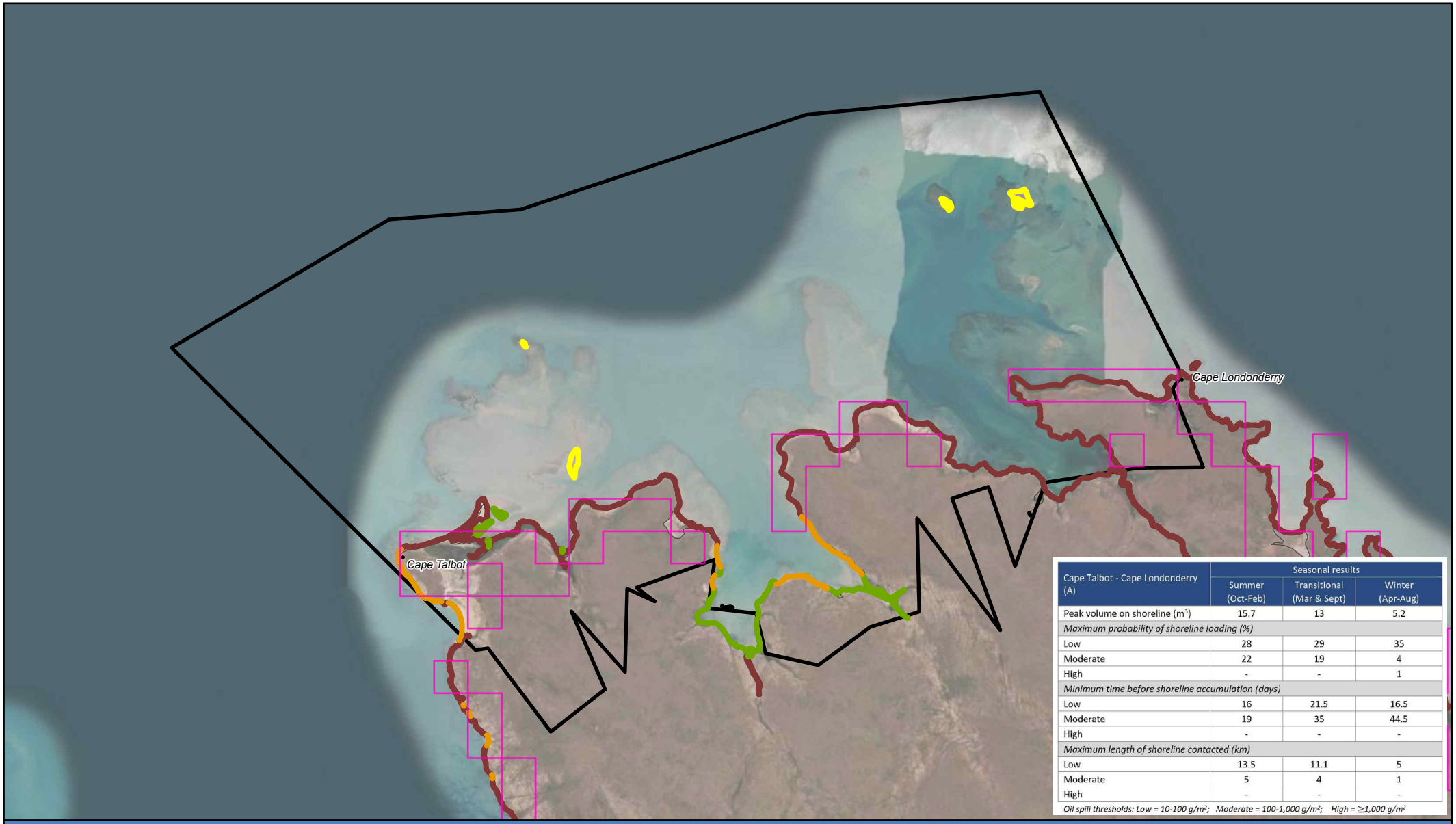
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:265,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 39 of 64	REV E

0 5 10 km



Cape Talbot - Cape Londonderry (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	15.7	13	5.2
Maximum probability of shoreline loading (%)			
Low	28	29	35
Moderate	22	19	4
High	-	-	1
Minimum time before shoreline accumulation (days)			
Low	16	21.5	16.5
Moderate	19	35	44.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	13.5	11.1	5
Moderate	5	4	1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE TALBOT - CAPE LONDONDERRY (A) (WAMOPRA DOT CELL 15)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

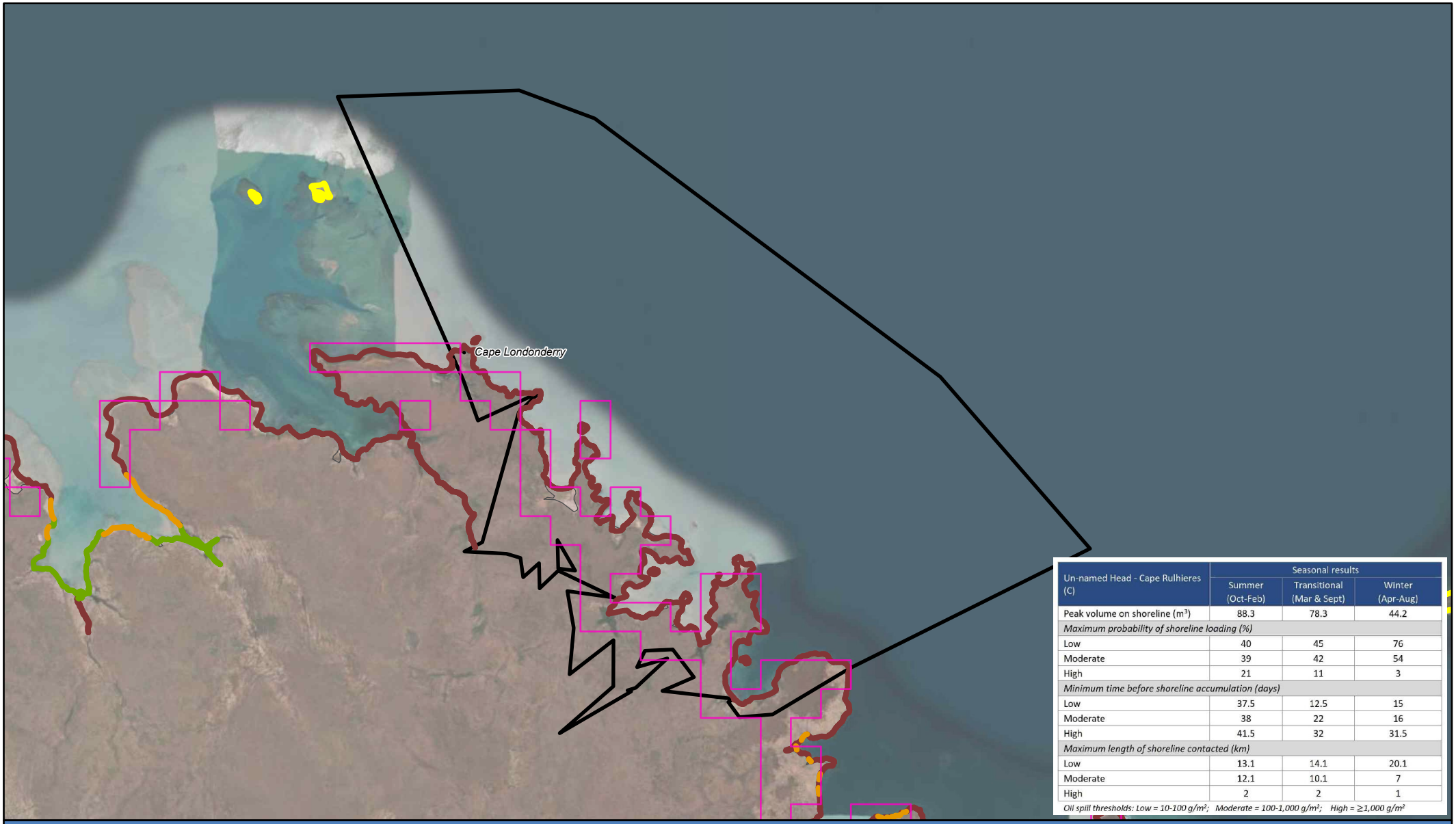
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:160,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 40 of 64	REV E

0 5 km



Un-named Head - Cape Rulhieres (C)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	88.3	78.3	44.2
Maximum probability of shoreline loading (%)			
Low	40	45	76
Moderate	39	42	54
High	21	11	3
Minimum time before shoreline accumulation (days)			
Low	37.5	12.5	15
Moderate	38	22	16
High	41.5	32	31.5
Maximum length of shoreline contacted (km)			
Low	13.1	14.1	20.1
Moderate	12.1	10.1	7
High	2	2	1

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - UN-NAMED HEAD - CAPE RULHIERES (C) (WAMOPRA DOT CELL 14)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

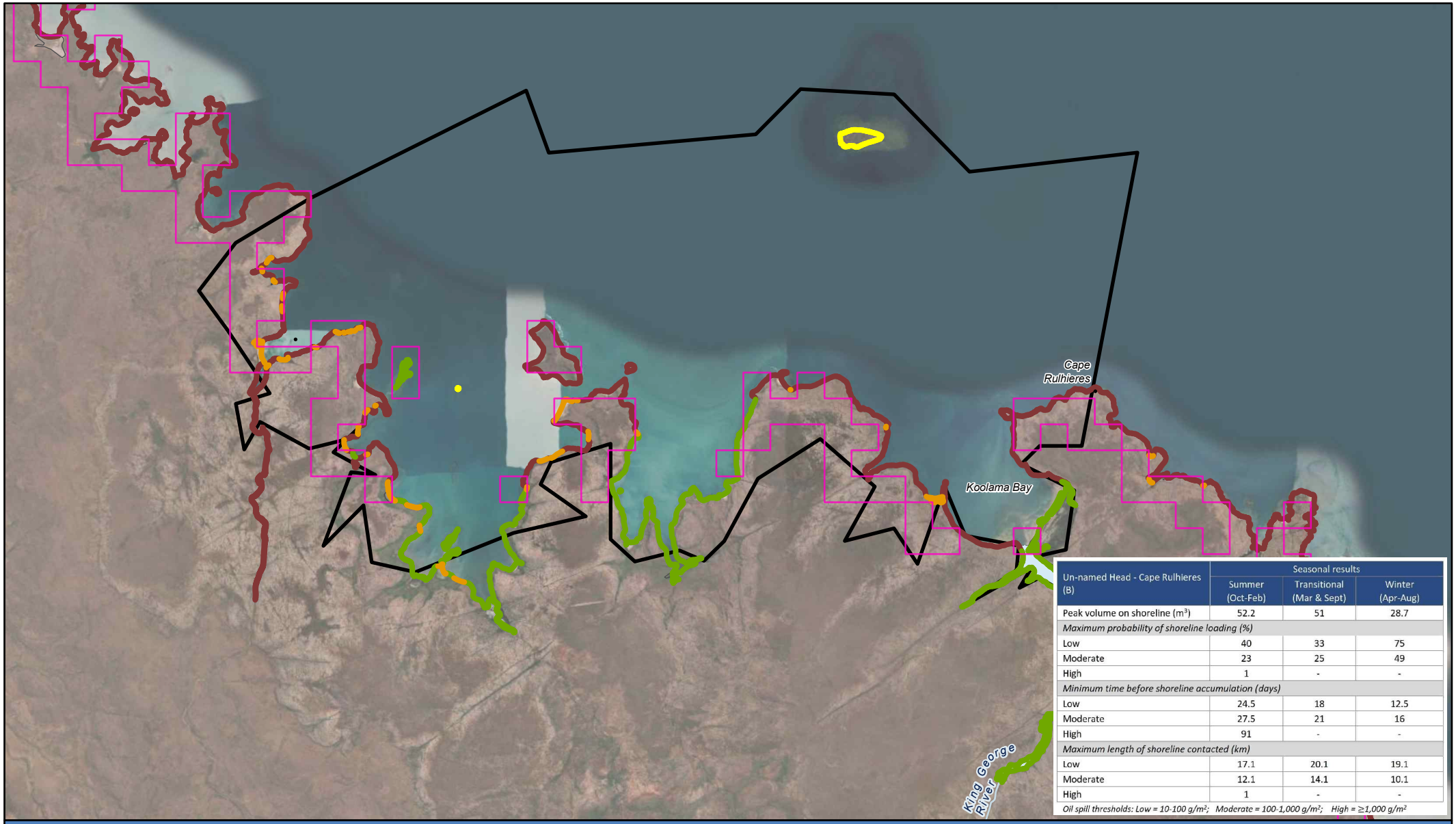
Shoreline

- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:180,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 41 of 64	REV: E

0 5 km



Un-named Head - Cape Rulhieres (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	52.2	51	28.7
Maximum probability of shoreline loading (%)			
Low	40	33	75
Moderate	23	25	49
High	1	-	-
Minimum time before shoreline accumulation (days)			
Low	24.5	18	12.5
Moderate	27.5	21	16
High	91	-	-
Maximum length of shoreline contacted (km)			
Low	17.1	20.1	19.1
Moderate	12.1	14.1	10.1
High	1	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - UN-NAMED HEAD - CAPE RULHIERES (B) (WAMOPRA DOT CELL 13)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

