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# dino south-1 exploration drilling environment plan

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## dino south-1 exploration drilling environment plan

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## 1 environment plan summary

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

To fulfil the requirements of an EP summary for public disclosure, as required by regulations 35(6) and 35(7), this *Dino South-1 Exploration Drilling Environment Plan Summary* (Table 1-1) has been prepared from material provided in this EP, and in the EP summary statement format preferred by NOPSEMA (Ref. 1).

**Table 1-1: Environment Plan summary**

Regulation	EP summary material requirement	Relevant section of this EP
35(7)(a)(i)	the location of the activity	Section 2.2, Section 3.1.2
35(7)(a)(ii)	a description of the receiving environment	Section 4
35(7)(a)(iii)	a description of the activity	Section 3
35(7)(a)(iv)	details of environmental impact and risks	Section 7
35(7)(a)(v)	a summary of control measures for the activity	Section 7
35(7)(a)(vi)	a summary of the arrangements for ongoing monitoring of the titleholder's environmental performance	Section 8
35(7)(a)(vii)	a summary of the response arrangements in the oil pollution emergency plan	Section 7.16, Ref. 2
35(7)(a)(viii)	details of consultation already undertaken, and plans for ongoing consultation	Section 6, Section 8.3.4
35(7)(a)(ix)	details of the titleholder's nominated liaison for the activity	Section 2.4

## 2 introduction

### 2.1 Overview

Chevron Australia Pty Ltd (CAPL) is planning to conduct exploration drilling within the Northern Carnarvon Basin off the northwest coast of Western Australia (WA) between 2024 and 2025. The proposed exploration well, Dino South-1 (DS-1), is targeting a dry gas reservoir.

This EP documents the assessment and management of potential environmental impacts and risks associated with the DS-1 exploration drilling activities in Commonwealth waters.

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

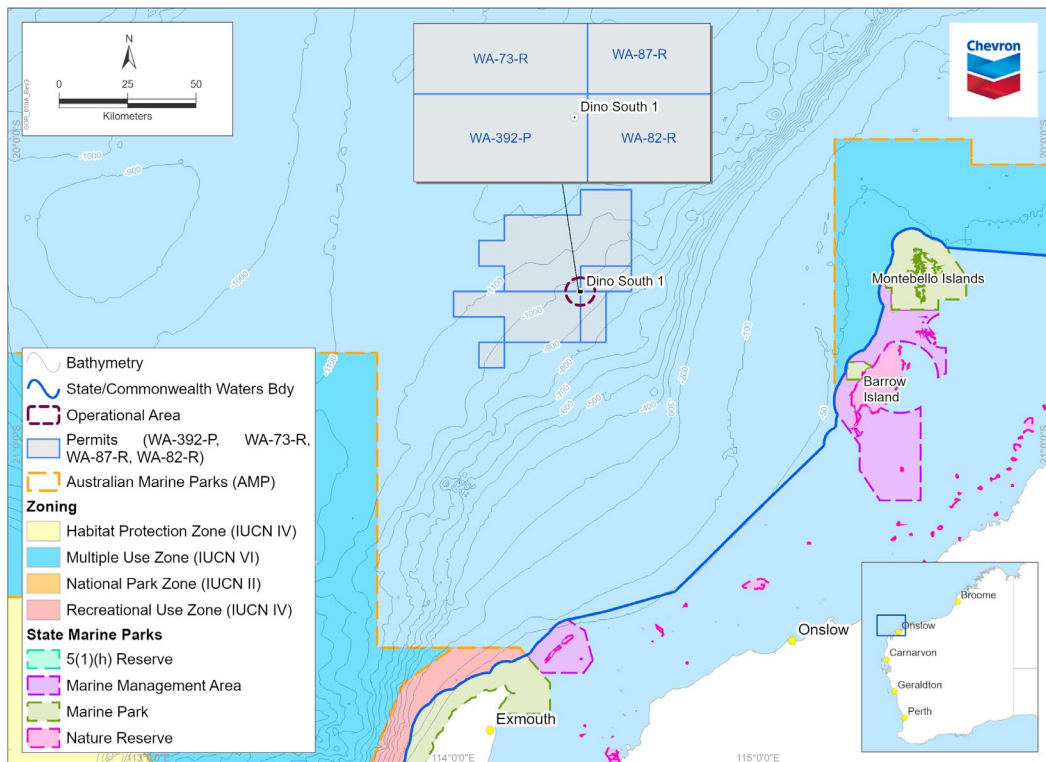
### 2.2 Location

The proposed DS-1 exploration well is located within exploration permit WA-392-P in Commonwealth waters, ~150 km northwest of Onslow and ~100 km west-northwest of Barrow Island (Table 2-1, Figure 2-1). The Operational Area (OA) (Section 3.1.2) is located within exploration permits WA-392-P, WA-73-R, WA-82-R and WA-87-R (Figure 2-1).

**Table 2-1: Approximate coordinates and water depth for the proposed DS-1 exploration well**

Well	Petroleum title	Latitude <sup>^</sup>	Longitude <sup>^</sup>	Water depth
Dino South-1	WA-392-P	20°29'58.51" S	114°25'2.96" E	~958 m

<sup>^</sup> Coordinates provided in GDA94.



**Figure 2-1: Location of proposed DS-1 exploration well**



## 2.3 Scope

### 2.3.1 In scope

This EP relates to a petroleum activity to be undertaken by CAPL consisting of operations and works required for the proposed DS-1 exploration well, including:

- mobile offshore drilling unit (MODU) operations (Section 3.2)
- drilling (Section 3.3)
- formation evaluation (Section 3.4)
- well abandonment (Section 3.5)
- field support (Section 3.7).

### 2.3.2 Out of scope

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

- vessels (including emergence response vessels) transiting to or from the Operational Area (OA) (i.e. outside of the OA); these vessels are subject to the *Navigation Act 2012* (Cth) and not performing the petroleum activity
- helicopters transiting to or from the OA (i.e. outside of the OA); these aircraft are subject to the *Air Navigation Act 1920* (Cth) and *Civil Aviation Act 1998* (Cth) and not performing the petroleum activity.

## 2.4 Titleholder details

Chevron Australia (EP WA-392-P) Pty Ltd is the titleholder of the exploration permit WA-392-P (Table 2-2). Chevron Australia (WA-374-P) Pty Ltd is the nominated titleholder of WA-73-R, WA-87-R, and Chevron Australia (RL WA-82-R) Pty Ltd is the nominated titleholder of WA-82-R, on behalf of the titleholder companies listed in Table 2-2. Chevron Australia (EP WA-392-P) Pty Ltd, Chevron Australia (WA-374-P) Pty Ltd, and Chevron Australia (RL WA-82-R) Pty Ltd are subsidiaries of CAPL. The contact details for the nominated liaison for this EP are listed in Table 2-3.

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

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

**Table 2-2: Titleholder details**

Title	Detail	Titleholder	Nominated Titleholder	Address
WA-392-P	Exploration Permit	Chevron Australia (EP WA-392-P) Pty Ltd	Chevron Australia (EP WA-392-P) Pty Ltd  (ACN: 641 878 748)	1 The Esplanade, Perth WA 6000

Title	Detail	Titleholder	Nominated Titleholder	Address
WA-73-R	Retention Lease	Chevron Australia (WA-374-P) Pty Ltd	Chevron Australia (WA-374-P) Pty Ltd (ACN: 119 981 690)	1 The Esplanade, Perth WA 6000
WA-87-R	Retention Lease	Mobil Australia Resources Company Pty Limited Shell Australia Pty Ltd		
WA-82-R	Retention Lease	Chevron Australia (RL WA-82-R) Pty Ltd Mobil Australia Resources Company Pty Limited Shell Australia Pty Ltd	Chevron Australia (RL WA-82-R) Pty Ltd (ACN: 122 437 656)	1 The Esplanade, Perth WA 6000

**Table 2-3: Nominated liaison**

<b>Name and Position</b>	Ian Nott - Wells Manager
<b>Company</b>	Chevron Australia Pty Ltd
<b>ACN</b>	086 197 757
<b>Business Address</b>	1 The Esplanade, Perth WA 6000
<b>Telephone</b>	+61 8 9216 4000
<b>Email</b>	<a href="mailto:feedback@chevron.com">feedback@chevron.com</a>

## 2.5 Environmental management framework

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

### 2.5.1 Environment policy

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

### 2.5.2 Relevant requirements

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

**Table 2-4: Commonwealth legislative requirements**

Legislation	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
<i>Australian Maritime Safety Authority Act 1990</i>	Aims to promote maritime safety, protect the marine environment from pollution from ships or other environmental damage caused by shipping, and provide	Requirements include the involvement of the Australian Maritime Safety Authority (AMSA) in response to relevant spill events.	Roles and responsibilities are described in the Oil Pollution Emergency Plan (OPEP) (Ref.2).

Legislation	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
	for a national search and rescue service.		
<i>Biosecurity Act 2015</i>	This Act is about managing diseases and pests that may cause harm to human, animal, or plant health or the environment.  The Act provides for managing biosecurity risk in Australia and its external territories. It also provides for managing risks related to ballast water.	Pre-arrival reporting (PAR) before arrival in Australian territory.	Section 7.7.
Biosecurity Regulations 2016		Ballast water management plans and certificates, and reporting of ballast water discharges.	Section 7.7.
<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	Provides for the protection and management of nationally and internationally important flora, fauna, ecological communities, and heritage places.	The EP must describe matters protected under Part 3 of the EPBC Act and assess any impacts and risks to these protected matters.	Section 4, and Section 7.
EPBC Regulations 2000		EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with cetaceans.	Section 7.2, and Section 7.6.
		Injury or fatality caused to EPBC listed fauna shall be reported.	Section 8.4.2.
<i>Navigation Act 2012</i>	Provides standards regarding collision prevention for vessels.	Notice to Mariners.	Section 7.1, and Section 7.14.
<i>Navigation Act 2012</i>	These Acts give effect to international conventions where Australia is a signatory, including: <ul style="list-style-type: none"> <li>International Regulations for Preventing Collisions at Sea (COLREGS)</li> <li>International Convention for the Safety of Life at Sea (SOLAS)</li> <li>International Convention for the Prevention of Pollution from Ships (MARPOL 73/78).</li> </ul>	Marine Order 30— Prevention of collisions.	Section 7.14.
<i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i>		Marine Order 91— Marine pollution prevention—oil.	Section 7.8, Section 7.13, and Section 7.14.
<i>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006</i>		Marine Order 95— Marine pollution prevention—garbage.	Section 7.8, and Section 7.12.
Marine Orders		Marine Order 96— Marine pollution prevention—sewage.	Section 7.8.
		Marine Order 97— Marine pollution prevention—air pollution.	Section 7.4.
		Marine Order 98— Marine pollution	Section 7.7.

Legislation	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
		prevention—antifouling systems.	
OPGGS Act  OPGGS(E)R	The OPGGS(E)R under the OPGGS Act requires a titleholder to have an accepted EP in place prior to commencement of a petroleum activity.  The regulations ensure petroleum activities are undertaken in an ecologically sustainable manner in accordance with an EP.	An EP for a petroleum activity must be accepted by NOPSEMA before activities commence.	This EP, including the OPEP (Ref. 2) and Operational and Scientific Monitoring Plan (OSMP) (Ref. 3).
OPGGS (Resource Management and Administration) Regulations 2011	These regulations require a titleholder to have an accepted Well Operations Management Plan (WOMP) in place.  The purpose of a WOMP is to ensure systems are in place to manage well integrity and well activities.	A WOMP for a petroleum well activity must be accepted by NOPSEMA before activities commence.	CAPL will develop a WOMP for the exploration drilling activities described in this EP (Ref. 4). The WOMP will be accepted by NOPSEMA before activities commence.
<i>Underwater Cultural Heritage Act 2018</i> (UCH 2018)	Provides protection for shipwrecks, sunken aircraft, and other cultural heritage sites in Australian waters.	Identification of the presence of protected cultural heritage sites and assessment of any impacts and risks to these sites.	Section 4, and Section 7.

**Table 2-5: Standards and guidelines**

Standard / guideline	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
<i>Australian Ballast Water Management Requirements</i> (Ref. 5)	Provides guidance on how vessel operators should manage ballast water when operating within Australian seas in order to comply with the <i>Biosecurity Act 2015</i> (Cth). They also align to the International Convention for the Control and Management of Ships' Ballast Water	Ballast water management requirements for vessels, including having a ballast water management plan and certificate (unless an exemption applies).	Section 7.7.

Standard / guideline	Description	Requirements relevant to the risks associated with the petroleum activity	Demonstration of how requirements are met
	and Sediments 2004 (the Ballast Water Management Convention).		
<i>Australian Biofouling Management Requirements</i> (Ref. 6)	Sets out vessel operator obligations for the management of biofouling when operating vessels under biosecurity control within Australian territorial seas.	Biofouling management for vessels, including PAR, and having biofouling management plans.	Section 7.7.
<i>Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species</i> (Ref. 7)	International Maritime Organization (IMO) guidelines for global management of biofouling.	Requires a biofouling management plan and record book to be available and maintained.	Section 7.7.
Minamata Convention on Mercury	The Minamata Convention on Mercury is an international treaty that seeks to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.  Australia ratified the Convention in December 2021.	Article 9 of the Convention concerns controlling, and where feasible, reducing releases of mercury or mercury compounds to land and water.  Article 11 of the Convention concerns disposal of mercury contaminated waste.	Section 7.9.
<i>National Biofouling Management Guidance for the Petroleum Production and Exploration Industry</i> (Ref. 8)	Commonwealth guidance document has been developed to assist industry manage the risk of marine pest translocation and introduction via biofouling.	Requires biofouling risk assessments to be completed.	Section 7.7.
<i>National Light Pollution Guidelines for Wildlife</i> (Ref. 9)	Outlines the process to be followed where there is the potential for artificial lighting to affect wildlife. Applies to new projects, lighting upgrades, and where there is evidence of wildlife being affected by existing artificial light.	The EP must assess if artificial lighting is likely to affect wildlife and identify the management tools to minimise and mitigate impacts and risks.	Section 7.4.

## 3 description of the petroleum activity

### 3.1 Overview

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

- MODU—includes positioning, and general (non-drilling) operation activities (Section 3.2)
- drilling—includes drilling and contingency activities (Section 3.3)
- formation evaluation—reservoir appraisal activities (Section 3.4)
- well abandonment—plug and abandonment activities, including wellhead removal (Section 3.5)
- field support—includes use of support vessels, helicopters, and remotely operated vehicles (ROVs) (Section 3.7).

#### 3.1.1 Purpose

The purpose of the proposed petroleum activity is to explore and evaluate the gas reservoir within WA-392-P.

There is no recovery of hydrocarbons associated with the exploration drilling activities, and as such no gas processing, transport, or third party end-use of hydrocarbons would occur as a result of the petroleum activity within scope of this EP.

#### 3.1.2 Operational area

The nominal location of the DS-1 exploration well is described in Section 2.2 (with coordinates and approximate water depth shown in Table 2-1).

The OA for the petroleum activity is defined as a 5 km radius buffer around the DS-1 exploration well (Figure 2-1). The OA is located wholly within Commonwealth waters, and within exploration permit WA-392-P, and retention leases WA-73-R, WA-82-R and WA-87-R. There are no islands or other emergent features within or adjacent to the OA.