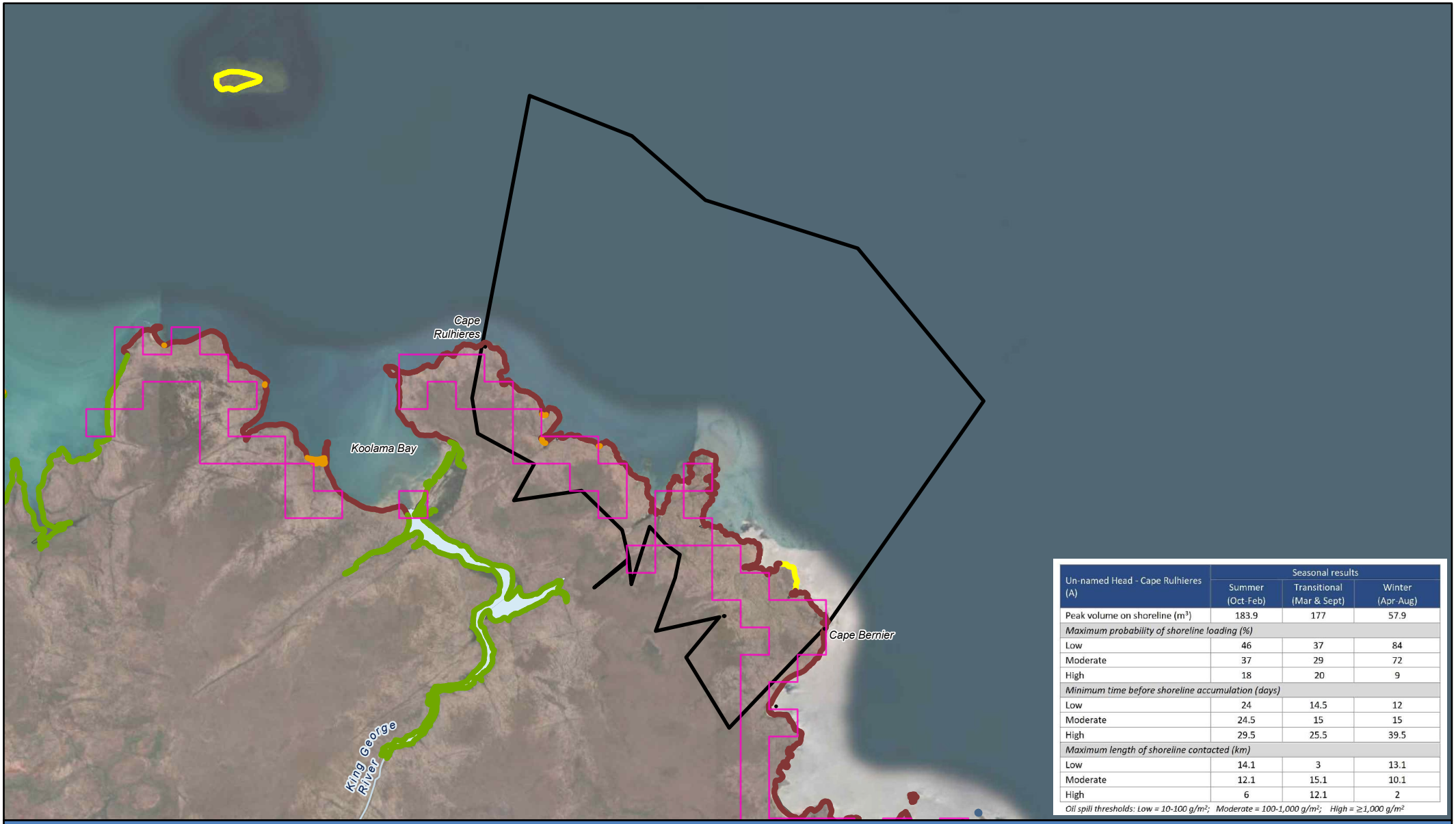
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:200,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 42 of 64	REV E

0 5 10 km



Un-named Head - Cape Rulhieres (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	183.9	177	57.9
Maximum probability of shoreline loading (%)			
Low	46	37	84
Moderate	37	29	72
High	18	20	9
Minimum time before shoreline accumulation (days)			
Low	24	14.5	12
Moderate	24.5	15	15
High	29.5	25.5	39.5
Maximum length of shoreline contacted (km)			
Low	14.1	3	13.1
Moderate	12.1	15.1	10.1
High	6	12.1	2

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - UN-NAMED HEAD - CAPE RULHIERES (A) (WAMOPRA DOT CELL 12)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

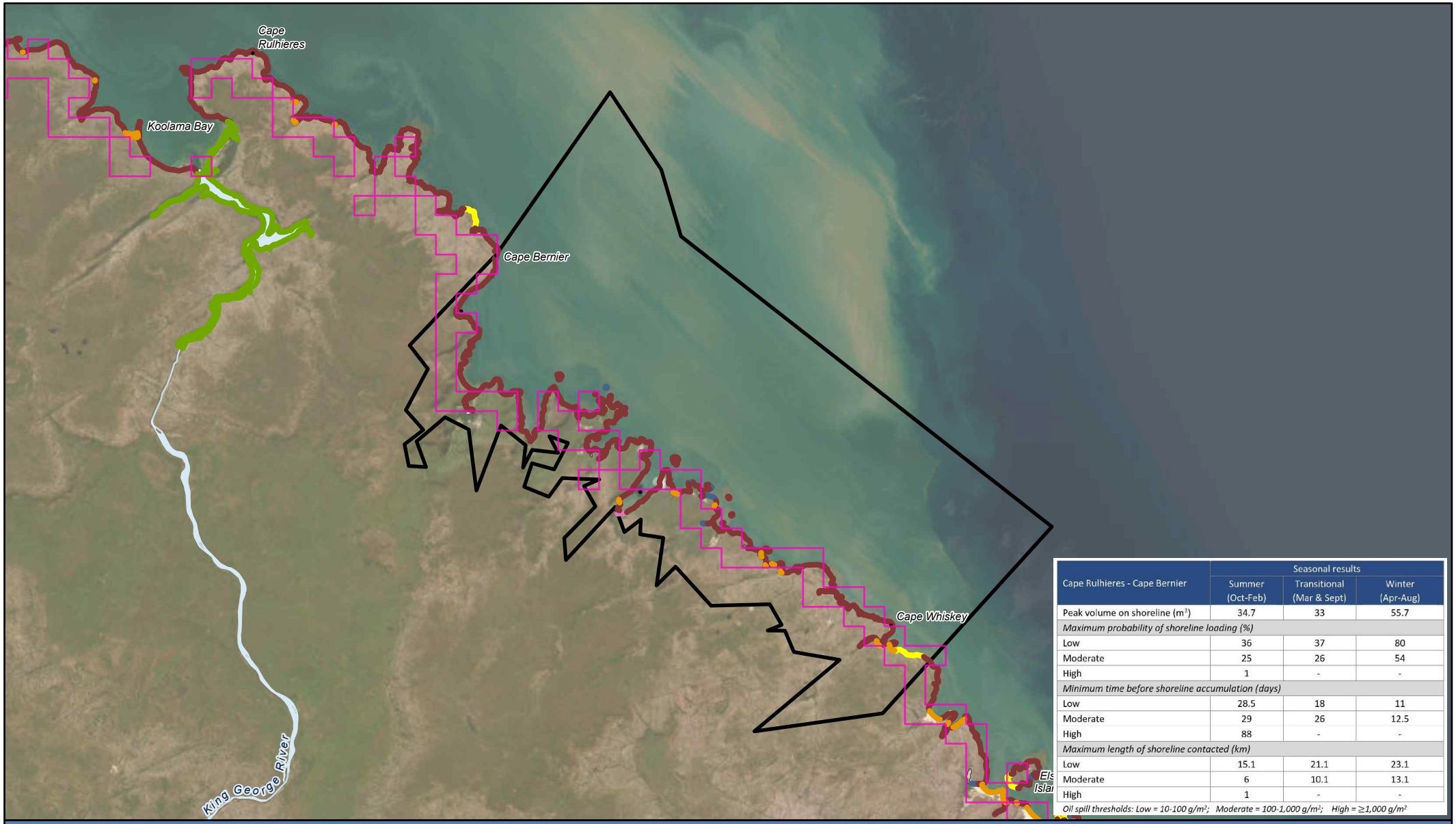
Shoreline

- *Beach sediment \ ridges*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:190,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 43 of 64	REV E

0 5 10 km



Cape Rulhieres - Cape Bernier	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	34.7	33	55.7
Maximum probability of shoreline loading (%)			
Low	36	37	80
Moderate	25	26	54
High	1	-	-
Minimum time before shoreline accumulation (days)			
Low	28.5	18	11
Moderate	29	26	12.5
High	88	-	-
Maximum length of shoreline contacted (km)			
Low	15.1	21.1	23.1
Moderate	6	10.1	13.1
High	1	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE RULHIERES - CAPE BERNIER (WAMOPRA DOT CELL 11)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

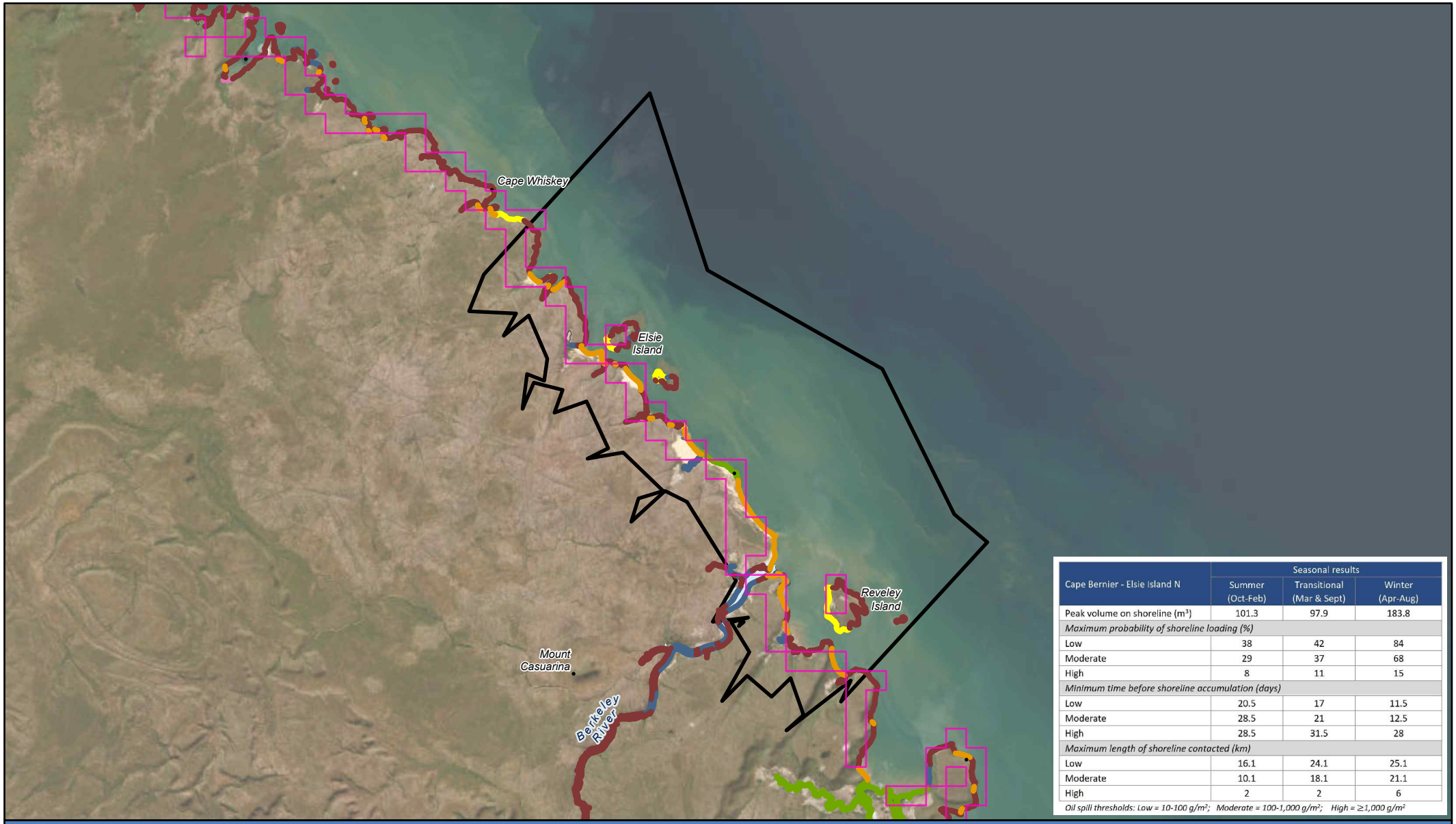
Shoreline

- *Beach sediment \ ridges*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Soft bedrock*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:265,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 44 of 64	REV E

0 5 10 km



Cape Bernier - Elsie Island N	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	101.3	97.9	183.8
Maximum probability of shoreline loading (%)			
Low	38	42	84
Moderate	29	37	68
High	8	11	15
Minimum time before shoreline accumulation (days)			
Low	20.5	17	11.5
Moderate	28.5	21	12.5
High	28.5	31.5	28
Maximum length of shoreline contacted (km)			
Low	16.1	24.1	25.1
Moderate	10.1	18.1	21.1
High	2	2	6

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE BERNIER - ELSIE ISLAND N (WAMOPRA DOT CELL 10)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

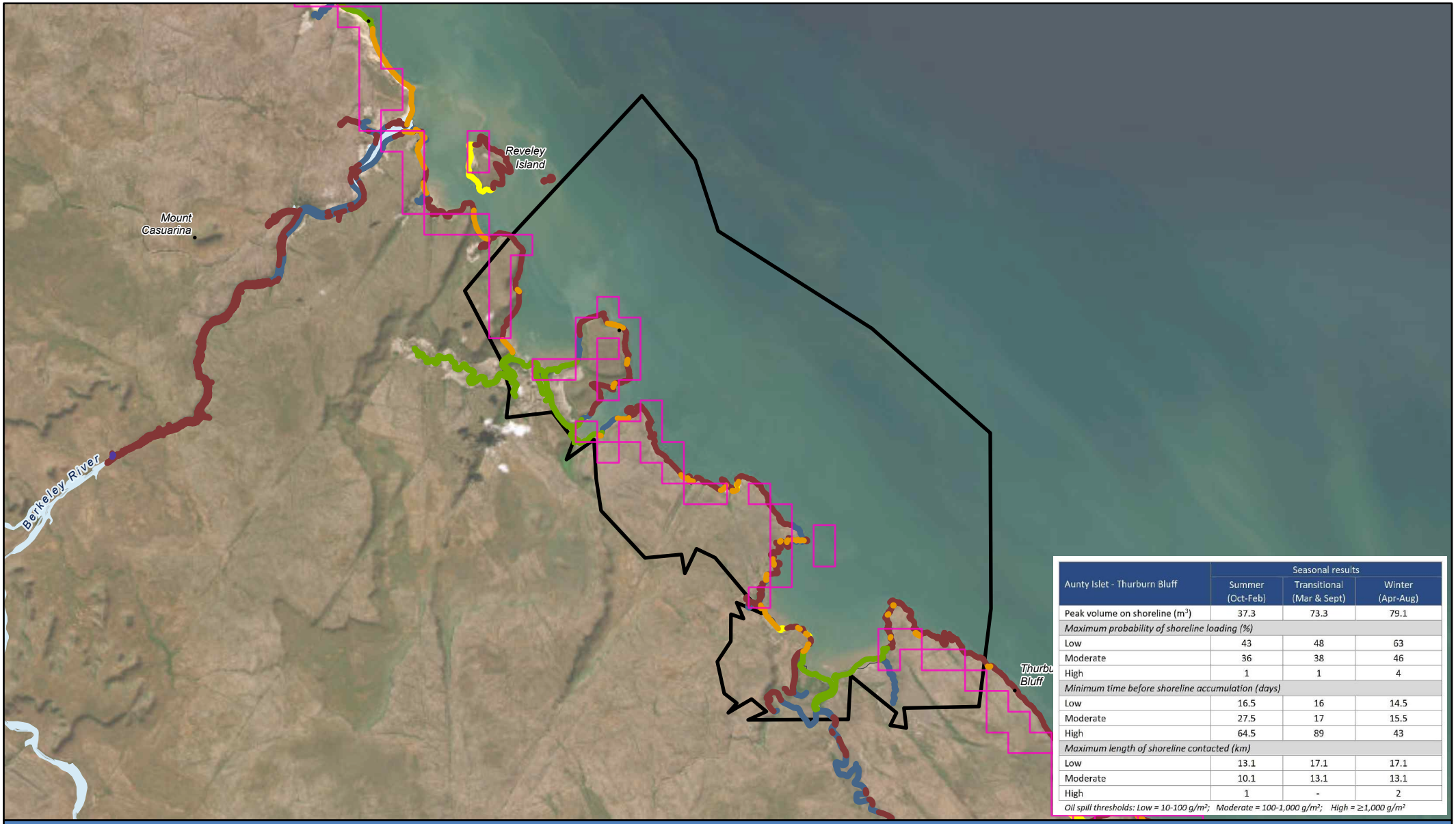
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:270,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 45 of 64	REV E

0 5 10 km



Aunty Islet - Thurburn Bluff	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	37.3	73.3	79.1
Maximum probability of shoreline loading (%)			
Low	43	48	63
Moderate	36	38	46
High	1	1	4
Minimum time before shoreline accumulation (days)			
Low	16.5	16	14.5
Moderate	27.5	17	15.5
High	64.5	89	43
Maximum length of shoreline contacted (km)			
Low	13.1	17.1	17.1
Moderate	10.1	13.1	13.1
High	1	-	2

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - AUNTY ISLET - THURBURN BLUFF (WAMOPRA DOT CELL 9)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

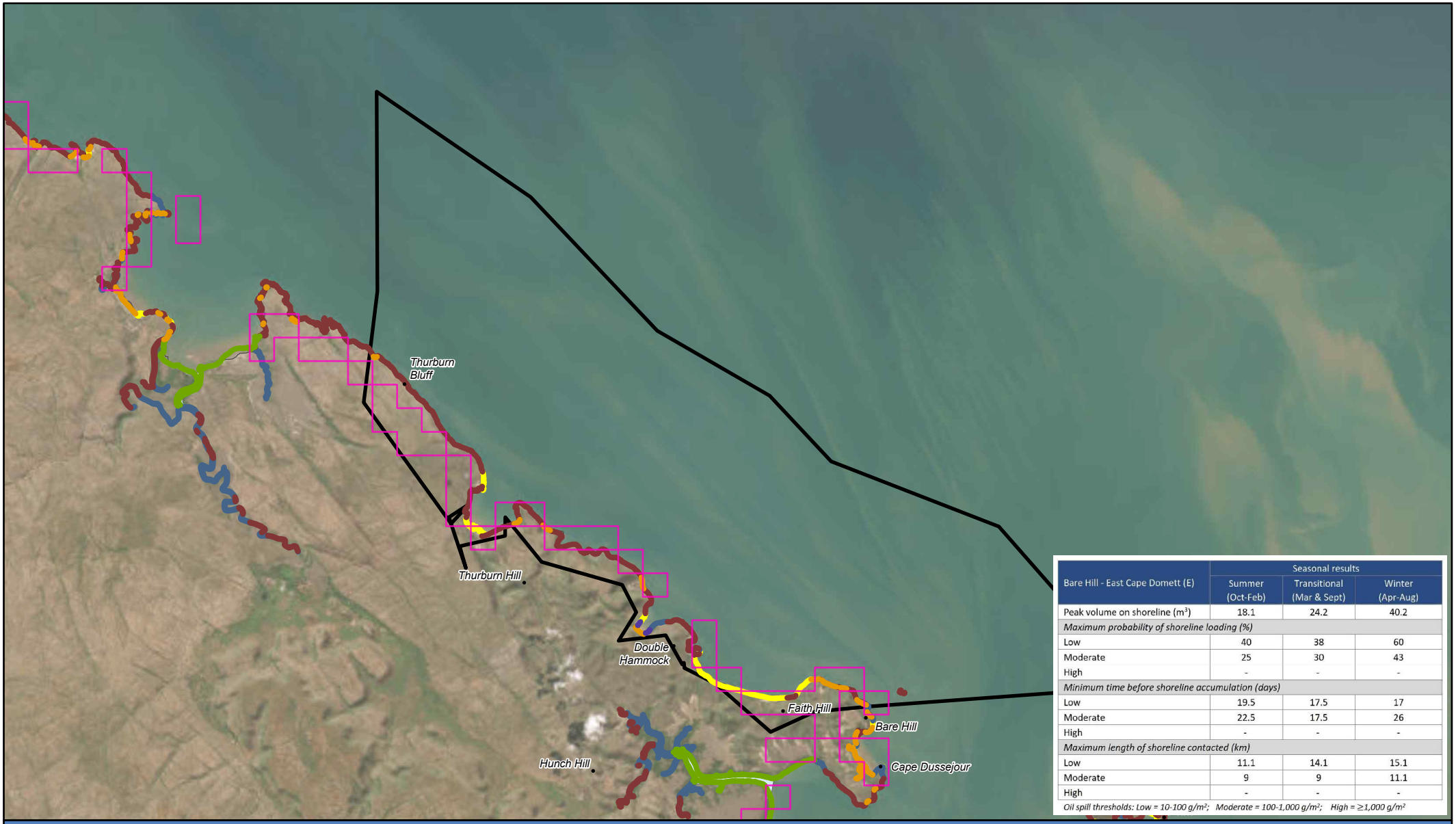
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT: Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:250,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 46 of 64	REV: E

0 5 10 km



Bare Hill - East Cape Domett (E)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	18.1	24.2	40.2
Maximum probability of shoreline loading (%)			
Low	40	38	60
Moderate	25	30	43
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	19.5	17.5	17
Moderate	22.5	17.5	26
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	11.1	14.1	15.1
Moderate	9	9	11.1
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - BARE HILL - EAST CAPE DOMETT (E) (WAMOPRA DOT CELL 8)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

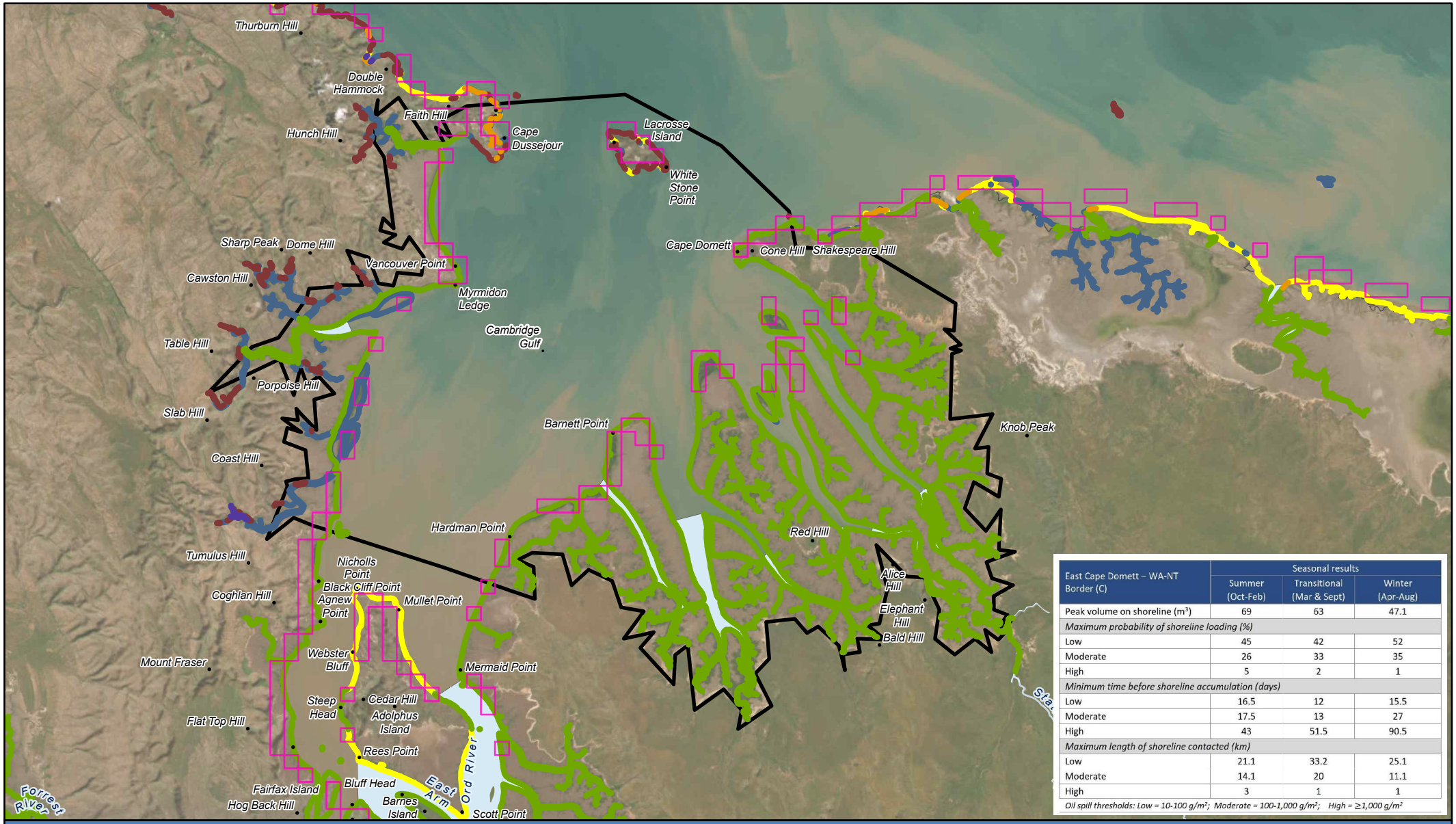
Shoreline

- *Alluvial sediment \ plain*
- *Beach sediment \ ridges*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:220,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 47 of 64	REV E

0 5 10 km



East Cape Domett – WA-NT Border (C)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	69	63	47.1
Maximum probability of shoreline loading (%)			
Low	45	42	52
Moderate	26	33	35
High	5	2	1
Minimum time before shoreline accumulation (days)			
Low	16.5	12	15.5
Moderate	17.5	13	27
High	43	51.5	90.5
Maximum length of shoreline contacted (km)			
Low	21.1	33.2	25.1
Moderate	14.1	20	11.1
High	3	1	1

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - EAST CAPE DOMETT - WA-NT BORDER (C) (WAMOPRA DOT CELL 3)

LEGEND

Shoreline oil accumulation (10-1,000 g/m²)

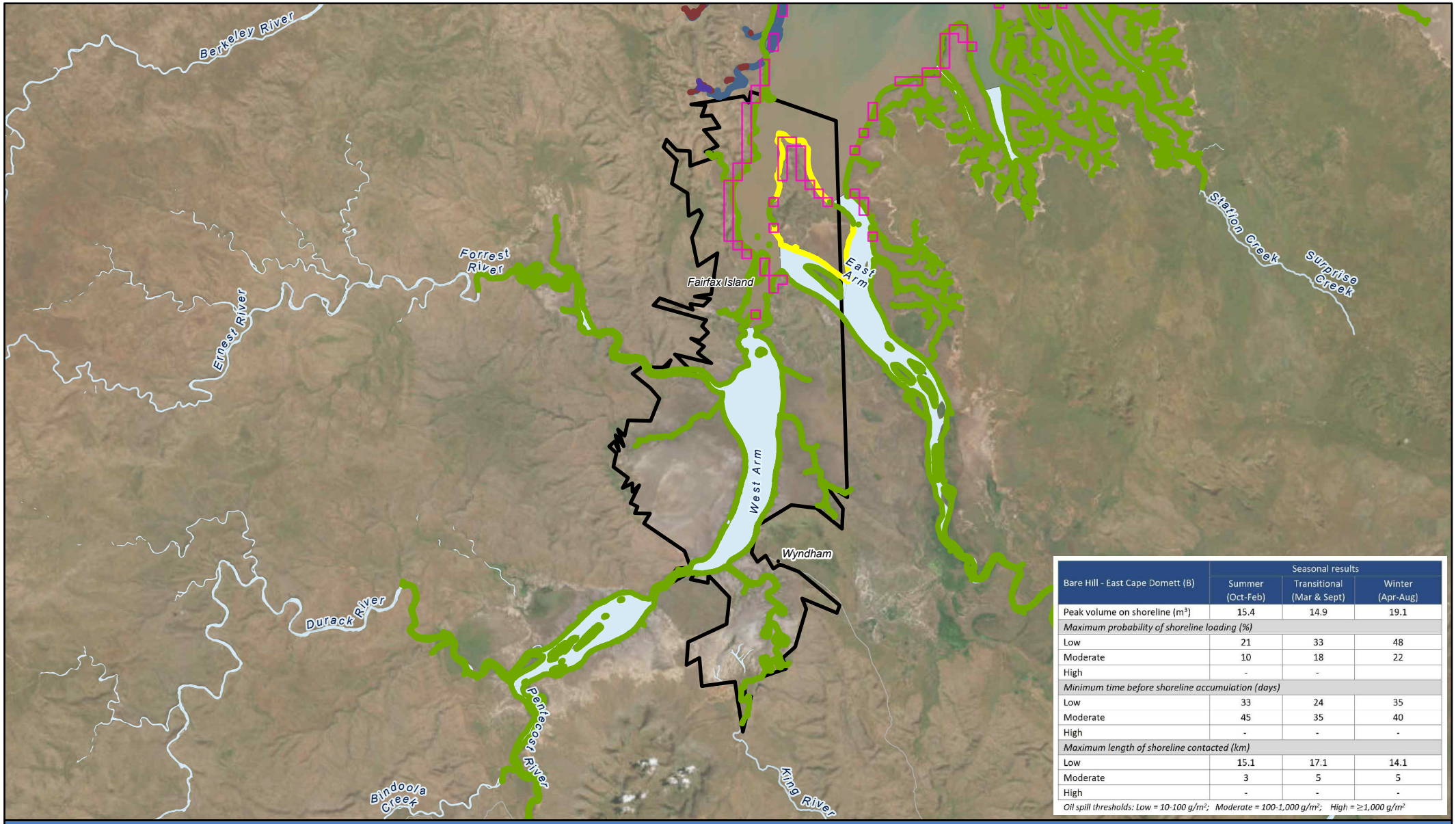
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:385,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 48 of 64	REV E