The petroleum activity described within Section 3 of this EP will be undertaken wholly within the OA. The OA encompasses a 500 m safety exclusion zone that will be requested around the MODU for the duration of activities.

#### 3.1.3 Timing

The DS-1 exploration drilling activities are planned to commence between 2024 and 2025 (pending MODU and vessel availability, regulatory approvals, or other CAPL project requirements). The activity is estimated to take ~50 days to complete. However, this duration is indicative and subject to potential operational delays (e.g. caused by weather conditions).

Activities covered within this EP will be conducted 24 hours/day and 7 days/week.

#### 3.1.4 Reservoir properties

As the petroleum activity is exploration drilling, the exact fluid composition and properties of the objective reservoir intervals are not known. However, the reservoir characteristics (e.g. depth, thickness, porosity, permeability, pressure,

condensate gas ratio) have been predicted using known information from previously drilled wells, and from geologic and seismic data, to predict gas and condensate flow rates from the proposed DS-1 exploration well.

CAPL have identified the most appropriate analogue as Isosceles-1, a previous gas exploration well located ~4 km to the east of DS-1. Isosceles-1 was a dry gas well and based on the available data CAPL interpret that DS-1 fluids will be comparable to the previous Isosceles-1. A partial assay report for the Isosceles-1 condensate was used by RPS to identify an appropriate proxy from the SIMAP database (Ref. 10). Gorgon condensate was chosen as the most appropriate proxy condensate. The physical properties, boiling point ranges, weathering, and behaviour of the condensate is further discussed in the unplanned release spill modelling in Section 7.15.

## **3.2 Mobile offshore drilling unit**

### **3.2.1 Positioning**

A semi-submersible MODU will be used for the exploration drilling activities at DS-1. With much of a semi-submersibles bulk below the water surface, the MODU becomes a stable platform for drilling, moving only slightly with wind and currents.

The MODU will be positioned using an 8- to 12-point mooring system. Anchors may be pre-deployed and tested at the site by the support vessels prior to the MODU arriving. Disturbance footprints from anchoring systems vary, however it is estimated that for a semi-submersible MODU with an 8- to 12-point mooring system, the anchoring system (allowing for both anchor footprint and disturbance from anchor chains) could be up to ~13,000 m<sup>2</sup> (Ref. 11). Mooring systems will be removed at end of drilling campaign.

Transponders may be used to accurately position the MODU over the proposed well location. Transponders are lowered to the seabed (with a clump weight if required). Both the transponder and clump weight (if used) are retrieved to the surface following use.

Due to their size, MODU's have constrained manoeuvrability and as such, will have the right-of-way over other vessels in the area (as per the 500 m safety exclusion zone that is proposed around the MODU for the duration of activities).

### **3.2.2 Operations**

The MODU is fitted with various equipment to support exploration drilling activities including:

- power generation systems
- fuel storage
- cooling water and freshwater systems
- drainage, effluent, and waste systems
- primary and secondary (cuttings dryer etc.) solids control equipment.

Non-drilling activities occurring on the MODU include:

- bunkering or bulk transfer of fuel, chemicals, and supplies
- transfer of waste to supply vessels
- discharge of:

- sewage, greywater, food waste
- cooling water, reverse osmosis brine
- deck drainage and bilge.
- helicopter operations.

A contract with a semisubmersible MODU is in place for this exploration drilling. It is expected the MODU will operate with up to 140 persons on board (POB). Estimates of sewage and grey water volumes are ~0.04–0.45 m<sup>3</sup> per person per day, and estimates of putrescible food waste are in the order of ~1–2 kg per person per day (Ref. 12). Based on an indicative 140 POB, this gives an estimated discharge of sewage and greywater of up to 63 m<sup>3</sup>/day and ~280 kg/day for food waste from the MODU.

Several different materials will be transferred from support vessels to the MODU for the exploration drilling campaign. For example, cement, barite, and bentonite are transported as dry bulk, and are pneumatically blown from the support vessels to the MODU storage tanks using compressed air. The MODU dry bulk storage tanks vent excess compressed air to atmosphere and this venting process also discharges small amounts of solids. Based upon previous programs it is estimated that during each bulk transfer a dry bulk loss in the order of ~0.005% is expected to be recorded. Based on an estimated storage capacity for bulk cement, barite, and bentonite on the MODU, this equates to <0.05 m<sup>3</sup> of solids discharged for the entire exploration program.

### 3.3 Drilling

#### 3.3.1 Well design and drilling method

An indicative overview of the base-case drilling design and method for DS-1 is provided in Table 3-1. The proposed drilling method uses a combination of water-base fluids (WBFs) and non-aqueous drill fluids (NADFs) (Table 3-1). Should the proposed base-case design not reach the required depths, contingency slim hole and casing sizes may be adopted; these sections may also be drilled with NADFs or WBFs.

The design and methods are subject to change, depending on individual well design requirements and final location of the well. Final well design and well schematics will be provided in the WOMP (Ref. 4), which will be submitted to NOPSEMA for acceptance prior to drilling activities commencing. Any changes to well design between Table 3-1 to the final accepted WOMP, will be evaluated as per the MoC process described in this EP (Section 8.3.2.2).



**Table 3-1: Summary of the DS-1 well base case drilling methodology**

Hole size		Casing size		Depth below seabed	Length of hole section	Estimated volume of cuttings		Cuttings discharge location	Drill fluid type
in	mm	in	mm	m MD	m	bbl	m <sup>3</sup>		
42	1,067	36	914	62	62	340	54	Seabed	WBF
17½	444	13½	346	1,292	1,230	1,258	200	Seabed	WBF
12¼	311	9½	244	2,392	1,100	528	84	MODU	NADF or WBF
8½	216			4,042	1,650	371	59	MODU	NADF or WBF
<b>Total</b>					<b>4,042</b>	<b>2,497</b>	<b>397</b>		

*MD = measured depth*

### 3.3.2 Drilling fluids and cuttings handling and disposal

The top-hole (42" and 17½") sections are to be drilled with seawater and WBFs, with cuttings circulated to the seabed. Both sections will be drilled with seawater and pre-hydrated bentonite and/or polymer high viscosity hole cleaning sweeps. The open hole will be displaced with pre-hydrated bentonite mud.

The high viscosity sweeps and bentonite mud will comprise ~96% v/v drill water, with the remaining ~4% v/v made up of drilling fluid additives that are either completely inert in the marine environment, naturally occurring benign materials, or readily biodegradable organic polymers with a very fast rate of biodegradation in the marine environment. Drilling additives typically used include potassium chloride, bentonite (clay), water soluble polymers, barite, and calcium carbonate.

Once the top-hole sections are complete, installation of the riser and blowout preventor (BOP) provides a conduit back to the MODU, forming a closed circulating system. As such, primary and secondary solids control equipment onboard the MODU removes cuttings from drilling fluids before being recirculated back to the well. Solids control equipment shall include:

- shale shakers
- centrifuge(s)
- cuttings dryer.

Various shaker screen mesh sizes can be used to remove a specific cuttings particle size, thereby optimising drilling fluid physical properties. Cuttings discharged are expected to range from very fine (20 µm) to very coarse (<1 cm diameter) after removal from the drilling fluid.

Cuttings are expected to comprise predominantly claystone, and calcareous formations from the upper sections and sandstone and siltstone from the lower sections of the well. An indicative cuttings volume of ~397 m<sup>3</sup> (based on the volume of the base-case well design) is expected to be generated, but actual volumes will depend on the final depth and drilling of the well (e.g. actual total depth, lost circulation, well washout, potential re-spud, etc.).

Several different fluids shall be circulated into the well in a closed system including NADFs and WBFs. During the displacement of one fluid to another, the fluids will mix, this mixture, or interface fluid, will be isolated in a MODU tank and will be tested for composition (i.e. % NADF, % WBF, and % solids content). Interface fluids tested to contain <1% v/v NADF (synthetic base oil) content may be discharged to the ocean.

The NADF tanks on the MODU are cleaned when drilling operations are completed. Volumes of residual NADF are consolidated and recovered by mechanical means (e.g. squeegee, mud vacuum, etc.) before tank washing. NADF tank washing residue will be tested for composition. Residual tank cleaning fluids containing tested to <1% v/v NADF (synthetic base oil) content will be discharged to the ocean.

In the instance of lost circulation, it may be controlled with the use of fluid control materials such as bentonite, polymers, and/or other additives. In a severe case, it might be required to pull back and cement the area where the losses occurred, before drilling through the cement and recommencing.

Indicative volumes of NADFs and WBFs discharged for the well have been estimated based on historical data and well planning (Table 3-2).

### 3.3.3 Cementing operations

On completion of the top-hole sections, a casing is to be inserted and the annulus between the casing and the hole sealed with cement. For the conductor and surface casing, a cementing product is pumped until returns are observed at the seabed. When cementing top-hole sections (without a riser in place), the water-based spacer fluid is displaced by the cement slurry and discharged directly to the seabed at the mudline.

For the remainder of the drill hole, after a string of casing or liner has been installed into the well, a cementing spacer is pumped to flush drilling fluids and filter cake from the well to allow a good cement bond to be formed with the formation. All cementing operations will be conducted with all returns to the MODU via a riser. Depending on volumes of cement and spacer pumped, the spacer will either remain downhole or returned to the MODU and discharged to sea.

Cement slurry is pumped down the inside of the landing string and then casing (or liner). A displacement fluid is then pumped into the casing with a wiper plug to displace the cement out of the bottom of the casing and up into the annular space between the pipe and the borehole wall. For all casing and liner cementations the cement will predominantly remain downhole, with minor excess cement returned to the MODU and discharged into the sea. When the wiper plug is pumped and reaches the bottom of the casing string it stops and allows the casing to be pressure tested.

Wherever possible, the cement line flush volumes are included in the planned cement jobs. When a job is completed, the cement unit is cleaned, and the residual cement discharged overboard from the MODU. The estimated discharge volumes of residual cement products are ~10 m<sup>3</sup>. In the rare event that the cement products become contaminated, the entire volume (~48 m<sup>3</sup>) may need to be discharged to sea.

Indicative volumes of discharges from cementing operations are provided in Table 3-2.

### 3.3.4 Blowout preventer installation and testing

A BOP is installed after completion of the top-hole sections. A BOP consists of a series of hydraulically operated valves and sealing mechanisms (annular preventers and ram preventers) that are normally open to allow the drill fluid to circulate up the marine riser to the MODU during drilling.

A BOP is to be used for the exploration drilling program to provide an additional barrier to prevent a loss of well control event. The BOP is used to close in the well in the event of an influx or kick, in which the hydrostatic pressure of the wellbore fluid is exceeded by the formation pressure. The MODU's high-pressure circulating system would be used in this event, after closing of the BOP, to remove the influx from the well and regain hydrostatic overbalance. The annular and ram preventers are used to shut in around various tubulars in the well, while the blind shear rams are designed to shear the pipe and seal the well.

Once installed, regular function and pressure tests are undertaken; function tests will be undertaken weekly and pressure tests every three weeks (except in exceptional circumstances). Function testing is undertaken by activating the hydraulic control system onboard the MODU to pressurise and activate the rams within the BOP stack.

The BOP control system discharges water-based hydraulic control fluids into the sea upon operation. A full function test, which closes and opens all rams and annulars, discharges ~2,500 L of diluted control fluid. The control fluid is a water-soluble product and is diluted to ~1–3% with potable water. The control fluid is fully biodegradable and expected to readily disperse after discharge from the BOP to the marine environment.

### 3.3.5 Contingency activities

In the event of technical or operational issues during the drilling activity, contingency activities may be required. The activities are not expected to cause additional risks or impacts but may generate additional volumes of drilling fluids, cuttings, cement, or seabed disturbance.

Indicative volumes of discharges from contingency operations are provided in Table 3-2.

#### 3.3.5.1 Well re-spud

If technical or operational issues are encountered while drilling, such as a failure to meet installation criteria, a well re-spud may be required. This activity could involve moving the MODU within the immediate area of the primary well and to recommence drilling. A well re-spud would result in an increase in the volume of cuttings and cement generated. No movement of the MODU anchors would be required for a re-spud, and as such there is no change to the area of seabed temporarily disturbed from anchoring.

#### 3.3.5.2 Sidetrack

A sidetrack is an alternative to a well re-spud, which involves drilling a secondary wellbore away from the primary wellbore. This may be done to avoid an unusable section of the primary wellbore, or if it is otherwise inaccessible. A sidetrack would be expected to result in an increase of cuttings generated and potentially cement discharges.

#### 3.3.5.3 Well suspension

Well suspension involves the application of suitable barriers, the removal of the riser and disconnecting the MODU from the well. Well suspension activities would be undertaken in accordance with the NOPSEMA-accepted WOMP. In some cases, the BOP may be left in place. Well suspension may be required in the instance of extreme weather events. The process of a planned disconnection of

the riser would result in the riser being displaced with seawater prior to disconnection and therefore no planned discharge of drilling fluids and cuttings.

#### **3.3.5.4 Emergency disconnect sequence**

If the MODU is required to rapidly disengage from the well, an emergency disconnect sequence may be required. The sequence consists of closing the BOP and disconnecting the riser. The process of disconnecting the riser would result in discharge of drilling fluids and cuttings.

#### **3.3.6 Cementing operations**

Additional cementing operations may be required as a contingency activity due to unplanned events (e.g. kick-off plugs, failed formation integrity test, lost circulation remediation). The discharges are expected to be no different from those described in cementing operations (Section 3.3.3)

### **3.4 Formation evaluation**

A standard data acquisition program is planned for the evaluation of the DS-1 well. During drilling both 'mudlogging' and 'logging while drilling' data will be collected for the entire well.

In a success case, additional wireline logs will be run at target depth (i.e. where the reservoirs are predicted to be located) to further evaluate formation and fluids. No vertical seismic profile is planned as part of the wireline logs.

### **3.5 Well abandonment**

Once the exploration drilling activities are complete, the DS-1 well will be permanently plugged and abandoned in accordance with the requirements of section 572 of the OPGGS Act and the NOPSEMA-accepted WOMP.

Plug and abandonment procedures are designed to permanently isolate the well and mitigate the risk of a potential release of wellbore fluids to the marine environment. A combination of mechanical plugs and cement plugs will be installed to serve as permanent barrier elements in accordance with the *Chevron Global Technical Standard – Well Barriers* (Ref. 13).

A small discharge of cement contaminated seawater may be required upon completion of this activity. Once in place, the wellbore contents above the reservoir barrier will be displaced and circulated to inhibited WBF of appropriate density. Wellbore content (weighted drilling fluid and cement contaminated mud, water, barite, cement polymer) will be discharged from the surface. The discharges are expected to be no different from those described in cementing operations (Section 3.3.3).

Once the permanent plugs have been set and tested, the BOP stack can be detached from the wellhead and recovered back to the MODU. Prior to disconnecting the BOP stack from the wellhead, the system will be flushed with seawater.

A wellhead cutting tool is then landed onto the wellhead to sever the casing just below the seabed (~1.5 m below the seabed). Cutting wellheads is anticipated to take ~12 hours per location. Cutting will generate metal swarf (<0.01 m<sup>3</sup>) and some cement cuttings at the seabed. Cutting may also involve subsea discharges of grit and flocculent. The wellhead is then pulled free and recovered to the MODU through the moonpool.