0 5 10 15 20 km



Bare Hill - East Cape Domett (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	15.4	14.9	19.1
Maximum probability of shoreline loading (%)			
Low	21	33	48
Moderate	10	18	22
High	-	-	
Minimum time before shoreline accumulation (days)			
Low	33	24	35
Moderate	45	35	40
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	15.1	17.1	14.1
Moderate	3	5	5
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - BARE HILL - EAST CAPE DOMETT (B) (WAMOPRA DOT CELL 5)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

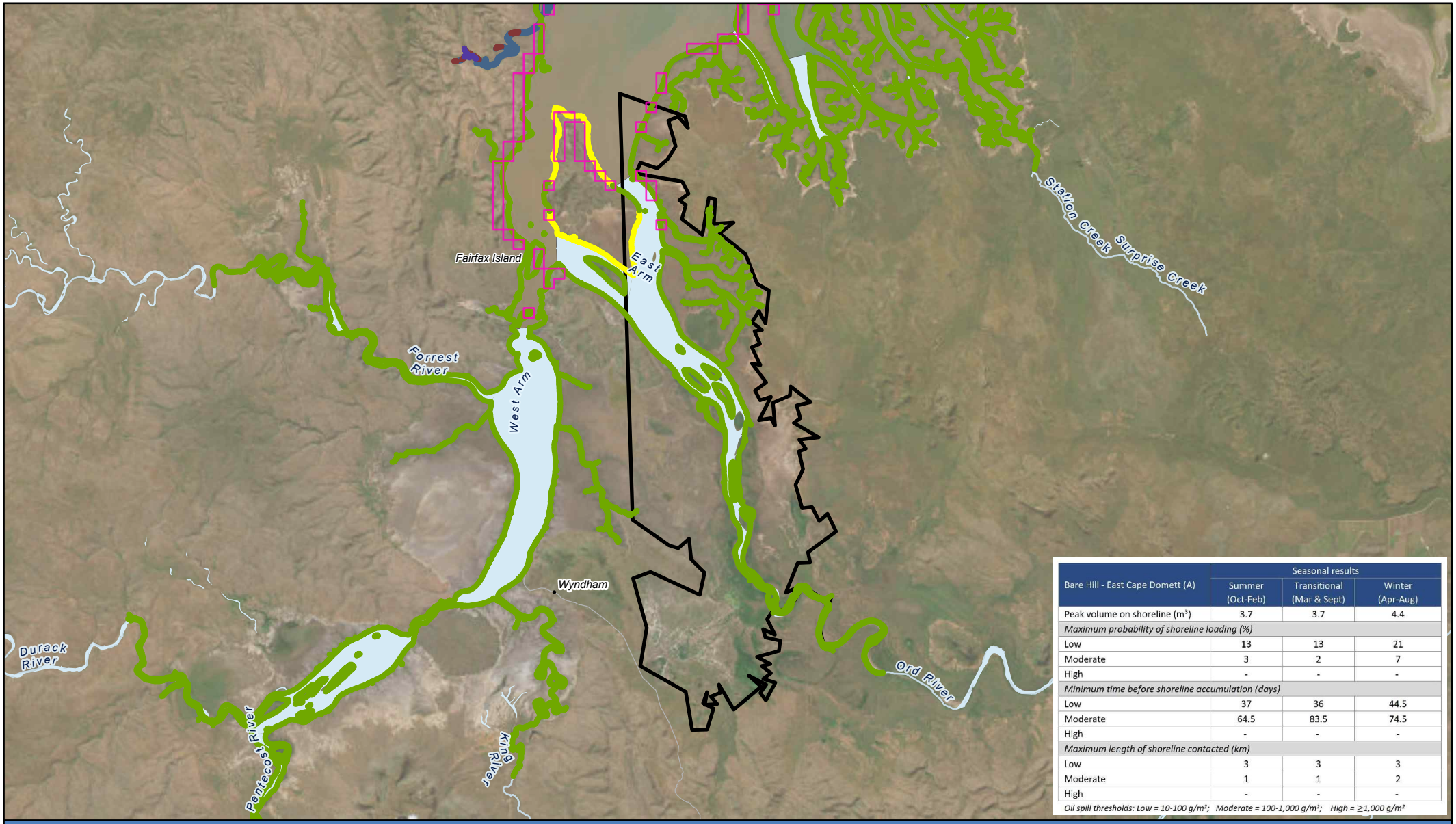
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT: Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:600,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 49 of 64	REV: E

0 5 10 15 20 25 30 km



Bare Hill - East Cape Domett (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	3.7	3.7	4.4
Maximum probability of shoreline loading (%)			
Low	13	13	21
Moderate	3	2	7
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	37	36	44.5
Moderate	64.5	83.5	74.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	3	3
Moderate	1	1	2
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - BARE HILL - EAST CAPE DOMETT (A) (WAMOPRA DOT CELL 4)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

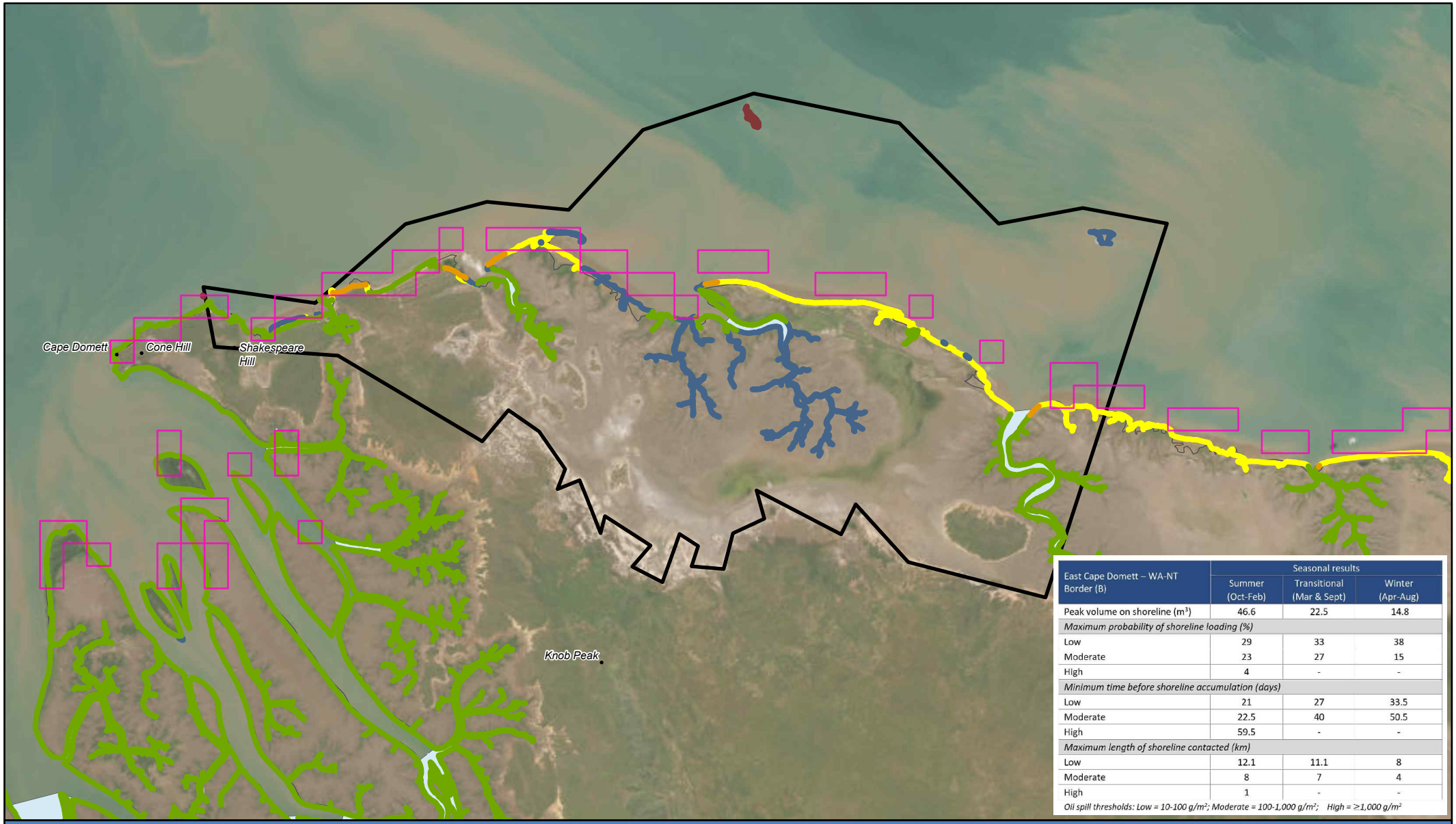
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:530,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 50 of 64	REV E

0 5 10 15 20 25 km



East Cape Domett – WA-NT Border (B)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m³)	46.6	22.5	14.8
Maximum probability of shoreline loading (%)			
Low	29	33	38
Moderate	23	27	15
High	4	-	-
Minimum time before shoreline accumulation (days)			
Low	21	27	33.5
Moderate	22.5	40	50.5
High	59.5	-	-
Maximum length of shoreline contacted (km)			
Low	12.1	11.1	8
Moderate	8	7	4
High	1	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = >1,000 g/m²

SHORELINE RECEPTORS - EAST CAPE DOMETT - WA-NT BORDER (B) (WAMOPRA DOT CELL 2)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

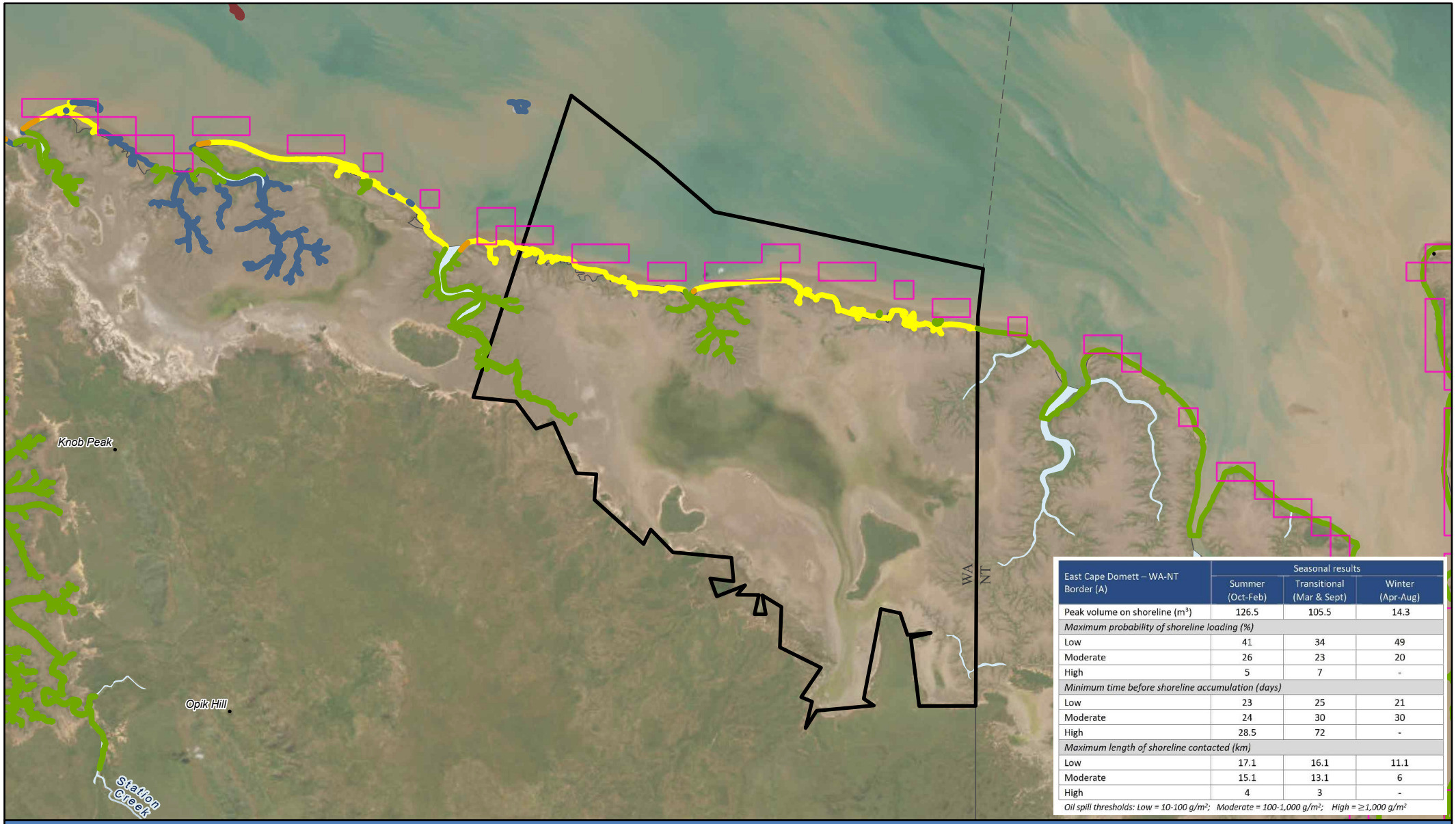
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Unclassified*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:230,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 51 of 64	REV E