Once the wellhead is removed, an ROV is deployed from the MODU to conduct a post-activity survey. This survey records the condition of the seabed at the completion of the program, to ensure that no dropped objects or subsea equipment intended for removal remain on the seabed. This as-left survey involves an ~50 m radius visual check from the wellhead location.

### 3.6 Summary of discharges

A summary of the discharges associated with the drilling activities for the DS-1 exploration well is provided in Table 3-2.

**Table 3-2: Summary of planned and contingency discharges**

Discharge Type	Indicative volumes (m <sup>3</sup> )	Discharge location
<b>Drilling fluids and cuttings</b>		
WBFs (riserless / riser in place)	2040	Seabed / Surface
NADFs (riser in place)	100	Surface
Wellbore clean-up fluid discharge (NADF/WBF interface) (riser in place)	100	Surface
NADF residual tank washing	100	Surface
Cuttings (riserless / riser in place)	294/161	Seabed/Surface
<b>Cementing operations</b>		
Cement slurry (riserless / riser in place)	80/20	Seabed/Surface
Spacer fluids (riserless / riser in place)	30/60	Seabed/Surface
Residual cement (line flushing)	10	Surface
<b>Blowout preventer installation and function testing</b>		
BOP fluid (per function test)	2.1	Seabed
BOP fluid (per pressure test)	1	Seabed
<b>Contingency activities</b>		
Cuttings–well re-spud (riserless / riser in place)	294/161	Seabed/Surface
Cements – well re spud (riserless / riser in place)	80/20	Seabed/Surface
Cuttings–sidetrack (riser in place)^	161	Surface
Cuttings–emergency disconnect (riser in place)	36	Seabed
NADF drill fluids–emergency disconnect (riser in place)	180	Seabed
Failed cement job / cement contamination (riser in place)	48	Surface
Cementing operations (riser in place)	60	Surface
<b>Well abandonment</b>		
Contaminated cement	100	Surface
Wellbore content	<130	Subsurface
Metal swarf, cement cuttings, grit, flocculant (wellhead removal)	<0.1	Seabed

<sup>^</sup> Indicative volume based on a worst-case 12¼” side-track hole.

### 3.7 Field Support

#### 3.7.1 Vessels

Vessels will be used during the exploration drilling activities, for several support functions, including to:

- install and remove MODU anchors (if required)
  - each activity (i.e. to install or remove anchors) may take two to three days to complete
- supply and transfer goods and materials (e.g. food, fuel, bulk products, drilling fluids, etc.) to the MODU
  - resupply activities may be undertaken up to twice weekly and may take up to ~8 hours to complete
- transfer of waste or other material from the MODU
- assist in monitoring the 500 m radius safety exclusion zone around the MODU.

Given the different support functions (e.g. use of cranes, or bunkering equipment), vessels of different sizes and specifications will be used. Up to three support vessels may be on site within the OA at any time, noting that vessel presence may vary during different stages of the activity. Vessels only enter the 500 m safety exclusion zone around the MODU under specific instruction from the MODU, such as for supporting specific activities, or when transferring goods and materials to the MODU.

Support vessel anchoring within the OA shall not be permitted except during emergencies (if required).

Vessels will not use Heavy Fuel Oil but will utilise a lighter marine fuel such as marine diesel oil (MDO) or marine gas oil (MGO). All support vessels will return to port to bunker; there is no refuelling at sea for the support vessels.

Vessels routinely discharge a variety of wastewater streams to the marine environment including sewage, greywater, food waste, cooling water, brine, and oily bilge water; vessels may also incinerate solid wastes.

In the event of unsafe environmental conditions (e.g. a cyclone passing over or close to survey area), the support vessels may transit away from the OA to a safer location. As per Section 2.3, once a vessel leaves the OA, it is no longer undertaking a petroleum activity.

#### 3.7.2 Helicopters

The MODU is serviced by helicopters, with an expected routine flight frequency of ~3 flights per week, with additional flights as required to meet operational demands. Helicopter flights will primarily be used for passenger transfers/crew changes and minor supplies. Helicopters will be refuelled onshore, should helicopters have to refuel on the MODU, this will be undertaken in accordance with MODU specific procedures.

#### 3.7.3 Remotely operated vehicles

Underwater remotely operated vehicles (ROVs) will be deployed and controlled from either the MODU or support vessel to support or undertake:

- pre- or post-activity site surveys

- mooring/anchoring placement
- equipment deployment, monitoring, or retrieval
- tool deployment and operation.

ROVs are generally equipped with a video camera and lighting. ROVs are also used to deploy specialist tooling and equipment. ROVs are closed systems, such that hydraulic fluids are circulated to move components, but these are not released to the environment.

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

## 4 description of the environment

### 4.1 Environment that may be affected

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

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

For the following sections, the document refers to the EMBA when it is applicable to all the sub-areas identified in Table 4-1.

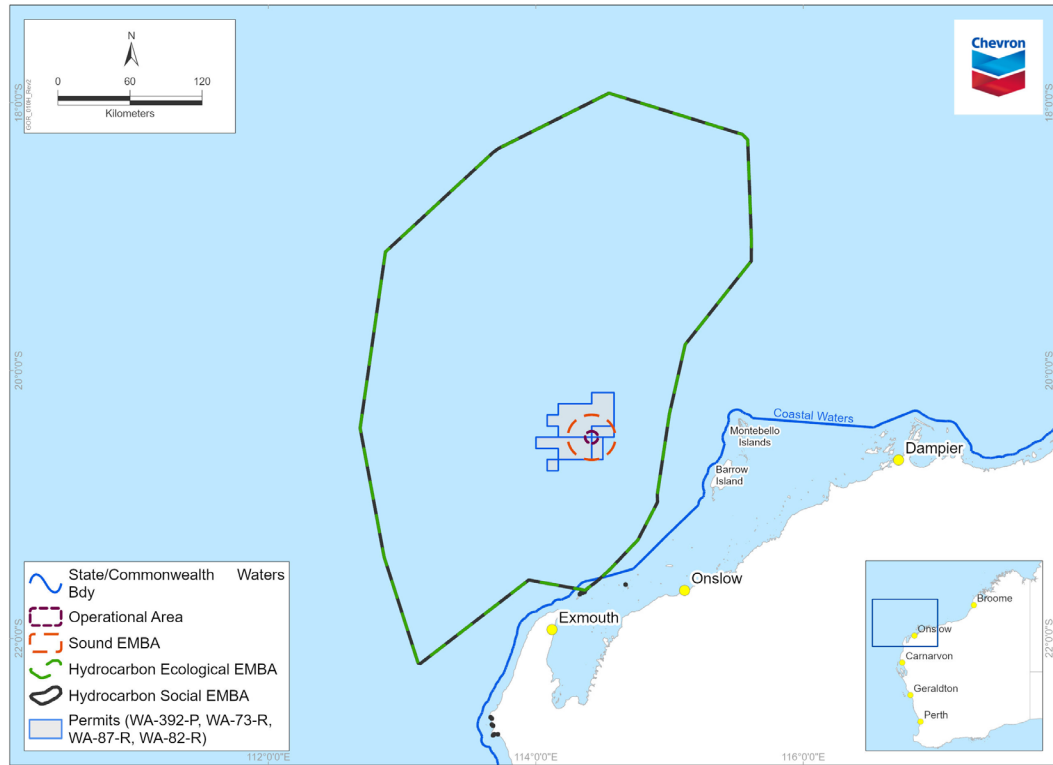
**Table 4-1: Description of EMBA sub-areas for DS-1 exploration drilling**

EMBA sub-area	Description and purpose
OA	The OA is defined as the area in which the petroleum activity will be undertaken (Section 3.1.2).  The OA is relevant to the impact and risk assessments for all planned activities and unplanned events (except where specified by an aspect-specific EMBA), as the exposure area associated with these impacts and risks is considered to occur within the spatial extent of the OA.
Underwater Sound EMBA (Sound EMBA)	The Sound EMBA is relevant to the impact and risk assessments for planned underwater continuous (non-impulsive) sound emissions (Section 7.6), and determined by the predicted spatial extent of acoustic exposure at the relevant thresholds (Table 7-3).
Unplanned Hydrocarbon Release Ecological EMBA (Hydrocarbon Ecological EMBA)	The Hydrocarbon Ecological EMBA is relevant to the risk assessments for ecological receptors from unplanned hydrocarbon release events (Sections 7.14 and 7.15), and determined by the predicted spatial extent of hydrocarbon exposure at the relevant thresholds for surface, entrained, dissolved, and shoreline components (Table 7-10).
Unplanned Hydrocarbon Release Social EMBA (Hydrocarbon Social EMBA)	The Hydrocarbon Social EMBA is relevant to the risk assessments for social, economic, and cultural receptors from unplanned hydrocarbon release events (Sections 7.14 and 7.15), and determined by the predicted spatial extent of hydrocarbon exposure at the relevant thresholds for surface, entrained, dissolved, and shoreline components (Table 7-10). The Hydrocarbon Social EMBA incorporates lower thresholds for surface and shoreline hydrocarbon exposure that are associated with visible oil but are below concentrations at which ecological impacts are expected to occur.

The Planning Area for Scientific Monitoring is determined by the predicted spatial extent of hydrocarbon exposure at the relevant thresholds for surface, entrained, and dissolved components (Table 7-10). The values and sensitivities of this area are described within Appendix D of the *Operational and Scientific Monitoring Plan: Environmental Monitoring in the Event of an Oil Spill to Marine or Coastal Waters* (Ref. 3).

The above approach to defining the spatial extent of the EMBA is considered to be consistent with NOPSEMA's advice in their oil spill modelling environment bulletin (Ref. 14).





*Note: The Hydrocarbon EMBA's are shown as separate in-water (surface, entrained, dissolved) and shoreline components. Shorelines are only part of a Hydrocarbon EMBA where stochastic spill modelling predicts that shoreline loading above the relevant threshold occurs.*

**Figure 4-1: EMBA for DS-1 exploration drilling**

## 4.2 Matters of national environmental significance

Matters of national environmental significance (MNES) are protected under the EPBC Act (Cth). The presence of MNES within the EMBA has been determined from the Australian Government's online Protected Matters Search Tool (PMST) (Ref. 15). Table 4-2 summarises the presence of relevant marine and/or coastal MNES within the EMBA; the full PMST reports<sup>1</sup> are included in appendix b.

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

**Table 4-2: Presence of MNES within the EMBA**

MNES	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
World Heritage properties <sup>^</sup>	x	✓	✓
National Heritage places <sup>^</sup>	x	✓	✓
Wetlands of international importance (Ramsar wetlands) <sup>^</sup>	x	x	x

<sup>1</sup> The PMST is a general database that includes all MNES, including species or features (such as terrestrial based species or features) that are not expected to credibly occur within the EMBA.

MNES	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
Nationally listed threatened species and communities <sup>^</sup>	✓ species ✗ communities	✓ species ✗ communities	✓ species ✗ communities
Nationally listed migratory species <sup>^</sup>	✓	✓	✓
Commonwealth marine area <sup>^</sup>	✓	✓	✓
Great Barrier Reef Marine Park	✗	✗	✗
Nuclear actions (including uranium mining)	—	—	—
Water resources (in relation to coal seam gas or large coal mining development)	—	—	—

<sup>^</sup> These MNES are also identified as relevant values and sensitivities under the OPGGS(E)R.

Where ✓ = present, ✗ = not present, and — = not relevant to the petroleum activity.

### 4.3 Ecosystems and their constituent parts, including people and communities

#### 4.3.1 Benthic communities and habitats

Benthic communities are biological communities that inhabit the seabed and are important for primary or secondary production. Benthic habitats are areas of seabed that do, or can, support these communities. Benthic communities play an important role in maintaining the integrity of marine ecosystems and the supply of ecological services. There is strong evidence that benthic communities are also important for the maintenance of biological diversity as they provide structurally complex and diverse habitat, refuge for vulnerable life stages and a varied and increased food supply (Ref. 18).

The EMBA occurs within the North-west Marine Region (NWMR), which is typically characterised by shallow-water tropical marine ecosystems and high species richness (Ref. 72; Ref. 26). The high species richness is thought to be associated with the diversity of habitats available, such as limestone pavement, coral reefs, and pinnacles (Ref. 72).

The geomorphology of Australia’s continental margin is varied. Based on Geoscience Australia’s geomorphic classification of seabed within Australia’s exclusive economic zone (EEZ) (Ref. 19), the geomorphic features present within the OA and Sound EMBA are the ‘slope’ and ‘trench/trough’. Within the broader Hydrocarbon EMBA, the following geomorphic features have been identified: canyon, deep/hole/valley, plateau, slope, terrace, and trench/trough. The Hydrocarbon Social EMBA also intersects with shelf geomorphic features.

The composition, distribution, and movement of marine sediments is an important component of a marine ecosystem. These sediments can influence the primary biological production in the water column as well as the evolution and distribution of benthic habitats. The north-west WA comprises bio-clastic, calcareous, and organogenic sediments deposited from relatively slow and uniform sedimentation rates (Ref. 20). Sediments in the NWMR generally become finer with increasing water depth, ranging from sand and gravels on the continental shelf to mud on the continental slope and abyssal plain (Ref. 21).

Based on CSIRO’s marine benthic substrate database (Ref. 22), the predominant seafloor sediment type within the OA and Sound EMBA is “calcareous gravel,

sand and silt”. Within the Hydrocarbon EMBA three seafloor sediment types were identified: “calcareous gravel, sand and silt”, “calcareous ooze”, and “mud and calcareous clay”.

The Integrated Marine and Coastal Regionalisation of Australia (IMCRA) is a biogeographic regionalisation of oceanic waters within Australia’s EEZ (Ref. 23). The OA and Sound EMBA occur within the Northwest Province provincial bioregion<sup>2</sup>. The Hydrocarbon EMBA also intersects with four additional provinces. The geomorphology characteristics and biological communities for each of these bioregions, as described in *The North-west Marine Bioregional Plan: Bioregional Profile* (Ref. 26) are summarised in Table 4-3.

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

**Table 4-3: Features of provincial bioregions**

IMCRA Provincial Bioregion <sup>^</sup>	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Central Western Shelf Transition</b>			✓
<p>Characteristics of the geomorphology and biological communities of the Central Western Shelf Transition include:</p> <ul style="list-style-type: none"> <li>• bioregion is located entirely on the continental shelf and is comprised mainly of sandy sediments</li> <li>• this bioregion includes both State and Commonwealth waters between water depths of 0 m to ~80 m <ul style="list-style-type: none"> <li>– Commonwealth waters in this bioregion represent &lt;1% of the total area of the NWMR</li> </ul> </li> <li>• the benthic ecological communities of the bioregion, include both tropical and temperate species transitioning along a north-south gradient</li> <li>• Ningaloo Reef<sup>3</sup> is the most significant geomorphic feature of this bioregion: <ul style="list-style-type: none"> <li>– it extends along the Cape Range Peninsula for over 260 km, and is the only example in the world of an extensive fringing coral reef on the west coast of a continent</li> <li>– it is marked by a well-developed spur and groove system of fingers of coral formations penetrating into the ocean with coral sand channels in between</li> <li>– a lagoon on the inshore side separates Ningaloo reef from the mainland</li> <li>– the biological communities of the Ningaloo Reef differ from the hard coral reefs located elsewhere in the NWMR</li> </ul> </li> <li>• a large proportion of this bioregion is covered by the State and Commonwealth Ningaloo Marine Parks, which are one of the most significant hotspots of biodiversity within the NWMR</li> <li>• the Ningaloo Marine Parks incorporate a diversity of habitats including the seabed of the continental slope and shelf that supports demersal and benthic plants and animals including fish, molluscs, algae, sponges, soft corals and burrowing bivalves; as well as coral reefs and intertidal areas such as rocky shores and mangroves in State waters.</li> </ul> <p>Features and areas of ecological importance within the Central Western Shelf Transition have been identified as:</p>			

<sup>2</sup> Provincial bioregions were classified based on fish, benthic (seabed) habitat and oceanographic data at a scale that is useful for regional conservation planning and management (Ref. 26)

<sup>3</sup> Ningaloo Reef also extends into the Northwest Province, Central Western Transition Province, and a small portion of the Northwest Shelf Province. The geomorphology and biological communities of Ningaloo Reef are discussed in this bioregion summary.

IMCRA Provincial Bioregion^	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<ul style="list-style-type: none"> <li>Ningaloo Ningaloo Marine Park – North West Cape.</li> </ul> <p>Of these features and areas within the Central Western Shelf Transition, the shoreline component of the Hydrocarbon Social EMBA intersects with the State Ningaloo Marine Park (refer to Section 4.5.2).</p>			
<b>Central Western Transition</b>			✓
<p>Characteristics of the geomorphology and biological communities of the Central Western Transition include:</p> <ul style="list-style-type: none"> <li>the bioregion is characterised by large areas of continental slope, with sediments dominated by muds and sands that decrease in grain size with increasing depth</li> <li>about 40% of the bioregion occurs in waters depths greater than 4,000 m and the deepest areas of the bioregion occur within the Cuvier Abyssal Plain at ~5,330 m</li> <li>a large part of the bioregion comprises the Cuvier Abyssal Plain</li> <li>Wallaby Saddle is another important topographic feature within this bioregion and is the most extensive area of this type of topographic feature in the NWMR</li> <li>the benthic slope communities of this bioregion comprise both tropical and temperate species along a north-south gradient</li> <li>the biological communities of the Central Western Transition are thought to be distinctive owing to the proximity of deep ocean areas to the continental slope and shelf, resulting in close interaction between pelagic species of the Cuvier Abyssal Plain and those of the slope and shelf</li> <li>the harder substrate of the slope in waters of 200–2,000 m deep is likely to support populations of epibenthos such as bryozoans, sponges and encrusting coralline algae; these support larger infauna and benthic animals such as crabs, cephalopods, echinoderms and other suspension-feeding epibenthic organisms</li> <li>in the deeper waters of the abyss, the benthic communities are likely to be sparse and include meiofauna (e.g. nematodes).</li> </ul> <p>Features and areas of ecological importance within the Central Western Transition have been identified as:</p> <ul style="list-style-type: none"> <li>Wallaby saddle</li> <li>Cape Range Canyon and Cloates Canyon.</li> </ul> <p>Of these features and areas within the Central Western Transition, the Cape Range Canyon and Cloates Canyon occur within the Hydrocarbon EMBA. Refer to Section 4.3.6.1 for further descriptions of this features.</p>			
<b>Northwest Province</b>	✓	✓	✓
<p>Characteristics of the geomorphology and biological communities of the Northwest Province include:</p> <ul style="list-style-type: none"> <li>bioregion occurs entirely on the continental slope and is comprised of muddy sediments</li> <li>distinguished by a number of topographic features, such as the Exmouth Plateau, terraces and canyons (including the Swan and Cape Range canyons), as well as deep holes and valleys on the inner slope (including the Montebello Trough)</li> <li>the benthic shelf and slope communities of this bioregion comprise both tropical and temperate species with a north-south gradient</li> <li>the continental slope between North West Cape and the Montebello Trough has been identified as one of the most diverse slope habitats of Australia</li> <li>the Exmouth Plateau is also likely to be an important area for biodiversity as it provides an extended area offshore for communities adapted to depths of ~1,000 m</li> <li>information available on sediments in the bioregion indicates: <ul style="list-style-type: none"> <li>benthic communities are likely to include filter feeders and other epifauna</li> </ul> </li> </ul>			

IMCRA Provincial Bioregion^	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<ul style="list-style-type: none"> <li>- soft-bottom environments are likely to support patchy distributions of mobile epibenthos, such as sea cucumbers, ophiuroids, echinoderms, polychaetes and sea pens</li> <li>- biological communities within canyons in the bioregion are also poorly understood.</li> </ul> <p>Features and areas of ecological importance within the Northwest Province have been identified as:</p> <ul style="list-style-type: none"> <li>• Exmouth Plateau</li> <li>• canyons on the slope, including the Cape Range Canyon</li> <li>• demersal fish communities associated with the slope.</li> </ul> <p>Of these features and areas within the Northwest Province, the demersal fish communities associated with the slope occurs within the OA, Sound EMBA, and Hydrocarbon EMBA's. The Exmouth Plateau and canyons on the slope also occur within the Hydrocarbon EMBA's. Refer to Section 4.3.6.1 for further descriptions of these features.</p>			
<p><b>Northwest Shelf Province</b></p>			
<p>Characteristics of the geomorphology and biological characteristics of the Northwest Shelf Province include:</p> <ul style="list-style-type: none"> <li>• bioregion occurs almost entirely on the continental shelf, except for a small area to the north of Cape Leveque that extends onto the continental slope</li> <li>• this bioregion includes more than 60% of the continental shelf in the NWMR</li> <li>• continental shelf gradually slopes from the coast to the shelf break, but displays a number of seafloor features such as banks/shoals and holes/valleys, including: <ul style="list-style-type: none"> <li>- Glomar Shoals occur in ~26–70 m water depth and are distinguished by highly fractured molluscan debris, coralline rubble and coarse carbonate sand</li> <li>- Leveque Rise (large plateau), which is one of only two shelf plateaux within the NWMR</li> <li>- significant areas of tidal sandwaves or sandbanks (ranging in height ~5–10 m) occur on the inner-most reaches of Exmouth Gulf, and are one of only three major occurrences of this type of feature in the NWMR</li> <li>- shelf also contains several terraces and steps that extend into adjacent bioregions and reflect ancient coastlines from when the sea level in the NWMR was lower; the most prominent of these occurs at a water depth of ~125 m</li> </ul> </li> <li>• sediment differentiation occurs on a north-south gradient <ul style="list-style-type: none"> <li>- south of Broome, sediment is relatively homogenous and dominated by sands with small proportion of gravel</li> <li>- north of Broome, sediment is highly variable with sand or gravel dominance in no discernable spatial pattern</li> <li>- mud increases within ~100 km of the coast, and within ~100 km of the shelf break, but is mostly absent from other areas</li> </ul> </li> <li>• sandy substrates on the shelf within this bioregion are thought to support low density benthic communities of bryozoans, molluscs, and echinoids</li> <li>• sponge communities are also sparsely distributed on the shelf, but are found only in areas of hard substrate</li> </ul> <p>Features and areas of ecological importance within the Northwest Shelf Province have been identified as:</p> <ul style="list-style-type: none"> <li>• Browse Island and surrounding waters</li> <li>• Lacepede Islands and surrounding waters</li> <li>• Quondong Point, north of Broome and surrounding waters</li> <li>• West coast of the Dampier Peninsula, including Beagle and Pender bays and surrounding waters</li> <li>• Pilbara coast (between Exmouth and Broome) and surrounding waters</li> </ul>			

IMCRA Provincial Bioregion <sup>^</sup>	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<ul style="list-style-type: none"> <li>Exmouth Gulf—Muiron Islands and surrounding waters</li> <li>ancient coastline at 125 m depth contour</li> <li>Glomar Shoals.</li> </ul> <p>Of these features and areas within the Northwest Shelf Province, the ancient coastline at 125 m depth contour occurs within the Hydrocarbon EMBA. Refer to Section 4.3.6.1 for further descriptions of this features.</p>			
<b>Northwest Transition</b>			✓
<p>Characteristics of the geomorphology and biological communities of the Northwest Transition include:</p> <ul style="list-style-type: none"> <li>around half (52%) of the bioregion occurs on the continental slope, with smaller areas in the north-west of the bioregion located on the Argo Abyssal Plain and continental rise</li> <li>encompasses a range of water depths, from the shelf break (~200 m water depth) to ~5,980 m over the Argo Abyssal Plain</li> <li>other topographic features within the bioregion include areas of rise, ridges, canyons and apron/fans</li> <li>sediments of the slope are dominated by sands, whereas the sediments of the abyssal plain/deep ocean floor are dominated by muds</li> <li>the bioregion also has reefs such as Mermaid, Clerke, and Imperieuse reefs, which are collectively known as the Rowley Shoals</li> <li>the benthos of the deep ocean areas are likely to support meiofauna (e.g. nematodes), larger infauna (e.g. polychaete worms, isopods), and sparsely distributed epibenthic communities (e.g. sea pens)</li> <li>mobile benthic species (e.g. deepwater sea cucumbers, crabs, polychaetes) are likely to be associated with the seafloor, and bioregion may support sparse populations of benthic-pelagic fish and cephalopods in low densities</li> </ul> <p>Features and areas of ecological importance within the Northwest Transition have been identified as:</p> <ul style="list-style-type: none"> <li>Rowley Shoals—Mermaid Reef Marine National Nature Reserve, Clerke and Imperieuse reefs and surrounding waters</li> <li>Fish communities associated with the slope</li> </ul> <p>Of these features and areas within the Northwest Transition, the demersal fish communities associated with the slope occurs within Hydrocarbon EMBA. Refer to Section 4.3.6.1 for further descriptions of these features.</p>			

<sup>^</sup>Source: Ref. 26

### 4.3.2 Coastal habitats and communities

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

The OA and Sound EMBA occur offshore and do not have any interface with the coast. The Hydrocarbon EMBA do interface with the coast (due to predicted shoreline loading associated with unplanned hydrocarbon release events; Table 4-1). The Hydrocarbon Ecological EMBA interfaces with the west coast of North Muiron Island only. The Hydrocarbon Social EMBA also interfaces with the west coast of North Muiron, South Muiron, and Serrurier Islands, as well as

around the Point Cloates / Ningaloo Station area (Figure 4-1). The coastal communities and habitats that may be present within the Hydrocarbon EMBA are summarised below.

Based on Smartline (Ref. 24), a spatial database containing geomorphic classifications for Australia's coasts, the types of shoreline present within the Hydrocarbon EMBA include rocky coasts and sandy beaches (Muiron and Serrurier islands), sandy tidal flats (Point Cloates / Ningaloo Station).

The Seemap Australia spatial database collates and classifies marine and coastal habitats on the Australian continental shelf (Ref. 25). Review of this dataset did not identify any sensitive marine or coastal habitats (such as mangroves) within the Hydrocarbon EMBA.

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

### 4.3.3 Marine fauna

Listed threatened or migratory species are MNES under the EPBC Act, and a relevant value and sensitivity under the OPGGS(E)R. The following sections identify the presence of these species within the EMBA.

#### 4.3.3.1 Marine mammals

Based on searches of the online PMST (Ref. 15; appendix b), the threatened and/or migratory mammal species shown in Table 4-4 may be present within the EMBA. The full list of marine species identified from the PMST is provided in appendix b. Biologically important areas<sup>4</sup> (BIAs) associated with regionally significant marine mammal species are listed in Table 4-5.

For the threatened and/or migratory species with BIAs within the OA or Sound EMBA (i.e. EMBA associated with planned activities), additional information has been provided in the following subsections.

The threatened and/or migratory cetaceans that may be present within the OA and Sound EMBA are predominantly low-frequency cetaceans<sup>5</sup> (Antarctic Minke Whale, Blue Whale, Bryde's Whale, Fin Whale, Humpback Whale, Sei Whale) and high-frequency cetaceans<sup>6</sup> (Sperm Whale, Killer Whale, Spotted Bottlenose Dolphin). Very-high-frequency cetaceans<sup>7</sup> (e.g. Dwarf Sperm Whale, Pygmy Sperm Whale) were also identified within the PMST (Ref. 15; appendix b) as species or species habitat that may occur within the OA and Sound EMBA, these species are not listed as threatened and/or migratory under the EPBC Act. As shown in Table 4-5, except for Pygmy Blue Whales, there are no other known BIAs or aggregation areas for other cetacean species that intersect with the OA or Sound EMBA; as such, it is expected that any presence cetacean species within the OA and Sound EMBA would be of a transitory nature.

<sup>4</sup> Biologically important areas are spatially defined areas where aggregations of individuals of a species are known to display biologically important behaviour such as breeding, foraging, resting or migration.

<sup>5</sup> Low-frequency cetaceans are the functional cetacean hearing group that are specialised for hearing low frequencies (e.g. baleen whales).

<sup>6</sup> High-frequency cetaceans are the functional cetacean hearing group that are specialised for hearing mid frequencies (e.g. toothed whales, beaked whales, dolphins).

<sup>7</sup> Very-high-frequency cetaceans are the functional cetacean hearing group that are specialised for hearing high frequencies (e.g. *Kogia* spp.).



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

Common name	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Cetaceans (whales)</b>			
Antarctic Minke Whale ( <i>Migratory</i> )	✓	✓	✓
Blue Whale ( <i>Endangered, migratory</i> )	✓	✓	✓
Bryde's Whale ( <i>Migratory</i> )	✓	✓	✓
Fin Whale ( <i>Vulnerable, migratory</i> )	✓	✓	✓
Humpback Whale ( <i>Migratory</i> )	✓	✓	✓
Sei Whale ( <i>Vulnerable, migratory</i> )	✓	✓	✓
Southern Right Whale ( <i>Endangered, migratory</i> )			✓
Sperm Whale ( <i>Migratory</i> )	✓	✓	✓
<b>Cetaceans (dolphins)</b>			
Australian Humpback Dolphin ( <i>Migratory</i> )			✓
Australian Snubfin Dolphin ( <i>Migratory</i> )			✓
Killer Whale ( <i>Migratory</i> )	✓	✓	✓
Spotted Bottlenose Dolphin ( <i>Migratory</i> )	✓	✓	✓
<b>Sirenians</b>			
Dugong ( <i>Migratory</i> )			✓

**Table 4-5: Presence of BIA's for marine mammals**

Common name	BIA behaviour	Seasonal presence	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Dugong	Breeding	Year round				✓
	Calving	Year round				
	Foraging (high density seagrass beds)	Year round				
	Nursing	Year round				
Humpback Whale	Migration (north and south)	Northern migration, late July to September.			✓	✓
Pygmy Blue Whale	Foraging	(Not defined in database)			✓	✓
	Migration	Northern migration (enter Perth canyon January to May; pass Exmouth April to August; continue north to	✓	✓	✓	✓



Common name	BIA behaviour	Seasonal presence	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
		Indonesia). Southern migration (follow Western Australia (WA) coastline from October to late December)				
Southern Right Whale	Migration	April to October				✓
	Reproduction	May to September				✓

<sup>^</sup>Source: Ref. 64

#### 4.3.3.1.1 Pygmy blue whales

Pygmy Blue Whales migrate along the west coast of Australia in the northern direction to their breeding grounds near the Indonesian Archipelago from mid-February to early June, and in the southern direction to the feeding grounds in the Southern Ocean from mid-November to early January (Ref. 65). Recent information collected from satellite tags shows that the Banda and Molucca seas in Indonesia are the likely destination for the northern migration of whales that feed off the Perth Canyon (Ref. 66; Ref. 67; Ref. 68). These seas are considered the northern terminus of the migration and potentially the breeding and calving ground, but may also act as a feeding area (Ref. 69; Ref. 70).