0 5 10 km



East Cape Domett – WA-NT Border (A)	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	126.5	105.5	14.3
Maximum probability of shoreline loading (%)			
Low	41	34	49
Moderate	26	23	20
High	5	7	-
Minimum time before shoreline accumulation (days)			
Low	23	25	21
Moderate	24	30	30
High	28.5	72	-
Maximum length of shoreline contacted (km)			
Low	17.1	16.1	11.1
Moderate	15.1	13.1	6
High	4	3	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - EAST CAPE DOMETT - WA-NT BORDER (A) (WAMOPRA DOT CELL 1)

LEGEND

- WAMOPRA DoT Cell
- Shoreline oil accumulation (10-1,000 g/m²)
- Offshore State Boundaries

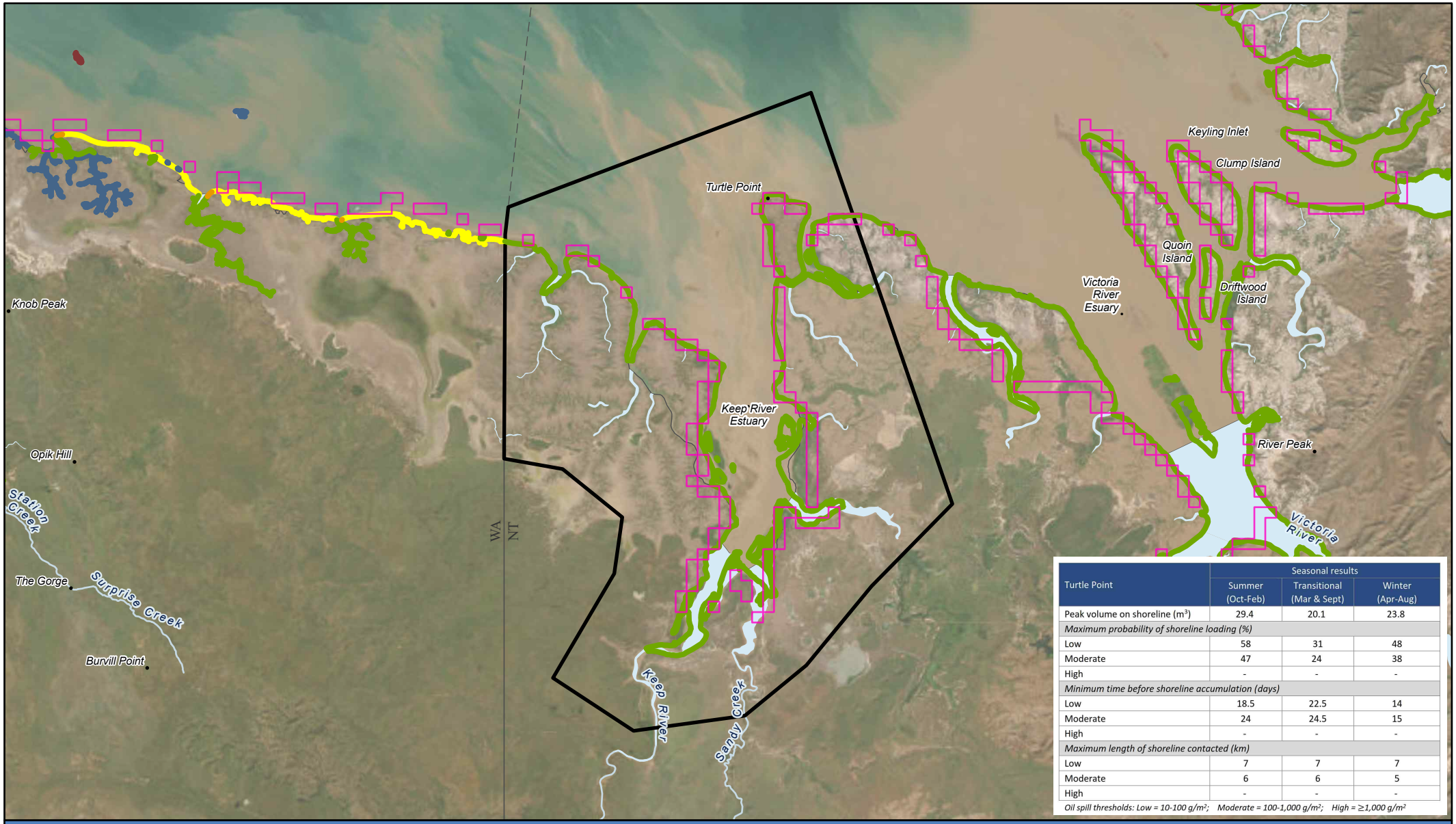
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:285,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 52 of 64	REV: E

0 5 10 15 km



Turtle Point	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	29.4	20.1	23.8
Maximum probability of shoreline loading (%)			
Low	58	31	48
Moderate	47	24	38
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	18.5	22.5	14
Moderate	24	24.5	15
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	7	7	7
Moderate	6	6	5
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - KEEP RIVER ESTUARY (NT CELL 1)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

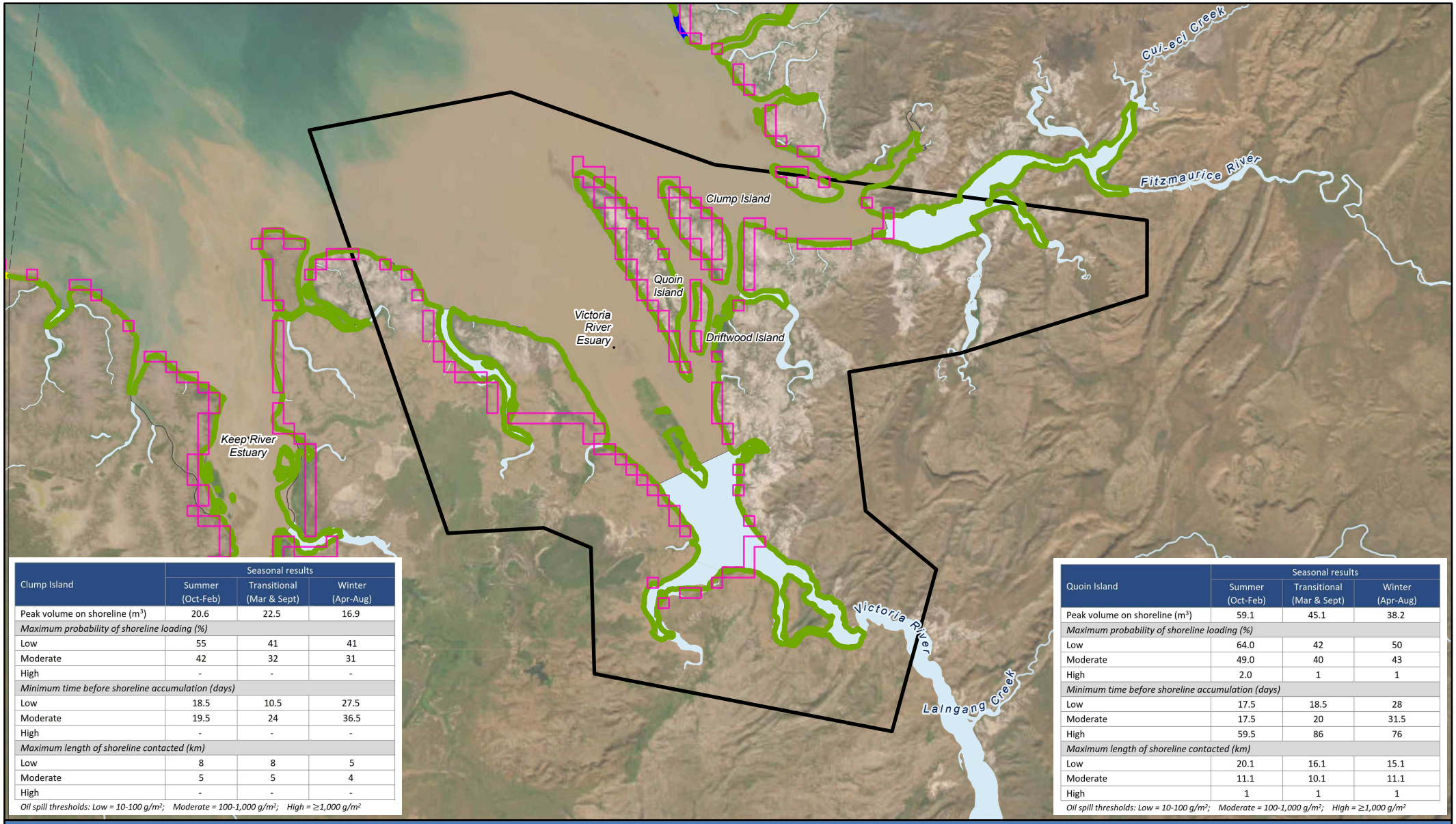
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:495,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 53 of 64	REV E

0 5 10 15 20 25 km



Clump Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	20.6	22.5	16.9
Maximum probability of shoreline loading (%)			
Low	55	41	41
Moderate	42	32	31
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	18.5	10.5	27.5
Moderate	19.5	24	36.5
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	8	8	5
Moderate	5	5	4
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

Quoin Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	59.1	45.1	38.2
Maximum probability of shoreline loading (%)			
Low	64.0	42	50
Moderate	49.0	40	43
High	2.0	1	1
Minimum time before shoreline accumulation (days)			
Low	17.5	18.5	28
Moderate	17.5	20	31.5
High	59.5	86	76
Maximum length of shoreline contacted (km)			
Low	20.1	16.1	15.1
Moderate	11.1	10.1	11.1
High	1	1	1

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - VICTORIA RIVER ESTUARY (NT CELL 2)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

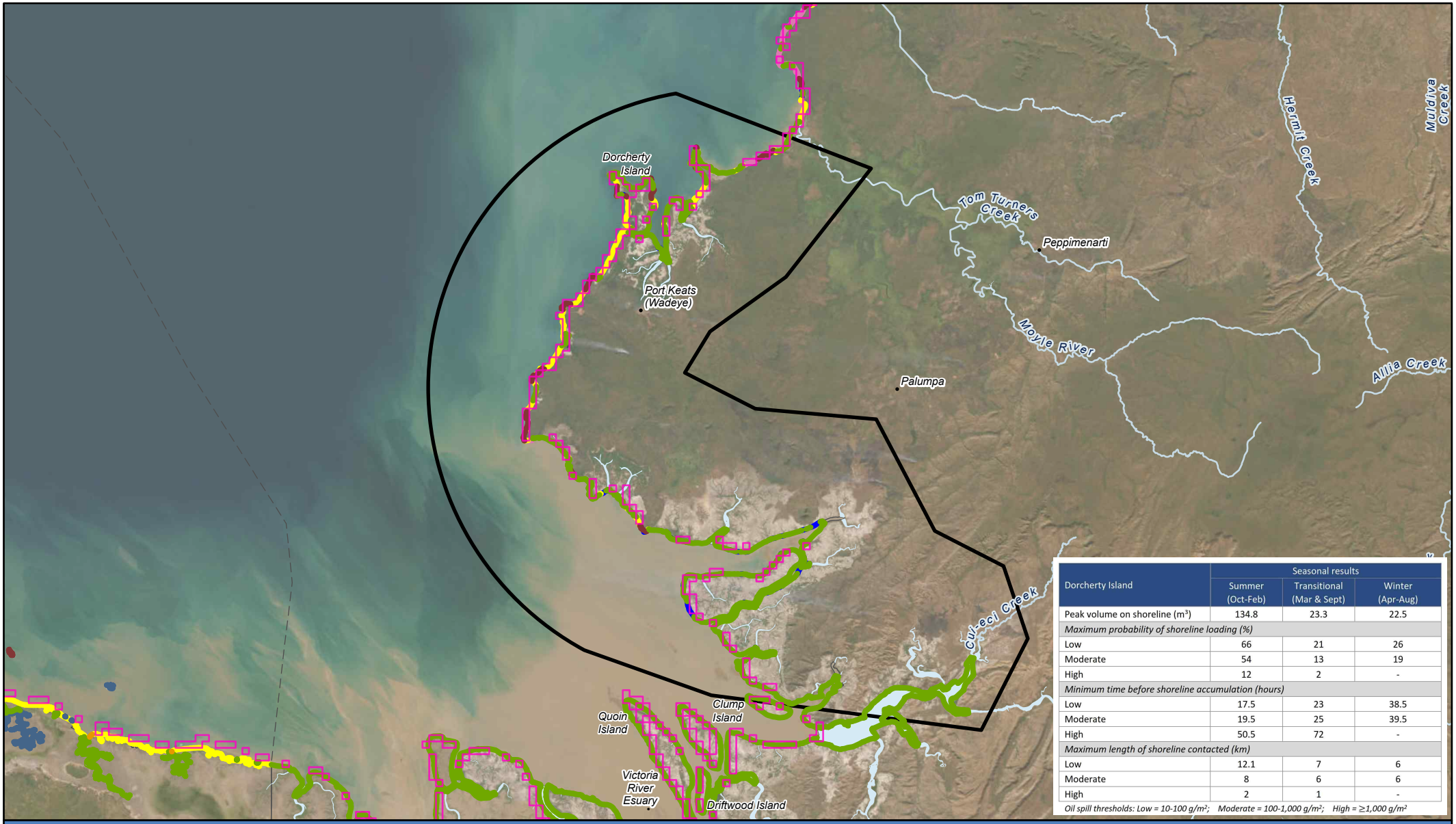
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:505,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 54 of 64	REV: E

0 5 10 15 20 25 km



Dorcherty Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	134.8	23.3	22.5
Maximum probability of shoreline loading (%)			
Low	66	21	26
Moderate	54	13	19
High	12	2	-
Minimum time before shoreline accumulation (hours)			
Low	17.5	23	38.5
Moderate	19.5	25	39.5
High	50.5	72	-
Maximum length of shoreline contacted (km)			
Low	12.1	7	6
Moderate	8	6	6
High	2	1	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - MOYLE RIVER TO FITZMAURICE RIVER (NT CELL 3)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

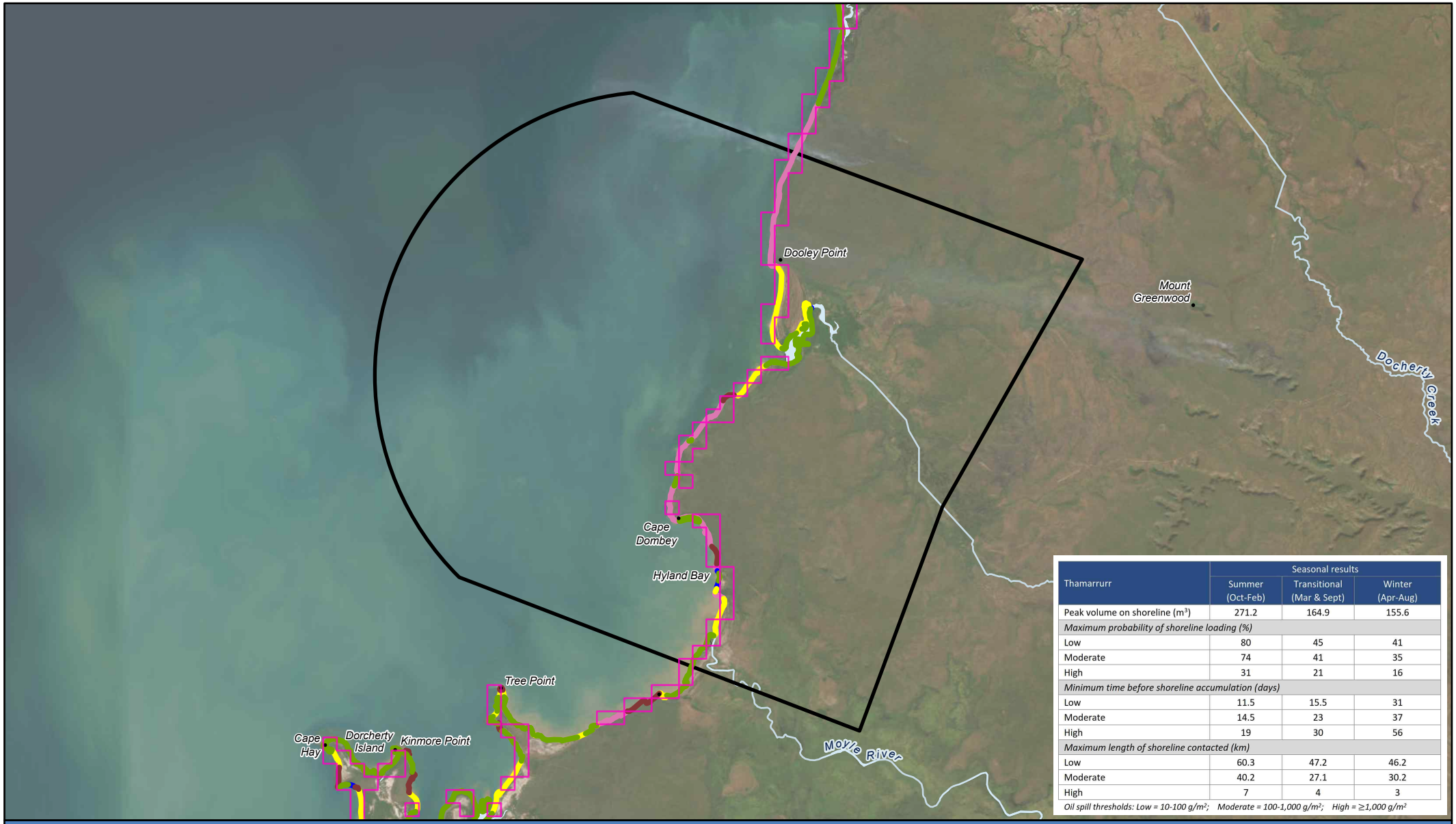
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Sediment plain \ sediment deposits*
- *Soft bedrock*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:810,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 55 of 64	REV E

0 5 10 15 20 25 30 35 40 km



Thamarrurr	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	271.2	164.9	155.6
Maximum probability of shoreline loading (%)			
Low	80	45	41
Moderate	74	41	35
High	31	21	16
Minimum time before shoreline accumulation (days)			
Low	11.5	15.5	31
Moderate	14.5	23	37
High	19	30	56
Maximum length of shoreline contacted (km)			
Low	60.3	47.2	46.2
Moderate	40.2	27.1	30.2
High	7	4	3

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - CAPE FORD TO MOYLE RIVER (NT CELL 4)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

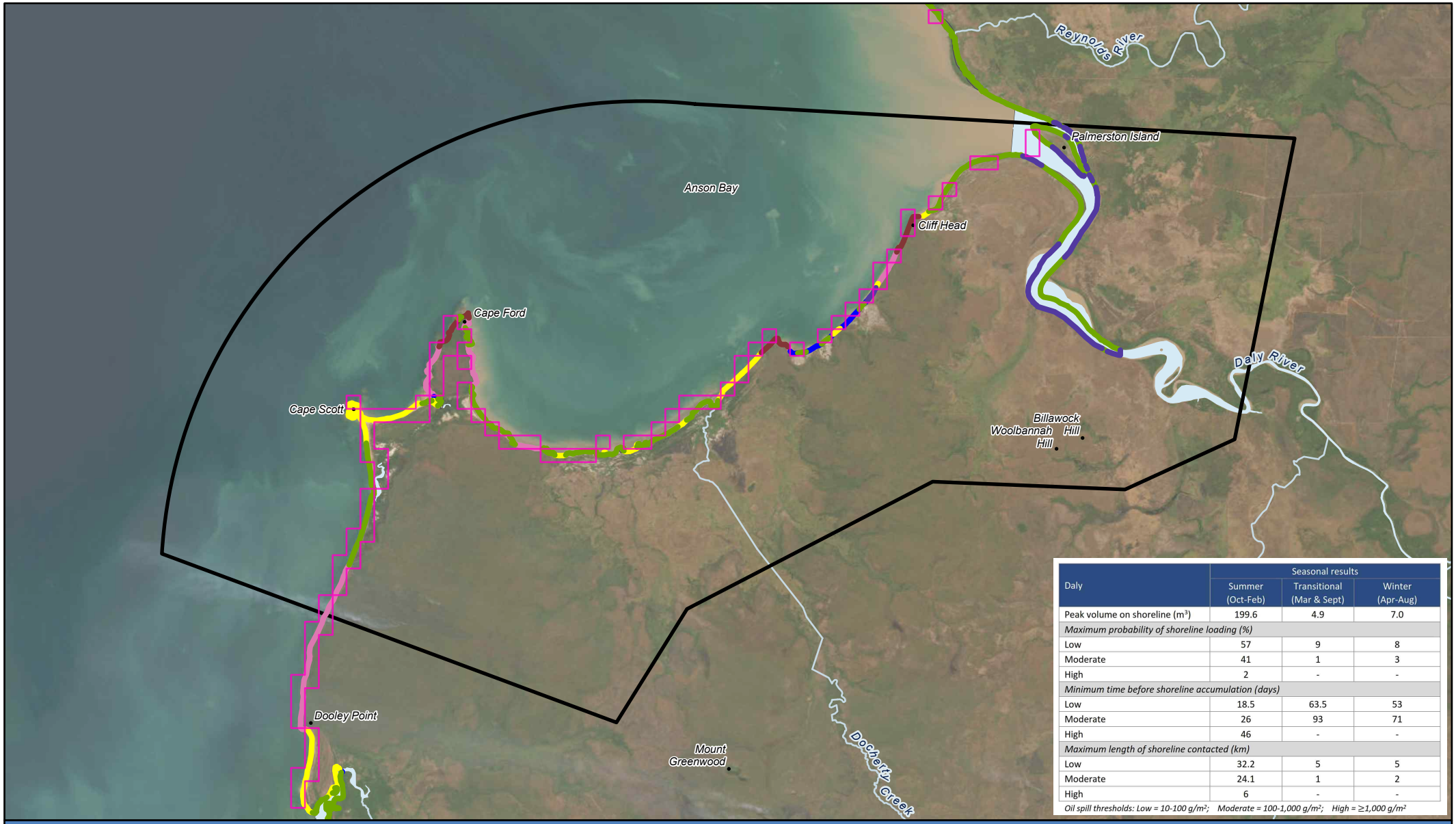
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Sediment plain \ sediment deposits*
- *Soft bedrock*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:395,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 56 of 64	REV E

0 5 10 15 20 km



Daly	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	199.6	4.9	7.0
Maximum probability of shoreline loading (%)			
Low	57	9	8
Moderate	41	1	3
High	2	-	-
Minimum time before shoreline accumulation (days)			
Low	18.5	63.5	53
Moderate	26	93	71
High	46	-	-
Maximum length of shoreline contacted (km)			
Low	32.2	5	5
Moderate	24.1	1	2
High	6	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - DALY (NT CELL 5)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

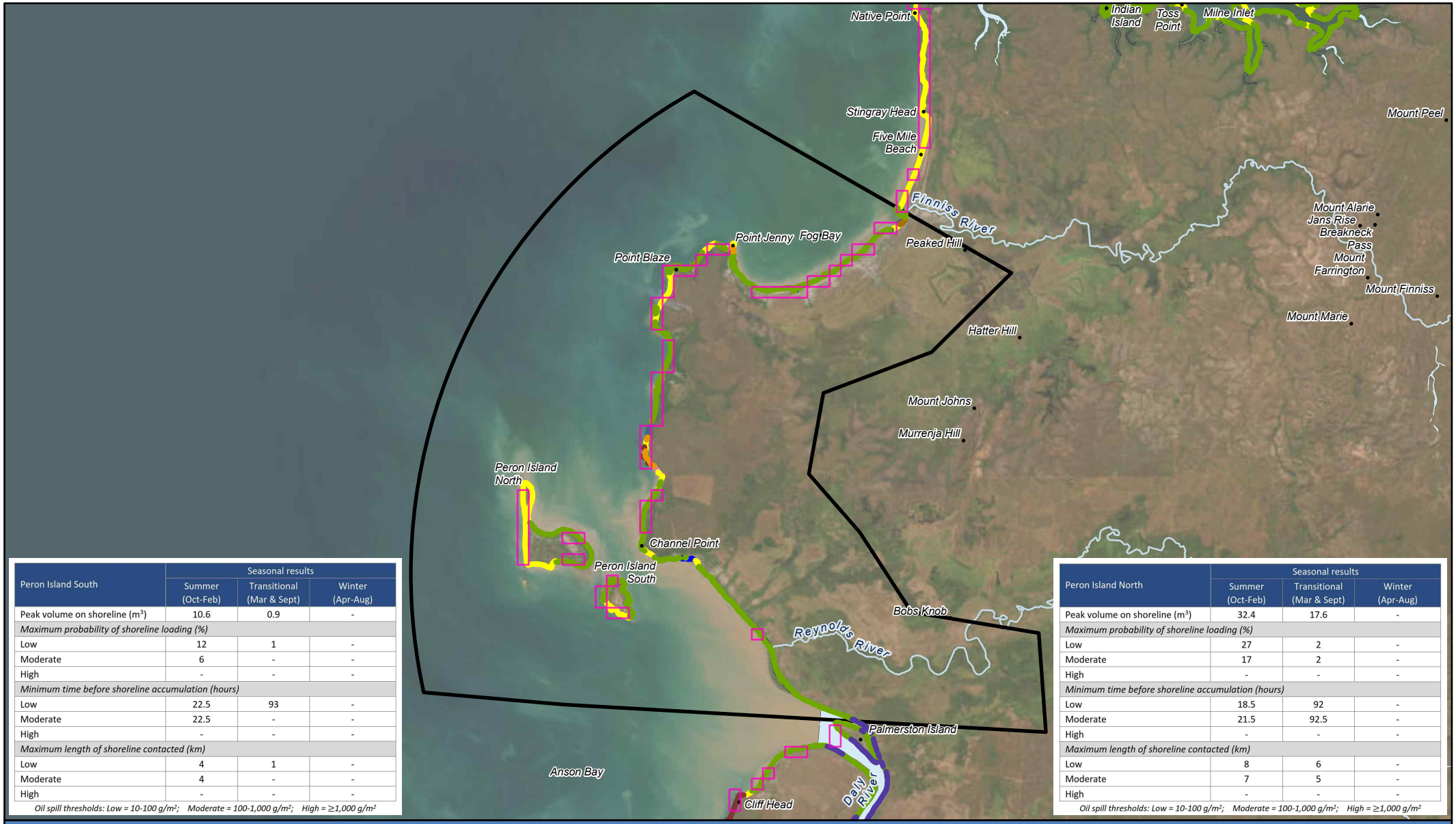
Shoreline

- *Alluvial sediment \ plain*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Sediment plain \ sediment deposits*
- *Soft bedrock*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:390,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 57 of 64	REV E

0 5 10 15 20 km



Peron Island South	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	10.6	0.9	-
Maximum probability of shoreline loading (%)			
Low	12	1	-
Moderate	6	-	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	22.5	93	-
Moderate	22.5	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	4	1	-
Moderate	4	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

Peron Island North	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	32.4	17.6	-
Maximum probability of shoreline loading (%)			
Low	27	2	-
Moderate	17	2	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	18.5	92	-
Moderate	21.5	92.5	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	8	6	-
Moderate	7	5	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - FINNIS RIVER TO DALY RIVER (NT CELL 6)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