Acoustic monitoring conducted by McCauley and Jenner (Ref. 71) in the Exmouth and northern Montebello Islands region identified a peak period in the northern migration of Pygmy Blue Whales from April to August, and from November through to late-December during the southern migration. It was estimated by McCauley and Jenner (Ref. 71) that between 700 and 1,500 Pygmy Blue Whales migrated southward past Exmouth in 2004.

It is known the Pygmy Blue Whales tend to follow the WA continental shelf edge between their feeding grounds at the Perth Canyon and the North West Cape. However, the migratory pathway of whales north of the North West Cape is less defined.

The migration BIA for Pygmy Blue Whales has been historically described as occurring along the continental shelf edge between 500 m and 1,000 m water depths (Ref. 72; Ref. 59). However, more recent studies (e.g. Ref. 65; Ref. 66) suggest that Pygmy Blue Whales are likely to transit through deeper and further offshore waters north of the North West Cape. Satellite tracking data showed Pygmy Blue Whales on their northern migration travelled relatively near to the Australian coast ( $100 \pm 1.7$  km) in water depths of  $1,369.5 \pm 47.4$  m, until reaching the North West Cape, after which they travelled further offshore ( $238 \pm 14$  km) into progressively deeper water ( $2,617 \pm 143.5$  m) (Ref. 66). Data from tagged Pygmy Blue Whales also indicates that during their northern migration, the width of the migration path increases north of Montebello Islands, from ~175 km to ~690 km at its widest point (Ref. 201). Gavrilov et al. (Ref. 65) conducted a study using an array of ocean bottom seismographs to detect Pygmy Blue Whales traversing the area to the northwest of the North West Cape during their southern migration. This

study found that Pygmy Blue Whales migrated southward much further from the WA coast compared to the northbound migration, at distances of up to 400 km from shore (Ref. 65). Pygmy Blue Whales have demonstrated extensive use of continental slope habitat off Western Australia and only limited use of shelf waters (Ref. 201). This contrasts with southern Australia, where use of the shelf and shelf break by Pygmy Blue Whales is more common.

McCauley and Jenner (Ref. 71) recorded 24-hour average counts of Pygmy Blue Whales along the WA coast during their migrations periods and found that the migratory habits are short and sharp pulses for the southbound Pygmy Blue Whales and a more protracted pulse of northbound Pygmy Blue Whales. This suggests that the southern migration Pygmy Blue Whales are swimming purposefully through the area to reach their southern feeding grounds, thus resulting in the data collected for Pygmy Blue Whales migrating through the area is not confounded by lingering Pygmy Blue Whales but they are swimming steadily past. A difference in travel speed was also reported by Thums et al (Ref. 201), where median speed during northward migration was 2.4 km/h (<0.1–15.4 km/h, n=22), and southward migration was 4.0–5.0 km/h (n=2).

A recent study incorporating data collected from both passive acoustic monitoring and satellite telemetry data, was analysed and determined the ‘most important areas’ for migration<sup>8</sup> along the WA coast as an almost continuous stretch from southern WA to around the latitude of Rowley Shoals, and thereafter was more dispersed (Ref. 201). The OA is situated ~6 km north of an area classified as part of this most important area for migration; however, the south area of the Sound EMBA does intersect with this most important area for migration (Figure 4-2).

Predictions from modelling based on passive acoustic data indicate greatest numbers of Pygmy Blue Whales during April and June/July (northern migration), and November and December (southern migration) (Ref. 201). Monthly spatial predictions indicated higher densities around the Montebello Island region during May and June (northern migration) and November and December (southern migration) (Ref. 201). As the DS-1 exploration drilling activities are planned to commence between 2024 and 2025, the activity could overlap with the months of predicted higher densities of Pygmy Blue Whales.

Pygmy Blue Whales aggregate in the Austral summer to feed at known locations on or adjacent to the continental shelf including the Perth Canyon, Great Southern Australian Coastal Upwelling System, and the sub-tropical convergence zone (Ref. 201). The areas around the Perth Canyon and Australian Coastal Upwelling System correspond to ‘Foraging Areas’ and ‘Known Foraging Areas’ within the *Conservation Management Plan for the Blue Whale* (Ref. 59). The *Conservation Management Plan for the Blue Whale* (Ref. 59) also identifies ‘Possible Foraging Areas’<sup>9</sup>, including two in WA, one off the Ningaloo coast, and another around Scott Reef. These ‘Possible Foraging Areas’ have been characterised as foraging BIAs and occur ~140 km southwest and ~960 km northeast of the OA respectively.

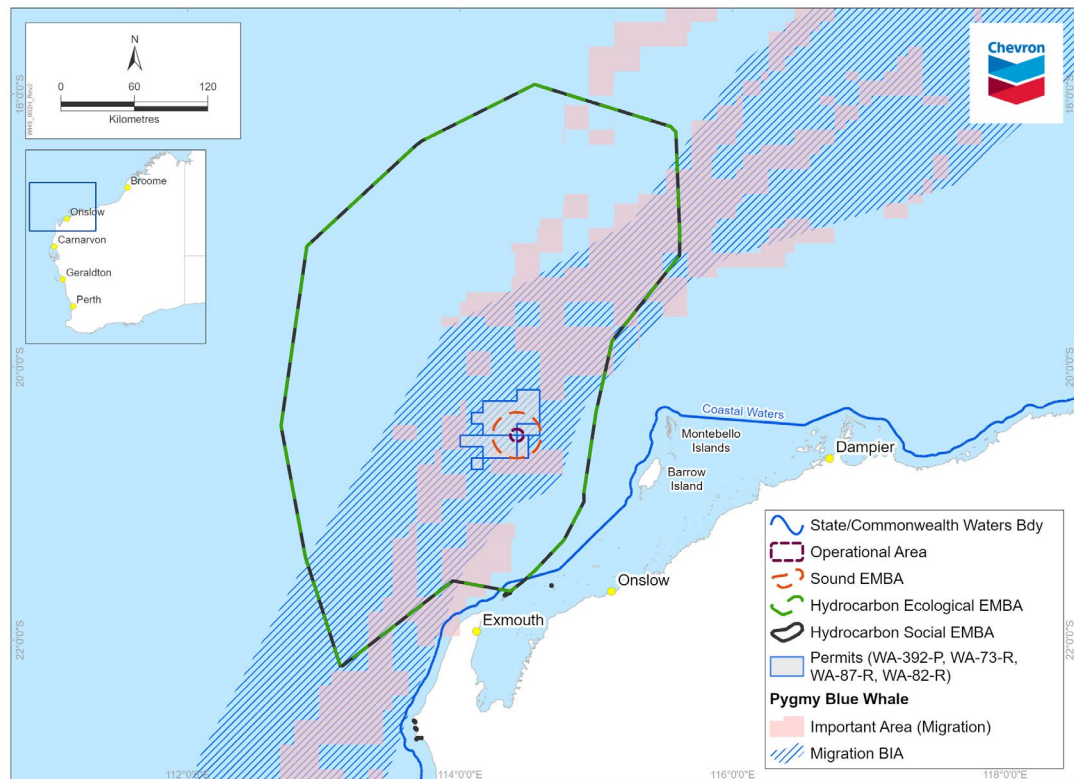
Thums et al (Ref. 201) determined that Pygmy Blue Whale movement off northwest WA was predominantly relatively fast, directed travel (high move persistence) interspersed with relatively short (median 28 h) periods of low move

<sup>8</sup> Grid cells with overlap between two metrics: largest percentage of whales and high move persistence, were designated as the ‘most important areas’ for migration (Ref. 201).

<sup>9</sup> “Evidence of feeding is based on limited direct observations or through indirect evidence, such as occurrence of krill in close proximity to whales, or satellite tagged whales showing circling tracks. Blue whales travel through on a seasonal basis, possibly as part of their migratory route” (Ref. 59).

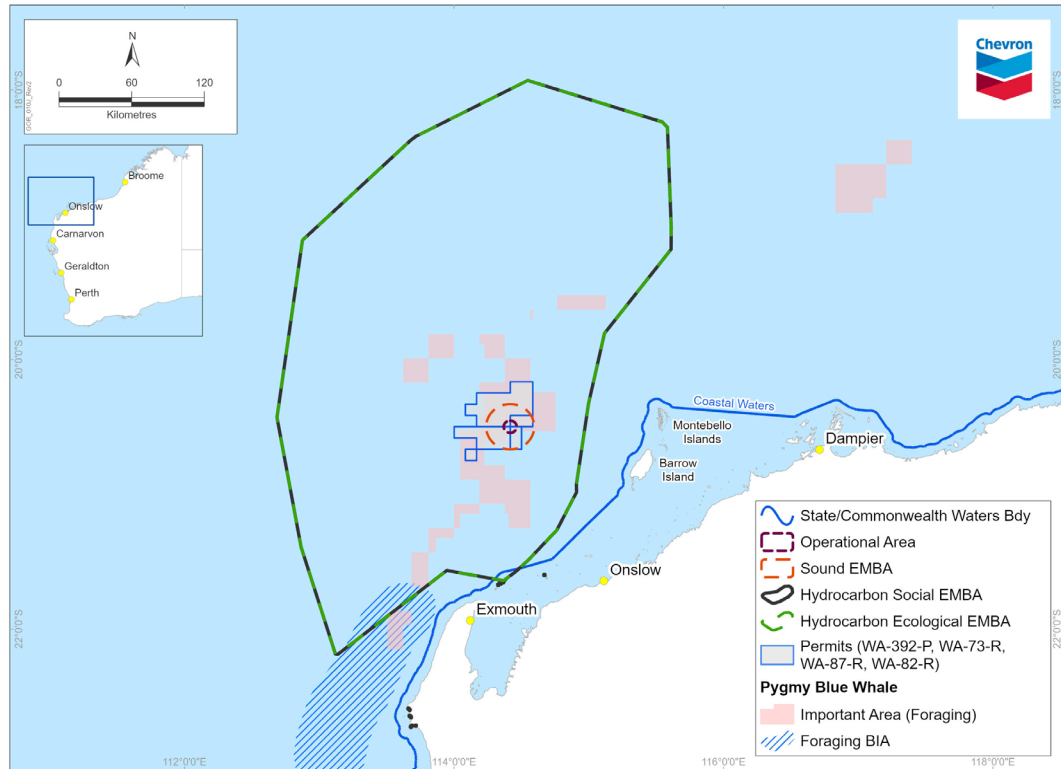
persistence (Ref. 201). This high move persistence is indicative of migration, while the low move persistence is generally indicative of foraging (Ref. 201). Data collected from both passive acoustic monitoring and satellite telemetry data, was analysed and determined the 'most important areas' for foraging<sup>10</sup> along the WA coast included the Perth Canyon and vicinity, the shelf edge off Geraldton, and discontinuous use of the shelf edge from Ningaloo Reef to Rowley Shoals (Ref. 201). Although foraging areas are described as static, they are likely to be dynamic given their dependence on presence of prey (Ref. 201; Ref. 73). The OA and Sound EMBA do intersect with an area classified as this most important area for foraging (Figure 4-3).

The OA is located in water depths of ~940–1,020 m, and ~95 km from the mainland coast. The defined migratory BIA for Pygmy Blue Whales overlaps with the OA; however, it is expected based on satellite tracking and acoustic detection studies that Pygmy Blue Whales are likely to travel further offshore, particularly on their southern migration (November to December), but also during the northern migration (April to August). While foraging BIAs have not been identified along the North West Shelf (NWS), recent analysis indicates that there may be short interspersed periods of foraging occurring along the shelf edge during migration (Ref. 201). The OA and Sound EMBA do intersect with areas identified as important for foraging; however, the use of these areas is expected to be associated with migration (and associated timing).



**Figure 4-2: Most important areas for migration along WA coast as determined by Thums et al (Ref. 201)**

<sup>10</sup> Grid cells with overlap between three metrics: greatest time spent, largest percentage of whales, and lowest move persistence, were designated as the 'most important areas' for foraging (and/or resting/breeding) (Ref. 201).



**Figure 4-3: Most important areas for foraging along WA coast as determined by Thums et al (Ref. 201**

#### 4.3.3.2 Reptiles

Based on searches of the online PMST (Ref.15; appendix b), the threatened and/or migratory reptile species shown in Table 4-6 may be present within the EMBA. The full list of marine species identified from the PMST is provided in appendix b. Habitat critical to survival of marine turtle species, or BIAs associated with regionally significant marine reptile species, are listed in Table 4-7 and Table 4-8 respectively.

No threatened and/or migratory species with BIAs, or habitat critical to the survival of a species, were identified within the OA or Sound EMBA.

**Table 4-6: Presence of threatened and/or migratory reptiles**

Common name	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Turtles</b>			
Flatback Turtle ( <i>Vulnerable, migratory</i> )	✓	✓	✓
Green Turtle ( <i>Vulnerable, migratory</i> )	✓	✓	✓
Hawksbill Turtle ( <i>Vulnerable, migratory</i> )	✓	✓	✓
Leatherback Turtle ( <i>Endangered, migratory</i> )	✓	✓	✓
Loggerhead Turtle ( <i>Endangered, migratory</i> )	✓	✓	✓

Common name	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Seasnakes</b>			
Leaf-scaled Seasnake ( <i>Critically Endangered</i> )			✓
Short-nosed Seasnake ( <i>Critically Endangered</i> )			✓

**Table 4-7: Habitat critical to the survival of marine turtles**

Common name	Nesting location	Interesting buffer	Seasonal presence	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
Flatback Turtle	Barrow Island, Montebello Islands, coastal islands from Cape Preston to Locker Island	60 km	October to March			✓
Green Turtle	Barrow Island, Montebello Islands, Serrurier Island, and Thevenard Island	20 km	November to March			✓
	Exmouth Gulf and Ningaloo Coast	20 km	November to March			✓
Hawksbill Turtle	Cape Preston to mouth of Exmouth Gulf including Montebello Islands and Lowendal Islands	20 km	October to February			✓
Loggerhead Turtle	Exmouth Gulf and Ningaloo Coast	20 km	November to May			✓

**Table 4-8: Presence of BIAS for marine reptiles**

Common name	BIA behaviour	Seasonal presence	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Flatback Turtle	Interesting buffer	Early summer			✓	✓
		Summer			✓	✓
	Nesting	Summer				✓
Green Turtle	Interesting buffer	Summer			✓	✓
	Nesting	Summer			✓	✓
	Interesting buffer	(not defined in database)			✓	✓

Common name	BIA behaviour	Seasonal presence	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Hawksbill Turtle	Nesting	(not defined in database)				✓
Loggerhead Turtle	Internesting buffer	(not defined in database)			✓	✓
	Nesting	(not defined in database)			✓	✓

^Source: Ref. 64

#### 4.3.3.3 Fishes including sharks and rays

Based on searches of the online PMST (Ref. 15; appendix b), the threatened and/or migratory fish species shown in Table 4-9 may be present within the EMBA. The full list of marine species identified from the PMST is provided in appendix b. BIAs associated with regionally significant fish species are listed in Table 4-10.

No threatened and/or migratory species with BIAs were identified within the OA or Sound EMBA.

**Table 4-9: Presence of threatened and/or migratory fishes, including sharks and rays**

Common name	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Fish</b>			
Southern Bluefin Tuna ( <i>Conservation dependent</i> )	✓	✓	✓
<b>Sharks</b>			
Dwarf Sawfish ( <i>Vulnerable, migratory</i> )			✓
Freshwater Sawfish ( <i>Vulnerable, migratory</i> )		✓	✓
Green Sawfish ( <i>Vulnerable, migratory</i> )		✓	✓
Grey Nurse Shark ( <i>Vulnerable</i> )		✓	✓
Longfin Mako ( <i>Migratory</i> )	✓	✓	✓
Narrow Sawfish ( <i>Migratory</i> )	✓	✓	✓
Oceanic Whitetip Shark ( <i>Migratory</i> )	✓	✓	✓
Scalloped Hammerhead ( <i>Conservation dependent</i> )	✓	✓	✓
Shortfin Mako ( <i>Migratory</i> )	✓	✓	✓
Whale Shark ( <i>Vulnerable</i> )		✓	✓
White Shark ( <i>Vulnerable, migratory</i> )	✓	✓	✓

Common name	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Rays</b>			
Giant Manta Ray ( <i>Migratory</i> )	✓	✓	✓
Reef Manta Ray ( <i>Migratory</i> )		✓	✓

**Table 4-10: Presence of BIAs for fishes, including sharks and rays**

Common name	BIA behaviour	Seasonal presence	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
Whale Shark	Foraging	Spring			✓

^Source: Ref. 64

#### 4.3.3.4 Seabirds and shorebirds

Based on searches of the online PMST (Ref. 15; appendix b), the threatened and/or migratory seabird and shorebird species shown in Table 4-11 may be present within the EMBA. The full list of marine species identified from the PMST is provided in appendix b. BIAs associated with regionally significant seabird and shorebird species are listed in Table 4-12.

For the threatened and/or migratory species with BIAs within the OA (i.e. EMBA associated with planned activities), additional information has been provided in the following subsections.

**Table 4-11: Presence of threatened and/or migratory seabirds and shorebirds**

Common name	OA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Australian Fairy Tern ( <i>Vulnerable</i> )	✓	✓	✓
Australian Painted Snipe ( <i>Endangered</i> )		✓	✓
Bar-tailed Godwit ( <i>Migratory</i> )			✓
Barn Swallow ( <i>Migratory</i> )			✓
Campbell Albatross ( <i>Vulnerable, migratory</i> )		✓	✓
Christmas Island White-tailed Tropicbird ( <i>Endangered</i> )	✓	✓	✓
Common Greenshank ( <i>Endangered, Migratory</i> )			✓
Common Noddy ( <i>Migratory</i> )	✓	✓	✓



Common name	OA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Common Sandpiper ( <i>Migratory</i> )	✓	✓	✓
Curlew Sandpiper ( <i>Critically endangered, migratory</i> )	✓	✓	✓
Eastern Curlew ( <i>Critically endangered, migratory</i> )	✓	✓	✓
Flesh-footed Shearwater ( <i>Migratory</i> )		✓	✓
Fork-tailed Swift ( <i>Migratory</i> )			✓
Great Frigatebird ( <i>Migratory</i> )		✓	✓
Greater Sand Plover ( <i>Vulnerable, Migratory</i> )			✓
Grey Wagtail ( <i>Migratory</i> )			✓
Indian Yellow-nosed Albatross ( <i>Vulnerable, migratory</i> )		✓	✓
Lesser Frigatebird ( <i>Migratory</i> )	✓	✓	✓
Little Tern ( <i>Migratory</i> )			✓
Northern Siberian Bar-tailed Godwit ( <i>Endangered</i> )			✓
Oriental Plover ( <i>Migratory</i> )			✓
Oriental Pratincole ( <i>Migratory</i> )			✓
Osprey ( <i>Migratory</i> )		✓	✓
Pectoral Sandpiper ( <i>Migratory</i> )	✓	✓	✓
Red Knot ( <i>Vulnerable, migratory</i> )	✓	✓	✓
Roseate Tern ( <i>Migratory</i> )			✓
Sharp-tailed Sandpiper ( <i>Vulnerable, Migratory</i> )	✓	✓	✓
Soft-plumaged Petrel ( <i>Vulnerable</i> )		✓	✓
Southern Giant-Petrel ( <i>Endangered, migratory</i> )	✓	✓	✓
Streaked Shearwater ( <i>Migratory</i> )	✓	✓	✓
Wedge-tailed Shearwater ( <i>Migratory</i> )		✓	✓
White-tailed Tropicbird ( <i>Migratory</i> )	✓	✓	✓
Yellow Wagtail ( <i>Migratory</i> )		✓	✓

**Table 4-12: Presence of BIAs for Seabirds and Shorebirds**

Common name	BIA Behaviour	Seasonal Presence	OA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Roseate Tern	Breeding	Mid-March to July.			✓
Wedge-tailed Shearwater	Breeding	Mid-August to April (Pilbara) or mid-May (Shark Bay)	✓	✓	✓

^Source: Ref. 64



#### 4.3.3.4.1 Wedge-tailed shearwater

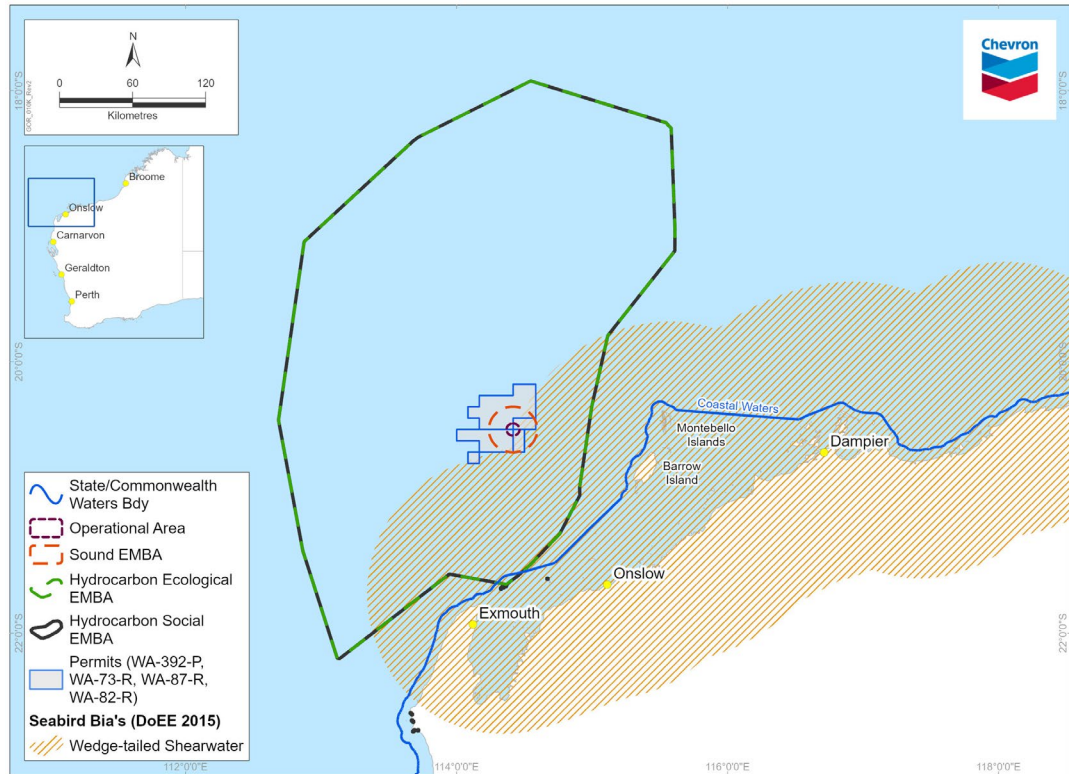
Behaviours used to define BIAs for seabirds in Commonwealth marine areas include breeding with a foraging buffer, and roosting (Ref. 220). The BIAs for this species are buffers around islands that this species is known to nest on (Figure 4-4). Bird species may forage in the waters surrounding the islands during nesting seasons. The Wedge-tailed Shearwater 'foraging in high numbers BIA' is much further south (>590 km from the OA), near Carnarvon.

Wedge-tailed Shearwaters are a pelagic, migratory visitor to WA; estimates indicate more than one million shearwaters migrate to the Pilbara islands each year (Ref. 74); out of an estimated global population of five million (Ref. 75). The Wedge-tailed Shearwaters typically begin arriving at their WA colonies around August each year and will excavate burrows on vegetated islands for nesting; peak egg laying typically occurs during November; and they will typically leave nests in early-April to early-May and travel north to the Indian Ocean (Ref. 76; Ref. 77). Migration from the colony is very synchronous, but the return is less so (Ref. 77). The departure (early-April to early-May) and arrival (around August) of Wedge-tailed Shearwaters to WA may overlap with the timing of the DS-1 exploration drilling (which is planned to commence between 2024 and 2025). Once adults cease returning to feed their young, the young (fledgling) Wedge-tailed Shearwaters fledge and depart nests (Ref. 228; Ref. 229).

Known breeding locations in the NWMR include Forestier Island (Sable Island), Bedout Island, Dampier Archipelago, Passage Island, Lowendal Island, islands off Barrow Island (Mushroom, Double and Boodie islands), islands in the Onslow area (including Airlie, Bessieres, Serrurier, North and South Muiron and Locker islands), islands in Freycinet Estuary, and south Shark Bay (Slope, Friday, Lefebvre, Charlie, Freycinet, Double and Baudin islands) (Ref. 75).

One of the closest colonies to the OA is Double Island (east of Barrow Island). Baseline monitoring (pre-construction of the Gorgon Gas Development) recorded ~20–50 Wedge-tailed Shearwater nesting burrows on North Double Island and ~300 on South Double Island (Ref. 78; Ref. 79). CAPL (Ref. 80; Ref. 79) provided an estimate of 500 burrows over a 2 ha portion of the north-eastern corner of South Double Island, supporting 5,000–10,000 pairs of Wedge-tailed Shearwaters.

This species forages relatively close to breeding islands and its diet consists of squid, fish, and crustaceans (Ref. 75). However, more recent studies have indicated bimodal foraging. A study on foraging behaviour of the Wedge-tailed Shearwaters during the 2018 nesting season on the Muiron Islands showed a bimodal foraging strategy that incorporated both short (<4 days) and long (>7 day) trips (Ref. 77). The foraging trips of the Wedge-tailed Shearwaters from the Muiron Islands were recorded over a large area, extending from the Cape Range Canyon to the Indonesian Archipelago; and a consistent pattern of foraging near seamounts was observed (Ref. 77). It is noted that this same area is part of the foraging extent used by the Wedge-tailed Shearwaters from both Pelsaert and Houtman Abrolhos islands (Ref. 81; Ref. 77). The use of a bimodal foraging strategy suggests that prey availability close to the colony (i.e. areas that would be utilised on short trips) are inadequate for the large numbers of breeding shearwaters (Ref. 77).



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

**4.3.3.5 Summary of marine fauna seasonal sensitivities**

Periods of the year coinciding with key biologically important behaviours for EPBC Act listed threatened and/or migratory species that may potentially be present within the OA are presented in Table 4-13.

**Table 4-13: Seasonal presence of marine fauna with biologically important behaviours within the vicinity of the OA**

Activity / Species	January	February	March	April	May	June	July	August	September	October	November	December
<b>Petroleum activity</b>												
Exploration drilling activity <sup>1</sup>												
<b>Marine fauna with biologically important behaviour</b>												
Pygmy Blue Whale northern migration <sup>2</sup>												
Pygmy Blue Whale southern migration <sup>2</sup>												
Wedge-tailed Shearwater migration <sup>3</sup>												
Wedge-tailed Shearwater breeding <sup>4</sup>												
<i>Indicative activity timing</i>												
<i>Species may be present and display biologically important behaviour in the region</i>												
<i>Predicted peak period</i>												

1. *As described in Section 3.1.3 the exploration drilling activity is planned to commence between 2024 and 2025; however, the activity is estimated to only take ~50 days to complete.*
2. *Pygmy Blue Whales migrate north along the WA coast between February and August (Ref. 67; Ref. 71), with predicted highest densities in the Montebello Island region during May and June (Ref. 201). Pygmy Blue Whales migrate south between November and January (Ref. 67; Ref. 71), with predicted highest densities in the Montebello Island region during November and December (Ref. 201).*
3. *Wedge-tailed Shearwaters typically begin arriving at their WA colonies around August; and then leave nests in early-April to early-May (Ref. 76; Ref. 77). Once adults cease returning to feed their young, the young (fledging) Wedge-tailed Shearwaters fledge and depart nests (Ref. 228; Ref. 229).*
4. *Wedge-tailed Shearwaters breed in the Pilbara region from November to April (Ref. 230); peak egg laying typically occurs during November (Ref. 76; Ref. 77).*

#### 4.3.4 Marine environmental quality

The term 'environmental quality' refers to the level of contaminants, or changes to the physical or chemical properties relative to a natural state (Ref. 82).

##### 4.3.4.1 Water quality

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

The NWS is characterised by a relatively clear water column; however, these waters sometimes have naturally higher levels of turbidity as a result of local current, tidal or wave-induced resuspension of fine sediments and seasonal fluvial inputs (Ref. 83, Ref. 221). In the waters off the east coast of Barrow Island<sup>11</sup>, turbidity and concentrations of suspended sediments were generally low (<5 mg/L) and indicative of clear water environments (Ref. 221).

The nearshore waters on the east coast of Barrow Island are generally oligotrophic, with temporal fluctuations in nutrients (Ref. 221; Ref. 222). Nutrient concentrations were generally below the ANZG default trigger values (nutrient enrichment) for tropical Australia, with occasional fluctuations of ammonia, nitrite+nitrate, and orthophosphate well above guideline values (Ref. 221; Ref. 222). Pre-construction water quality sampling off the east coast of Barrow Island showed that concentrations of metals were typically consistently below the ANZG guideline trigger values for 99% species protection (Ref. 221). However, natural oil seeps are known to occur on the NWS (Ref. 83).

It is expected that these low levels of contamination would throughout the EMBA (unless within the immediate vicinity of an offshore point source).

##### 4.3.4.2 Sediments quality

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

Sediment quality sampling during 2014 and 2015 off the east coast of Barrow Island<sup>11</sup> showed that except for nickel in one reference site sample, total metal concentrations of all sediment samples were below respective laboratory limit of reporting (LoR) and/or Interim Sediment Quality Guideline (ISQG)-Low trigger values (Ref. 221). Sediment tributyltin (TBT) concentrations were all below the laboratory LoR and the ISQG-Low trigger value, except for one sample in each of the 2014 and 2015 surveys (Ref. 221). Total petroleum hydrocarbons (TPH) and

<sup>11</sup> Note: The proposed DS-1 exploration well is ~100 km west-northwest of Barrow Island (Section 2.2).

Total polycyclic aromatic hydrocarbon (PAH) concentrations were all below the LoR in 2014 and at very low concentrations in 2015 samples (with a much lower LoR). Once normalised for (very low) organic carbon (OC) content, six samples from 2015 were above ISQG-Low concentrations for benzo(a)pyrene, but well below the ISQG-High concentrations (Ref. 221).

It is expected that these low levels of contamination would continue throughout the EMBA (unless within the immediate vicinity of an offshore point source).