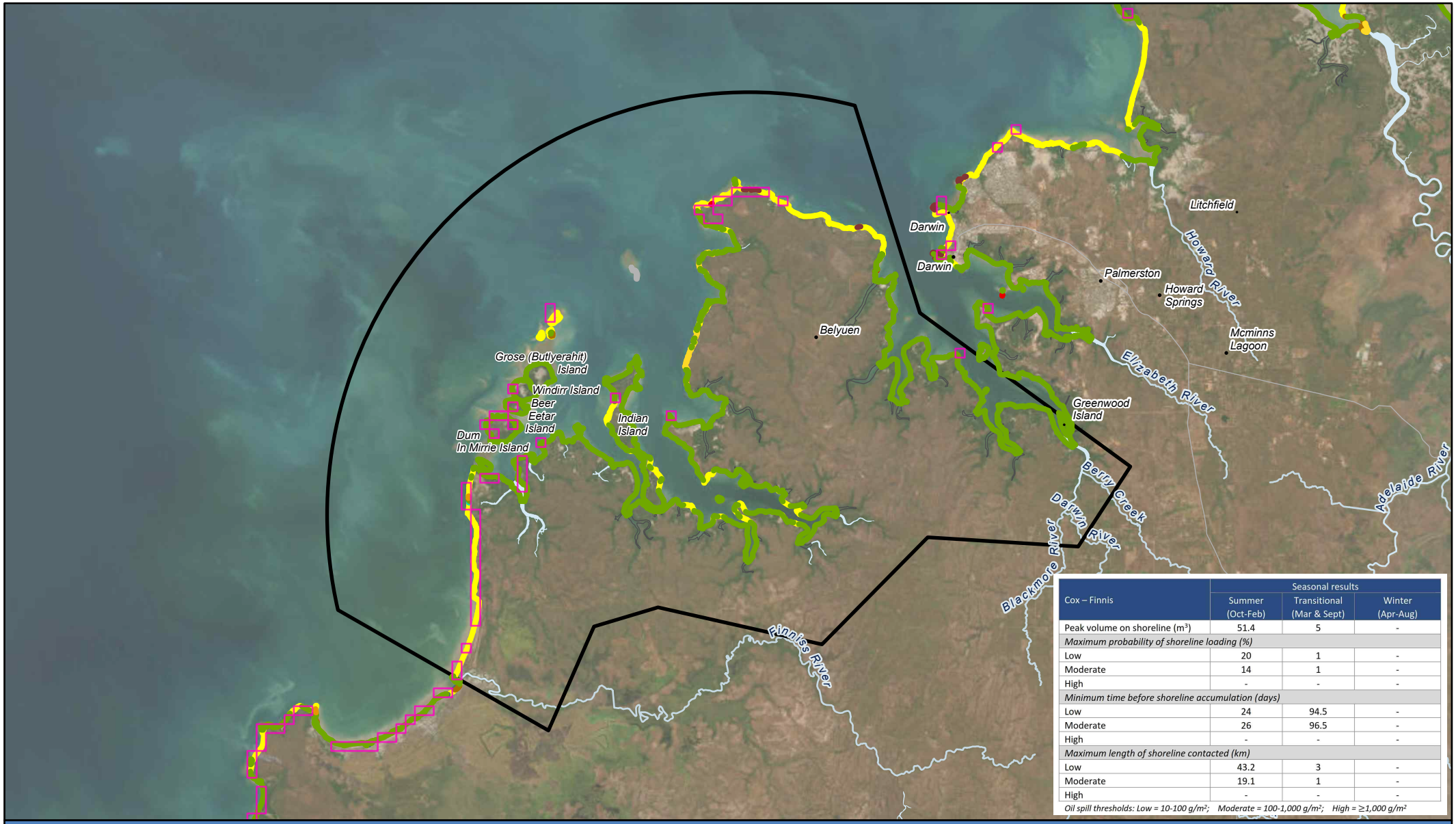
Shoreline

- *Alluvial sediment \ plain*
- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Muddy sediments \ alluvium \ sediment flats*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Sediment plain \ sediment deposits*
- *Soft bedrock*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:485,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 58 of 64	REV: E

0 5 10 15 20 25 km



Cox – Finnis	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	51.4	5	-
Maximum probability of shoreline loading (%)			
Low	20	1	-
Moderate	14	1	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	24	94.5	-
Moderate	26	96.5	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	43.2	3	-
Moderate	19.1	1	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - GREENWOOD BAY TO FINNIS RIVER (NT CELL 7)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

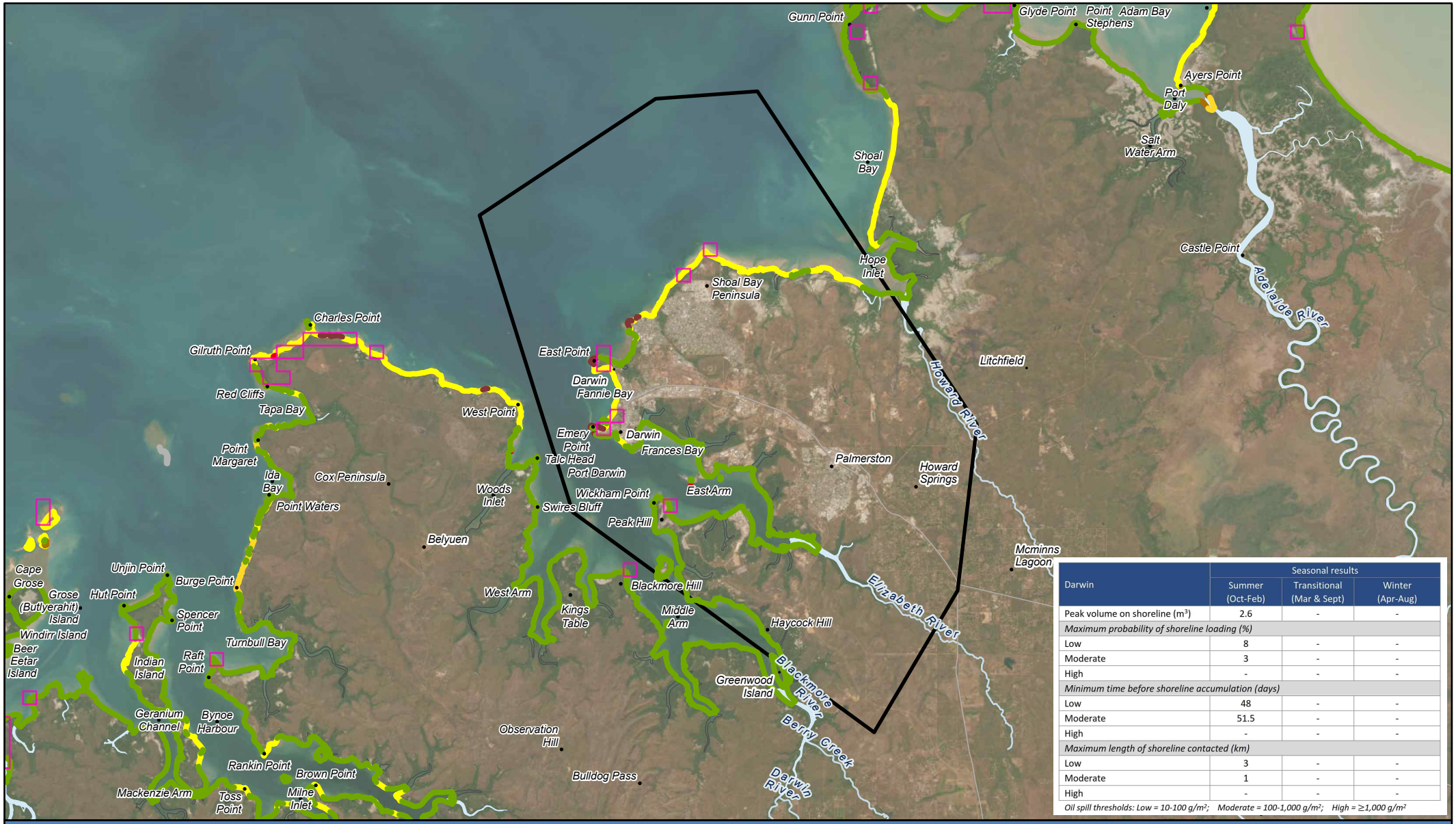
Shoreline

- *Beach sediment \ ridges*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Marshy sediment flats \ Marshy saline sediment flats*
- *Mixed sandy shore \ Mixed sandy sediments on bedrock*
- *Muddy sediments \ alluvium \ sediment flats*
- *Rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Soft bedrock*
- *Unclassified*

eog

PROJECT: Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:580,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 59 of 64	REV: E

0 5 10 15 20 25 30 km



Darwin	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	2.6	-	-
Maximum probability of shoreline loading (%)			
Low	8	-	-
Moderate	3	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	48	-	-
Moderate	51.5	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	-	-
Moderate	1	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - SHOAL BAY COASTAL RESERVE TO GREENWOOD ISLAND (NT CELL 8)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

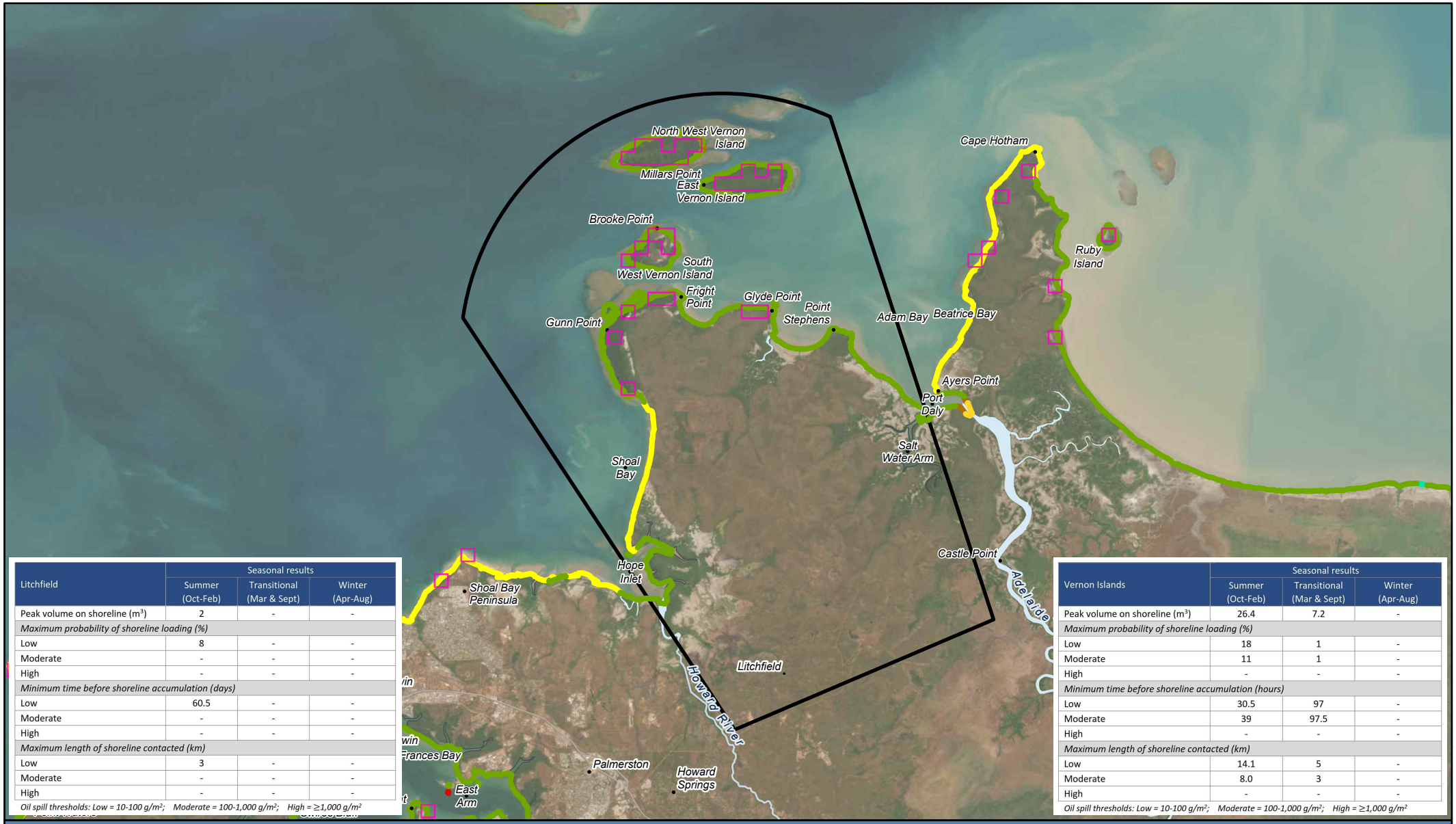
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Rocky shore*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Soft bedrock*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:405,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 60 of 64	REV E

0 5 10 15 20 km



Litchfield	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	2	-	-
Maximum probability of shoreline loading (%)			
Low	8	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	60.5	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	3	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

Vernon Islands	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	26.4	7.2	-
Maximum probability of shoreline loading (%)			
Low	18	1	-
Moderate	11	1	-
High	-	-	-
Minimum time before shoreline accumulation (hours)			
Low	30.5	97	-
Moderate	39	97.5	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	14.1	5	-
Moderate	8.0	3	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - ADELAIDE RIVER TO SHOAL BAY COASTAL RESERVE (NT CELL 9)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