#### 4.3.4.3 Air quality

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

As part of the Ambient Air Quality Monitoring Program on Barrow Island, there were no recorded exceedances for nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), hydrogen sulfide (H<sub>2</sub>S), or aromatic hydrocarbons (benzene, toluene, ethylbenzene and xylene) against the relevant National Environmental Protection Measure (NEPM) standards (Ref. 223). There have been elevations of PM<sub>10</sub> levels around facilities on Barrow Island, however these are likely associated with vehicle traffic and regional weather events (Ref. 223).

It is expected that these low levels of contamination would continue throughout the EMBA (unless within the immediate vicinity of an offshore point source).

#### 4.3.5 People and communities

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

The NWMR supports a range of economic, social, and cultural activities. At present, industries within the NWMR include petroleum exploration and production, commercial and recreational fishing, tourism, ports and shipping (Ref. 72). These uses of the NWMR make an important economic and social contribution to settlements along the coast (Ref. 72). Industry activities present with the EMBA are identified and described in Section 4.4.6.

##### 4.3.5.1 Land use

The OA and Sound EMBA occur offshore and do not have any interface with the coast. The Hydrocarbon Ecological EMBA interfaces with the west coast of North Muiron Island only. The Hydrocarbon Social EMBA interfaces with the west coast of North Muiron, South Muiron, and Serrurier Islands, as well as around the Point Cloates / Ningaloo Station area (Figure 4-1). Note: The Hydrocarbon EMBA typically only extend landward to the high-water mark (HWM).

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

The Muiron Islands are designated as a State Nature Reserve (IUCN Ia) (Section 4.5.3), and the islands are surrounded by a State Marine Management Area (IUCN VI) (Section 4.5.2). The Muiron Islands are also within The Ningaloo Coast World Heritage property and National Heritage place (Section 4.6.1). The

Nature Reserve is gazetted to the HWM. Limited recreational activities may occur (i.e. diving, snorkelling and swimming). Recreational fishing can be enjoyed in most areas, but special rules apply in some zones (Ref. 84). Camping is permitted on South Muiron Island between April and October, however, a permit must be requested before visiting the Island (Ref. 85).

Serrurier Island is designated as a Nature Reserve (IUCN Ia) (Section 4.5.3). The Nature Reserve is gazetted to the HWM. Serrurier I Island is part of the Pilbara Inshore Islands Nature Reserves known as important breeding and resting places for migratory and resident shorebirds, seabirds and marine turtles (Ref. 86). Fishing, beach walks, and wildlife viewing are types of activities that may occur in Pilbara Inshore Islands Nature Reserve (Ref. 86). Camping is permitted on some of the Pilbara Inshore Islands with a permit; camping on Serrurier Island is seasonal in a designated 'camping area' (Ref. 87).

Point Cloates is a peninsula southwest of North West Cape, along the Ningaloo Coast. The coast is part of the The Ningaloo Coast World Heritage property and National Heritage place (Section 4.6.1). The waters surrounding Point Cloates / Ningaloo Station are protected under WA jurisdiction as the Nynggulara (Ningaloo) Marine Park (IUCN II and IUCN Ia) (Section 4.5.2). Given the natural and heritage values of the coast, recreational activities may occur. Shore-based fishing, beach walks, and wildlife viewing are types of activities that may occur (Ref. 88; Ref. 89).

A Native Title determination (WCD2019/016) extends over the Ningaloo Coast area (Section 4.6.4). The determination area contains places of special significance, such as spiritual and ceremonial sites and natural resources (Ref. 90).

There are no towns or cities located within the Hydrocarbon EMBA.

#### **4.3.5.2 Heritage**

Heritage includes places, values, traditions, events and experiences that capture where we have come from, where we are now and gives context to where we are headed as a community (Ref. 91).

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

##### **4.3.5.2.1 First Nations cultural activities, connections, and obligations**

The land adjacent to the NWMR has been inhabited by First Nations people for at least 50,000 years, and they continue to use the NWMR and adjacent coastal resources, and have an ongoing connection to these areas (Ref. 72).

Although outside the EMBA, evidence from offshore waters near Murujuga (Burrup Peninsula) and on Barrow Island are indicative of the historical and ongoing connection of First Nations people to the NWMR.

Australia's first confirmed First Nations underwater archaeological sites were identified in 2020 in waters offshore from Murujuga (Burrup Peninsula) during the Deep History of Sea Country Project (Ref. 231). These findings confirmed an understanding that First Nations people would have lived on lands that are now submerged in water from rising seas after the last glacial maximum (LGM)<sup>12</sup>. At

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<sup>12</sup> The period of the LGM in Australia is described as 24 to 18 ka (Ref. 234).

the LGM sea level was ~125 m below present (Ref. 233); this coincides with the ancient coastline at 125 m depth KEF (see Section 4.3.6.1 for a description of this KEF). The OA, which occurs in water depths >940 m, would therefore not have been emergent land during the history of First Nations occupation.

Recent studies at Murujuga have demonstrated that archaeological material remains on the seabed, predating inundation by rising seas (Ref. 231; Ref. 235). Previous geomorphological work (which was based on the analysis of available 3D seismic data) on the mid to outer shelf regions proximal to Barrow Island, demonstrated the presence of a highly complex and geomorphically mature coastal landscape preserved at depths of 70–75 m below sea level, including coastal barrier dunes, lagoonal systems, tidal flats, and estuarine channels. (Ref. 233). Such feature preservation has significant geoheritage value (Ref. 233). However, as described above, the OA (which occurs in water depths >940 m) would be located further offshore than these features of potential geoheritage value, and would not have been emergent land during the history of First Nations occupation.

Archaeological deposits from Boodie Cave on Barrow Island, reveal some of the oldest evidence for First Nations occupation of Australia, as well as illustrating the early use of marine resources (Ref. 232). First occupation on Barrow Island has been dated as occurring between 51.1 and 46.2 ka, overlapping with earliest dates for occupation of Australia (Ref. 232). There is evidence of marine resources (e.g. shellfish, fish) being incorporated into dietary assemblages by 42.5 ka on Barrow Island; which continued through all periods of occupation, despite fluctuating sea levels and associated extensions of the coastal plain (Ref. 232). The caves on Barrow Island (including Boodie Cave), and others on nearby Montebello Islands, were abandoned by 6.8 ka when rising sea levels reached their present levels, and the islands had become increasingly distant from the mainland coast (Ref. 232). Despite the isolation of Barrow Island from the mainland for most of the Holocene, Thalanyji knowledge holders refer to historic use of the island from both colonial-era fishing activities and indentured labour in the pearling grounds (Ref. 284).

First Nations people have a culture that relates to a connectedness of land and sea in a holistic way (Ref. 241). The term 'Country' refers to more than just a geographical area, and includes values, places, resources, stories, and cultural obligations associated with that geographical area (Ref. 92). For First Nations peoples the term 'Country' includes both land and sea and the coastal areas that are connected with the traditional Country of a group or clan. Both Country and Sea Country, contain evidence of the ancient events by which all geographic features, animals, plants and people were created (Ref. 241). For example, Thalanyji knowledge holders reference Sea Country "between the islands of the shelf", and "see the artifacts as an important manifestation of their ancestral use of, and connection to, the now-drowned coastal plain" (Ref. 284).

Cultural heritage is not only comprised of tangible values; it also includes intangible values. Tangible values are those with a physical nature (such as artefacts and engravings); while intangible values are those that do not have a physical component (such as songlines and dances). Songlines are a feature of First Nations culture, linking people, places, and practices (Ref. 236). Certain songlines are referred to as 'Dreaming pathways' because of the tracks forged by Creator Spirits during the Dreaming; these Dreaming songlines have specific ancestral stories attached to them (Ref. 237). Nunn and Reid (Ref. 238) discuss how First Nations oral traditions have documented sea level rise over the last

7,000 years. Kearney et al. (Ref. 239) also discusses how seabed mapping near Murujuga (Burrup Peninsula) identified two submerged waterholes that were identified by local senior elders as belonging to the Kangaroo songline. A song line from the mainland to Barrow Island has been referenced during studies involving Thalanyji knowledge holders (Ref. 284) and also identified by representatives of Mardathoonera Cultural Heritage Pty Ltd (MCH) during consultation (Table 4-14).

The cultural, customary, and spiritual significance of species and the ecological communities they form are diverse and varied for First Nations people and their stewardship of Country (Ref. 240). For example, some First Nations people have a strong connection to whales, which has significance as totemic ancestors to some groups (Ref. 240). The arrival of whales along Australia's coast marked the arrival of the "elders of the sea", which follows a songline that traces the journeys of ancestral spirits as they created the land, animals, and lore (Ref. 240).

First Nations people in northwest WA continue to rely on coastal and marine environments and resources of the region for their cultural identity, health and wellbeing, and their domestic and commercial economies (Ref. 242). Their commitment to their Sea Country is demonstrated through their native title claims and their many initiatives to regain their role as managers of the cultural and natural values of northwest WA (Ref. 242).

First Nations peoples of northwest WA engage in a diverse range of marine resource use activities, including hunting, egg collecting, fishing and gathering shellfish. Activities also continue on lands and waters where they have ceremonial and spiritual connections (Ref. 242).

Consultation with First Nations groups and individuals has identified that Sea Country is of importance to their people (Table 4-14). These values include coastal areas, offshore islands, marine fauna, and traditional stories (e.g. it is believed that the Dreamtime serpent which created the rivers and inland springs is now in its resting place off the Pilbara coast; and as such, if the sea is protected, then the serpent is also being protected). It is acknowledged that First Nations people who are the custodians of this knowledge have the rights to decide how it is shared and used.

Underwater cultural heritage (UCH), including First Nations UCH, as protected under the UCH Act is discussed in Section 4.6.2.

**Table 4-14: Cultural values or features identified through consultation**

Source	Cultural value or feature
Baiyungu Aboriginal Corporation (BAC)	<ul style="list-style-type: none"> <li>Protecting land and Sea Country is a significant focus of the BAC</li> <li>The Baiyungu coastal area, Sea Country, and adjacent islands are highly valuable to the Baiyungu people.</li> </ul>
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	<ul style="list-style-type: none"> <li>The Thalanyji people have a deep connection to Sea Country north of Onslow, extending out into the islands off the coast of the Pilbara including:                             <ul style="list-style-type: none"> <li>Montebello Islands^</li> <li>Barrow Island^</li> <li>Mackerel Islands^</li> <li>Direction Island^</li> <li>Airlie Island^</li> <li>Weld Island^</li> </ul> </li> </ul>

Source	Cultural value or feature
	<ul style="list-style-type: none"> <li>– North and South Islands^</li> <li>– Ashburton Island^</li> <li>– Twin Islands^</li> <li>– any island or atoll proximate to the above islands</li> <li>– a general radius of 150 km from Onslow.</li> </ul>
Mardathoonera Cultural Heritage Pty Ltd (MCH)	<ul style="list-style-type: none"> <li>• Identified a connection with Barrow Island* and surrounding waters; specific values described include: <ul style="list-style-type: none"> <li>– the creation story starts on Barrow Island</li> <li>– Barrow Island is a place that connects saltwater and freshwater together</li> <li>– Barrow Island is connected to Murujuga; both are considered by MCH as women’s places</li> <li>– Biggada Creek* is significant and connected to the Fortescue River; and that the rock formations in the creek are protectors</li> <li>– women’s sites and ancestor spirits are present on Barrow Island</li> </ul> </li> <li>• Identified that Barrow Island was a hill in ancient times and is a sister hill to two hills on the mainland, and old people would walk across before the sea levels rose and the island drifted; because of this, there will be artefacts and stories underwater</li> <li>• Identified cultural importance of traditional stories, songlines ocean, and marine fauna <ul style="list-style-type: none"> <li>– the sea is the source of energy for all life, it holds the codes that are encrypted in each person’s body, the songlines, and is the lifeforce for the world</li> <li>– the places where the saltwater from the sea and the freshwater from the land connect are where the biggest energy lines are, and that connection is a force of creation relevant to a Dreaming story</li> <li>– songlines extend out from the land, through the sea, and around the globe</li> <li>– songlines connect places, people, and animals to each other, creating migratory patterns for animals and telling animals of the right time to birth and eat</li> <li>– freshwater that flows underneath the seabed carries the songlines</li> <li>– there is a large energy line that exists off the coast of Murujuga and runs through the area that CAPL operates in</li> <li>– there are songlines that go through Barrow Island and offshore and connect Barrow Island to the mainland; this includes a whale songline</li> <li>– Mardathoonera people are connected to songlines—if the songlines are disrupted, their widdart (heart) is disconnected, like the whales, their feet get lost and they don’t know where to go anymore.</li> </ul> </li> <li>• Country owns people and we are all connected by energy <ul style="list-style-type: none"> <li>– different frequencies connect all beings on earth and everything on earth is connected</li> <li>– if you protect country, it will protect you</li> <li>– women hold the energy connected to water.</li> </ul> </li> </ul>
Murujuga Aboriginal Corporation (MAC)	<ul style="list-style-type: none"> <li>• No specific areas have been identified through consultation however MAC has noted the cultural importance of Sea Country and the need to ensure it is protected.</li> </ul>



Source	Cultural value or feature
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	<ul style="list-style-type: none"> <li>No specific areas have been identified through consultation however NTGAC has noted the cultural importance of Sea Country and the need to ensure it is protected</li> <li>In addition CAPL understands the Ningaloo Coast is culturally significant to the groups NTGAC represents.</li> </ul>
Ngarluma Aboriginal Corporation (NAC)	<ul style="list-style-type: none"> <li>NAC has noted that offshore islands are culturally significant.</li> </ul>
Ngarluma Yindjibarndi Foundation Ltd (NYFL)	<ul style="list-style-type: none"> <li>The people from the land speak for and care about the marine animals, even if they are far out to sea</li> <li>Identified that marine fauna, specifically whales, dugongs, and turtles are species of importance</li> <li>The nature of many traditional narratives have origins and connection to the seascape, and that impacts to the seascape can have cultural repercussions</li> <li>Presence and importance of intangible values, such as Barrimirndi (the serpent), which is an important part of dreaming for Ngarluma and Yindjibarndi people</li> <li>Identified the interconnectedness of the cultural landscape, whereby Traditional Owners from the western Pilbara are held to account by other Nyambali (cultural bosses) when proponents impact land and sea</li> <li>Cultural responsibilities transcend Native Title and other boundaries.</li> </ul>
Robe River Kuruma Aboriginal Corporation (RRKAC)	<ul style="list-style-type: none"> <li>None identified within the EMBA</li> <li>Values beyond the EMBA boundary included: <ul style="list-style-type: none"> <li>the area within their Kuruma Marthudunera native title claim, Jajiwurra (Robe River) and the waters extending seaward from the river mouth</li> <li>ecological integrity of Jajiwurra.</li> </ul> </li> </ul>
Wirrawandi Aboriginal Corporation (WAC)	<ul style="list-style-type: none"> <li>The coastal area, Sea Country, and adjacent islands are highly valuable to the Yaburara and Mardudhunera people</li> <li>Identified a connection to Barrow Island*.</li> </ul>
Yinggarda Aboriginal Corporation (YAC)	<ul style="list-style-type: none"> <li>Bernier Island<sup>#</sup>, Dorre Island<sup>#</sup> and associated Sea Country have been identified as significant to the Yinggarda people.</li> </ul>

<sup>^</sup>Montebello Island, Barrow Island, Mackerel Islands, Direction Island, Airlie Island, Weld Island, North and South Islands, Ashburton Island, and Twin Islands are located outside the EMBA for this EP (~55 km, ~40 km, ~34 km, ~48 km, ~40 km, ~78 km, ~65 km, ~37 km, and ~53 km inshore of the EMBA respectively).