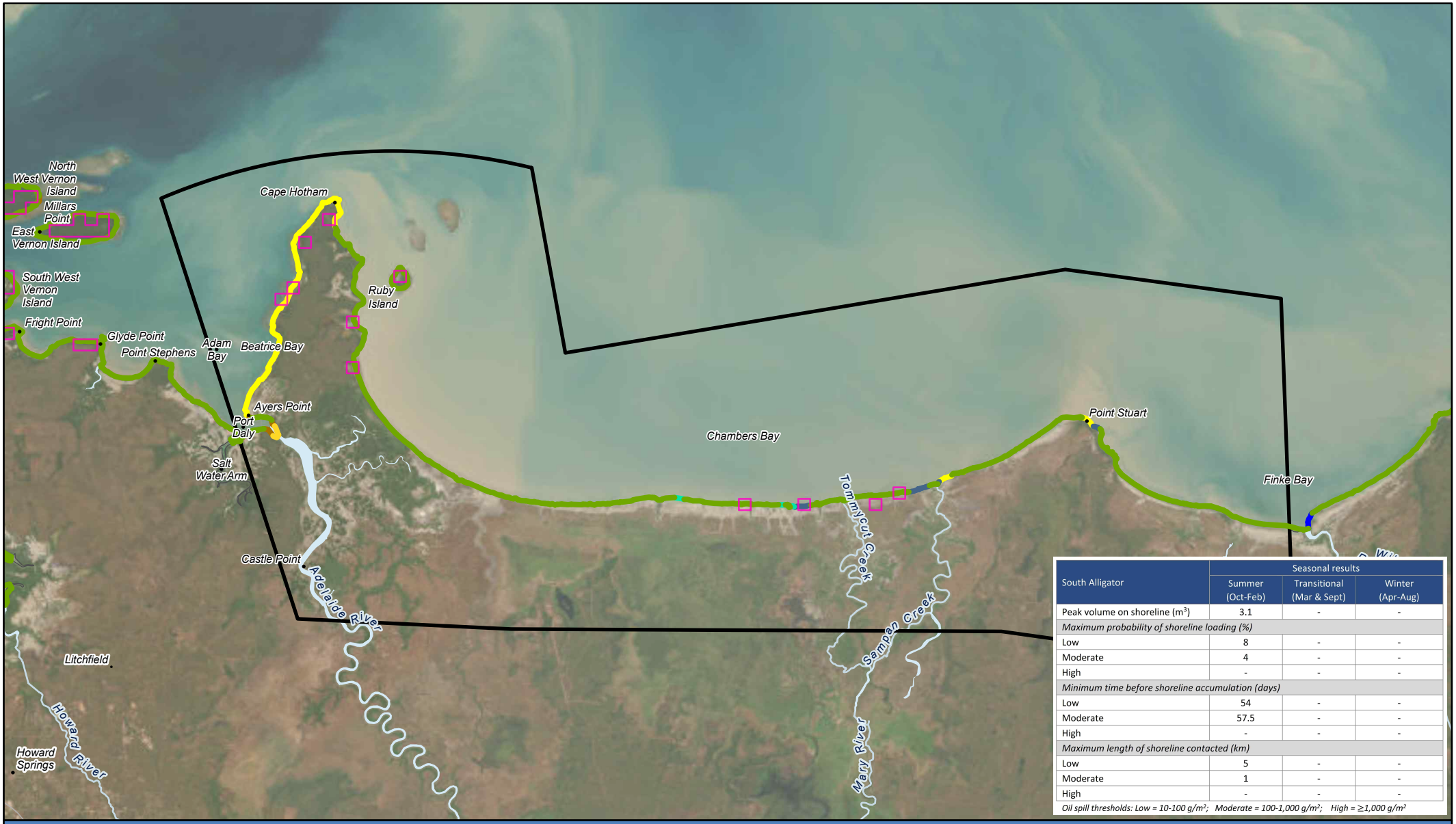
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Muddy sediments \ alluvium \ sediment flats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:405,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 61 of 64	REV E

0 5 10 15 20 km



South Alligator	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	3.1	-	-
Maximum probability of shoreline loading (%)			
Low	8	-	-
Moderate	4	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	54	-	-
Moderate	57.5	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	5	-	-
Moderate	1	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - SOUTH ALLIGATOR (NT CELL 10)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

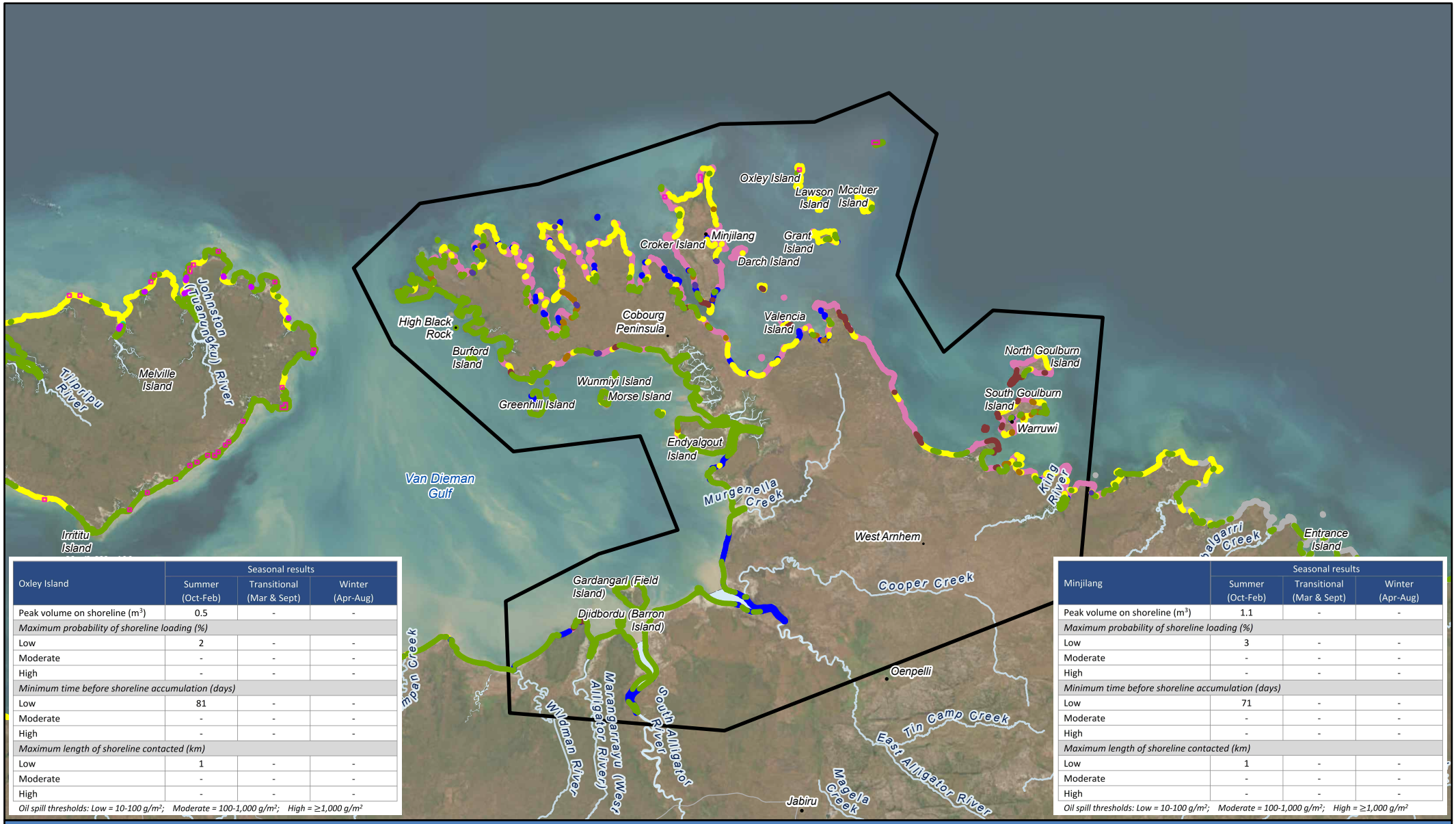
Shoreline

- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Marshy sediment flats \ Marshy saline sediment flats*
- *Mixed sandy shore \ Mixed sandy sediments on bedrock*
- *Muddy sediments \ alluvium \ sediment flats*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Soft bedrock*

eog

PROJECT: **Beehive EOG**		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:455,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 62 of 64	REV: E

0 5 10 15 20 km



Oxley Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	0.5	-	-
Maximum probability of shoreline loading (%)			
Low	2	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	81	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

Minjilang	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	1.1	-	-
Maximum probability of shoreline loading (%)			
Low	3	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	71	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	1	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - WEST ARNHEM (NT CELL 11)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

Shoreline

- *Alluvial sediment \ plain*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Muddy sediments \ alluvium \ sediment flats*
- *Saltpans \ Saline mudflats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Sediment plain \ sediment deposits*
- *Soft bedrock*

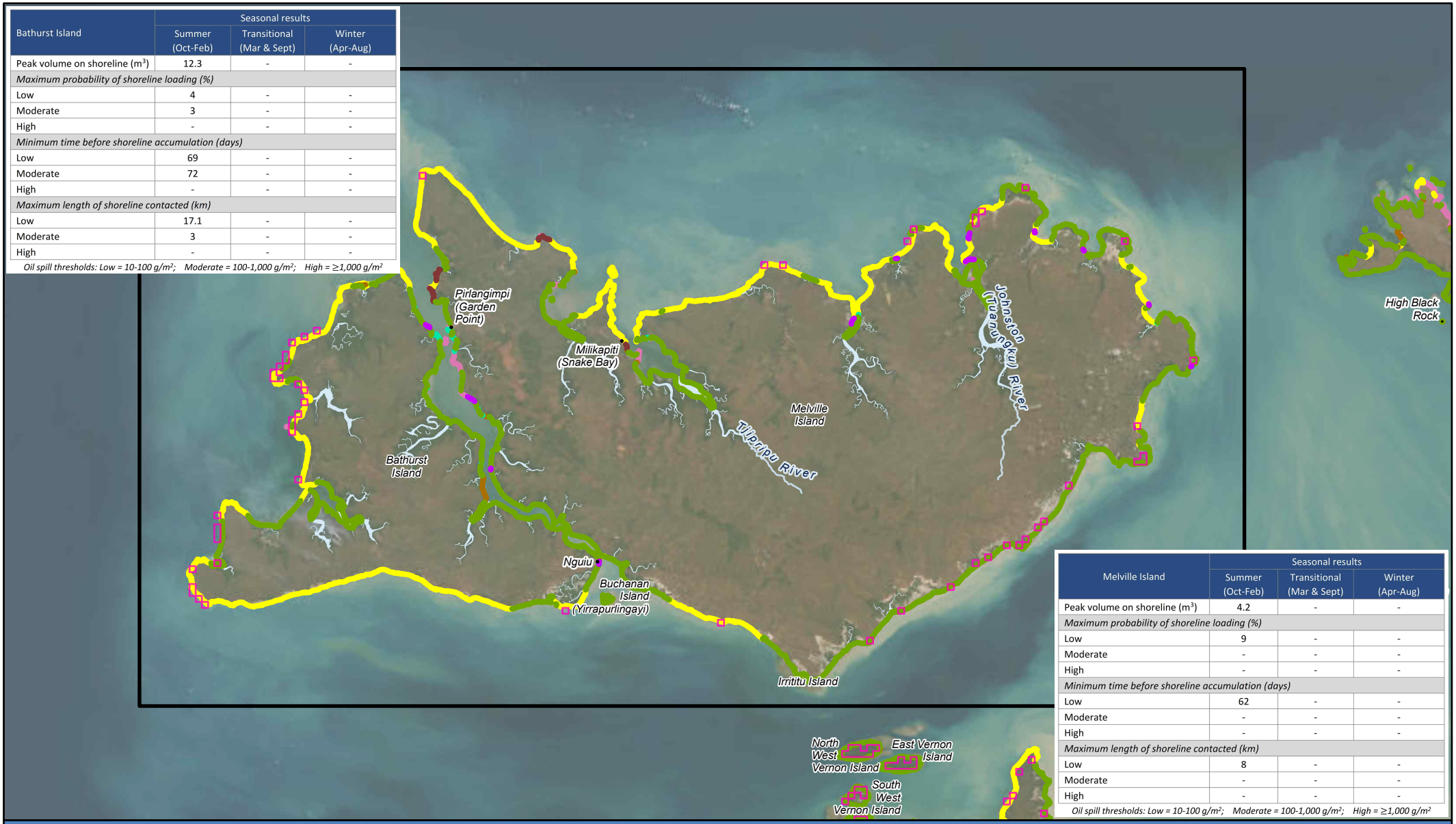
eog

PROJECT: Beehive EOG		
DATE: 13/12/2022	STATUS: DRAFT	PRODUCED: MVC Services
SCALE: 1:1,525,000 at A4	DATUM: GDA2020	APPROVED: Aventus
FILE: BH_0006_E Drilling - Shoreline Series	SHEET: 63 of 64	REV: E

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 km

Bathurst Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	12.3	-	-
Maximum probability of shoreline loading (%)			
Low	4	-	-
Moderate	3	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	69	-	-
Moderate	72	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	17.1	-	-
Moderate	3	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²



Melville Island	Seasonal results		
	Summer (Oct-Feb)	Transitional (Mar & Sept)	Winter (Apr-Aug)
Peak volume on shoreline (m^3)	4.2	-	-
Maximum probability of shoreline loading (%)			
Low	9	-	-
Moderate	-	-	-
High	-	-	-
Minimum time before shoreline accumulation (days)			
Low	62	-	-
Moderate	-	-	-
High	-	-	-
Maximum length of shoreline contacted (km)			
Low	8	-	-
Moderate	-	-	-
High	-	-	-

Oil spill thresholds: Low = 10-100 g/m²; Moderate = 100-1,000 g/m²; High = ≥1,000 g/m²

SHORELINE RECEPTORS - BATHURST AND MELVILLE ISLANDS (NT CELL 12)

LEGEND

- NT Cell
- Shoreline oil accumulation (10-1,000 g/m²)

Shoreline

- *Colluvium*
- *Tidal flats (sand, mud, sediment) \ Mangroves*
- *Hard bedrock \ Cliff (>5m) \ Hard rocky shore*
- *Marshy sediment flats \ Marshy saline sediment flats*
- *Muddy sediments \ alluvium \ sediment flats*
- *Sandy beach \ alluvium \ shore \ dune \ foredune*
- *Soft bedrock*

eog

PROJECT	Beehive EOG	
DATE 13/12/2022	STATUS DRAFT	PRODUCED MVC Services
SCALE 1:870,000 at A4	DATUM GDA2020	APPROVED Aventus
FILE BH_0006_E Drilling - Shoreline Series	SHEET 64 of 64	REV E

0 5 10 15 20 25 30 35 40 45 km