\* Barrow Island and Brigada Creek (located on Barrow Island) are located outside the EMBA for this EP (~40 km east of the EMBA)

# Both Bernier and Dorre islands (located in Shark Bay) are located outside the EMBA for this EP (~284 km and ~311 km south of the EMBA respectively).

#### 4.3.5.2.2 European heritage

Early European exploration of the NWMR and adjacent coast occurred in the 1600s; however, it was concluded at the time that resources and conditions were not appropriate for settlement (Ref. 72). British colonisation didn't begin in the Pilbara until 1860s; pastoralism was the first major industry, followed by small ports and service centres (Ref. 72). The pearling industry began in the late-1800s, and remains a significant contributor to the economy of northwest WA (Ref. 72). Similarly, small fishing fleets were common from the 1860s onwards, and the commercial fishing industry also remains a significant economic input for

northwest WA, particularly from prawn and demersal finfish fisheries (Ref. 72). Petroleum discovery and development commenced from the 1950s, with both onshore and offshore discoveries (Ref. 72).

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

#### 4.3.6 Commonwealth marine areas

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

The NWMR comprises the Commonwealth waters and seabed from the WA—Northern Territory border south to Kalbarri (Ref. 72). The NWMR is characterised by shallow-water tropical marine ecosystems with high species richness. Most of the region's species are tropical and are also found in other parts of the Indian and western Pacific oceans (Ref. 72). The region is a tropical carbonate margin that comprises an extensive area of shelf, slope, and abyssal plain/deep ocean floor, as well as complex areas of bathymetry such as plateau, terraces and major canyons (Ref. 19). The region experiences a tropical monsoonal climate towards the northern extent of the region, transitioning to tropical arid and subtropical arid within the central and southern areas of the region (Ref. 72).

Conservation values of the Commonwealth marine area include:

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

##### 4.3.6.1 Key Ecological Features

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

KEFs meet one or more of these criteria (Ref. 93):

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

- a unique sea floor feature, with known or presumed ecological properties of regional significance.

KEFs have been identified by the Australian Government based on advice from scientists about the ecological processes and characteristics of the area (Ref. 93).

The presence of KEFs within the EMBA, and a description of the KEFs values, are shown in Table 4-15.

**Table 4-15: Prescence of KEFs**

Key ecological feature	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Ancient coastline at 125 m depth contour</b>			✓
<p>Parts of the ancient coastline, particularly where it exists as a rocky escarpment, are thought to provide biologically important habitats in areas otherwise dominated by soft sediments. The topographic complexity of these escarpments may also facilitate vertical mixing of the water column, providing relatively nutrient-rich local environments (Ref. 72).</p> <p>The ancient submerged coastline provides areas of hard substrate and therefore may provide sites for higher diversity and enhanced species richness relative to surrounding areas of predominantly soft sediment. Little is known about fauna associated with the hard substrate of the escarpment but it is likely to include sponges, corals, crinoids, molluscs, echinoderms and other benthic invertebrates representative of hard substrate fauna in the North West Shelf bioregion (Ref. 72).</p> <p><b>Values:</b> Unique sea floor feature with ecological properties of regional significance.</p>			
<b>Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula</b>			✓
<p>The canyons are associated with upwelling as they channel deep water from the Cuvier Abyssal Plain up onto the slope. This nutrient-rich water interacts with the Leeuwin Current at the canyon heads. Aggregations of whale sharks, manta rays, sea snakes, sharks, large predatory fish and seabirds are known to occur in this area (Ref. 72).</p> <p>The canyons on the slope of the Cuvier Abyssal Plain and Cape Range Peninsula are connected to the Commonwealth waters adjacent to Ningaloo Reef and may also have connections to Exmouth Plateau. The narrow shelf width (about 10 km) near the canyons facilitates nutrient upwelling. Thus the canyons probably play a part in the enhanced productivity of the Ningaloo Reef system (Ref. 72). The canyons are also repositories for organic and inorganic particulate matter from the shelf and serve as conduits for its transfer from the surface and shelf to greater depths. The hard substrates of canyons provide habitat for deepwater snapper and other species (Ref. 21).</p> <p><b>Values:</b> Unique sea floor features with ecological properties of regional significance.</p>			
<b>Continental slope demersal fish communities</b>	✓	✓	✓
<p>The diversity of demersal fish assemblages on the continental slope in the Timor Province, the Northwest Transition and the Northwest Province is high compared to elsewhere along the continental slope. The continental slope between North West Cape and the Montebello Trough has more than 500 fish species, 76 of which are endemic, which makes it the most diverse slope bioregion in Australia (Ref. 92).</p> <p>The demersal fish species occupy two distinct demersal community types associated with the upper slope (water depth of 225–500 m) and the mid slope (750–1,000 m). Bacteria and fauna present on the continental slope are the basis of the food web for demersal fish and higher-order consumers in this system (Ref. 72).</p>			

Key ecological feature	OA	Sound EMBA	Hydrocarbon Ecological and Social EMBA
<b>Values:</b> High levels of endemism.			
<b>Exmouth Plateau</b>			
<p>The Exmouth Plateau is a regionally and nationally unique deep-sea plateau (water depths of 800-4,000 m) in tropical waters. The plateau is a very large topographic obstacle that may modify the flow of deep waters, generating internal tides and may contribute to upwelling of deeper water nutrients closer to the surface, thus serving an important ecological role (Ref. 72).</p> <p>The topography of the plateau (with valleys and channels), in addition to potentially constituting a range of benthic environments, may provide conduits for the movement of sediment and other material from the plateau surface through the deeper slope to the abyss. The Exmouth Plateau is generally an area of low habitat heterogeneity; however, it is likely to be an important area of biodiversity as it provides an extended area offshore for communities adapted to depths of around 1000 m. Sediments on the plateau suggest that biological communities include scavengers, benthic filter feeders and epifauna (Ref. 72). Fauna in the pelagic waters above the plateau are likely to include small pelagic species and nekton (Ref. 21).</p>			
<b>Values:</b> Unique sea floor feature with ecological properties of regional significance.			

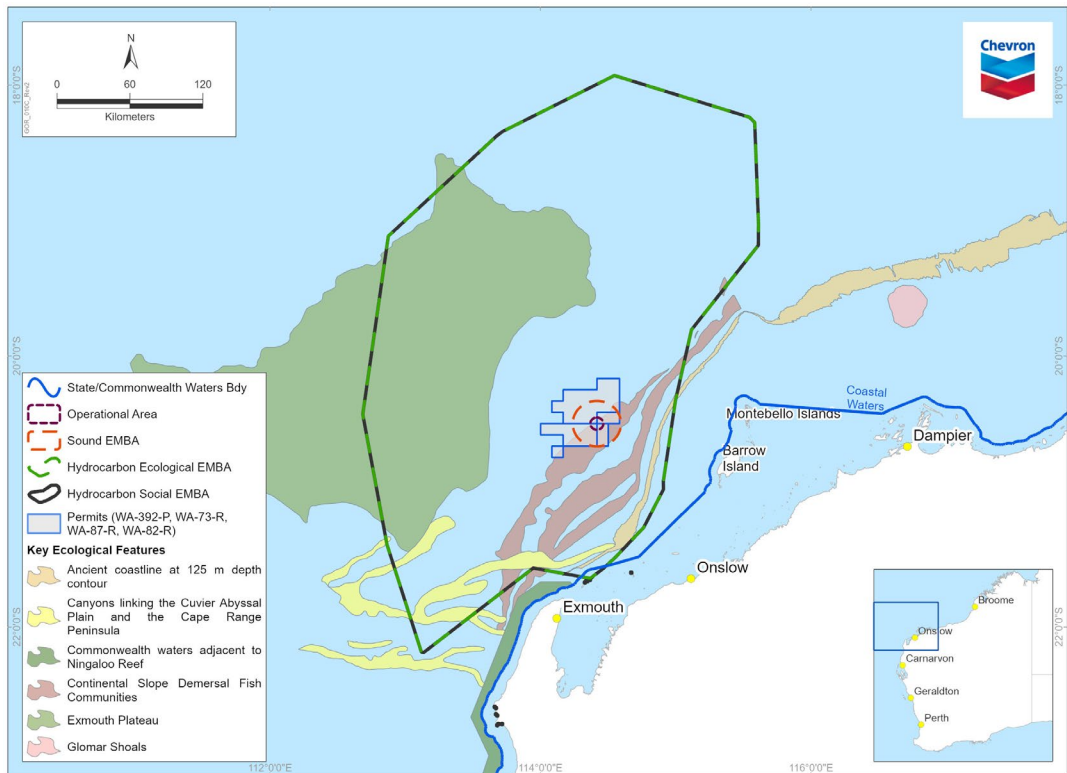


Figure 4-5: Key ecological features within the vicinity of the EMBA

#### 4.3.7 Commonwealth land area

Commonwealth land<sup>13</sup> is a relevant value and sensitivity under the OPGGS(E)R. Based on spatial review and searches of the EPBC Act protected matters database (Ref. 15; appendix b) there are no Commonwealth land areas within the EMBA.

#### 4.4 Natural and physical resources

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

##### 4.4.1 Commercial fisheries

###### 4.4.1.1 Commonwealth managed fisheries

The Commonwealth-managed commercial fisheries with fishing management areas that intersect the EMBA, and that have fishing effort recorded during 2015–2020 (Ref. 30) are listed in Table 4-16.

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

**Table 4-16: Presence of recent (2015-2020) fishing effort recorded within Commonwealth-managed commercial fisheries**

Fishery	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
North West Slope Trawl Fishery (NWSTF)	✓	✓	✓	✓
Western Deepwater Trawl Fishery			✓	✓

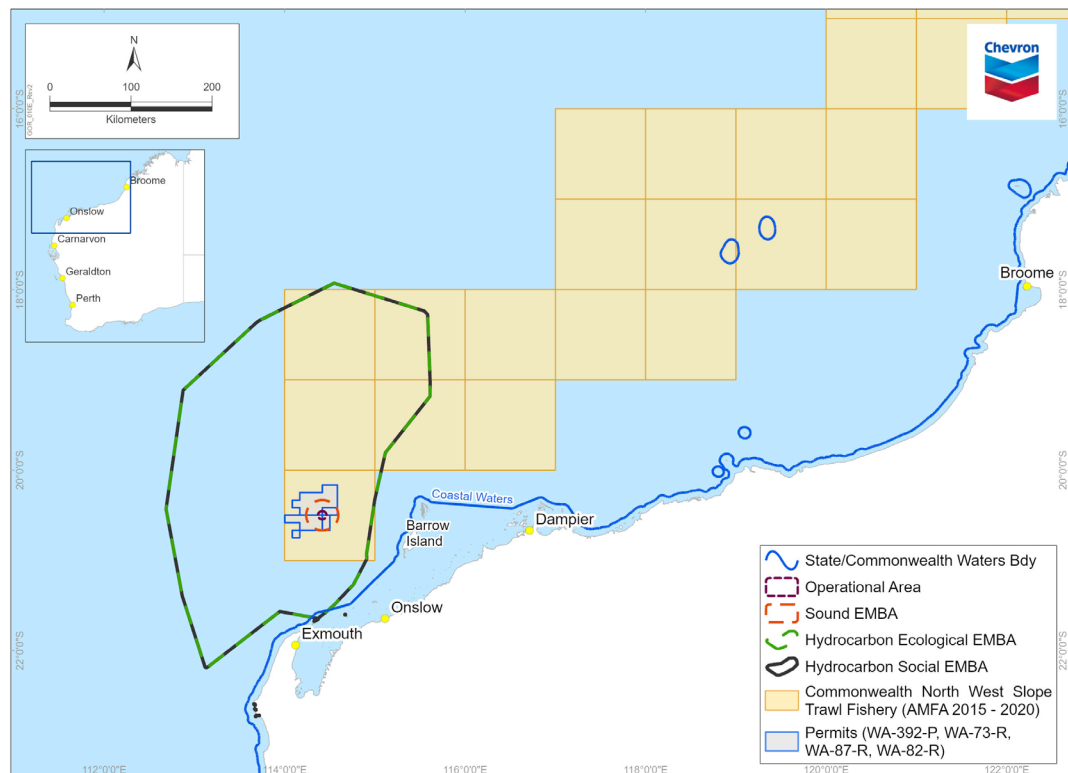
The only fishery with fishing effort recorded within the OA and Sound EMBA was the North West Slope Trawl Fishery (Table 4-16, Figure 4-6). Relative fishing intensity data is not available for this fishery due to low vessel numbers and confidentiality.

The NWSTF uses bottom (or demersal) trawl methods to target deep-water prawn and scampi typically in depths of 350–600 m. The primary species landed in the NWSTF is the Australian scampi (*Metanephrops australiensis*), with smaller quantities of velvet scampi (*M. velutinus*) and Boschma’s scampi (*M. boschmai*). A quantity of prawns is also harvested each season, and squids are becoming an increasingly significant component of the catch. Mixed snappers (*Lutjanidae*) and redspot emperor (*Lethrinus lentjan*) have historically been an important

<sup>13</sup> Commonwealth land includes land owned or leased by the Commonwealth or a Commonwealth agency, land in the Jervis Bay Territory, land in the Christmas Island, Ashmore and Cartier Islands, Coral Sea Islands, Cocos (Keeling) Islands, Australian Antarctic territory and Heard and McDonald Islands external territories, and any other area of land that is included in a Commonwealth reserve.

component of the NWSTF catch. Fishing for scampi occurs over soft, muddy sediments or sandy habitats, using demersal trawl gear on the continental slope. Fishing efforts decreased from 306 days, 5,903 trawl-hours and seven fishing permits in the 2019–20 fishing season to 233 days, 4,420 trawl-hours and six fishing permits in 2020–21 season. Four vessels operated in the 2020–21 season. Scampi stock are classified as not overfished and not subject to overfishing.

Southern Bluefin Tuna are listed as conservation dependent under the EPBC Act (Table 4-9)—a category that allows some commercial catch. The Southern Bluefin Tuna Fishery is active within waters in the Great Australian Bight and south-eastern Australia (i.e. not within the OA or EMBA). A known spawning ground for Southern Bluefin Tuna occurs in the Indian Ocean between Java and northern WA (Ref. 264; Ref. 265). The indicative spawning ground for the Southern Bluefin Tuna (based on geospatial data provided by ABARES, and as shown in annual Commonwealth fishery status reports [e.g. Ref. 31]) occurs ~60 km north of the OA, but does extend into the Hydrocarbon EMBA.



**Figure 4-6: North West Slope Trawl Fishery—records of fishing activity (based on 60 nm graticular reporting blocks) for 2015–2020, within the vicinity of the EMBA**

#### 4.4.1.2 State managed fisheries

The State-managed commercial fisheries with fishery management areas that intersect the EMBA, and that have fishing effort recorded over a 10-year period (2012-2021) (Ref. 27) are listed in Table 4-17.

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

**Table 4-17: Presence of fishing effort recorded during 2012-2021 within State-managed commercial fisheries**

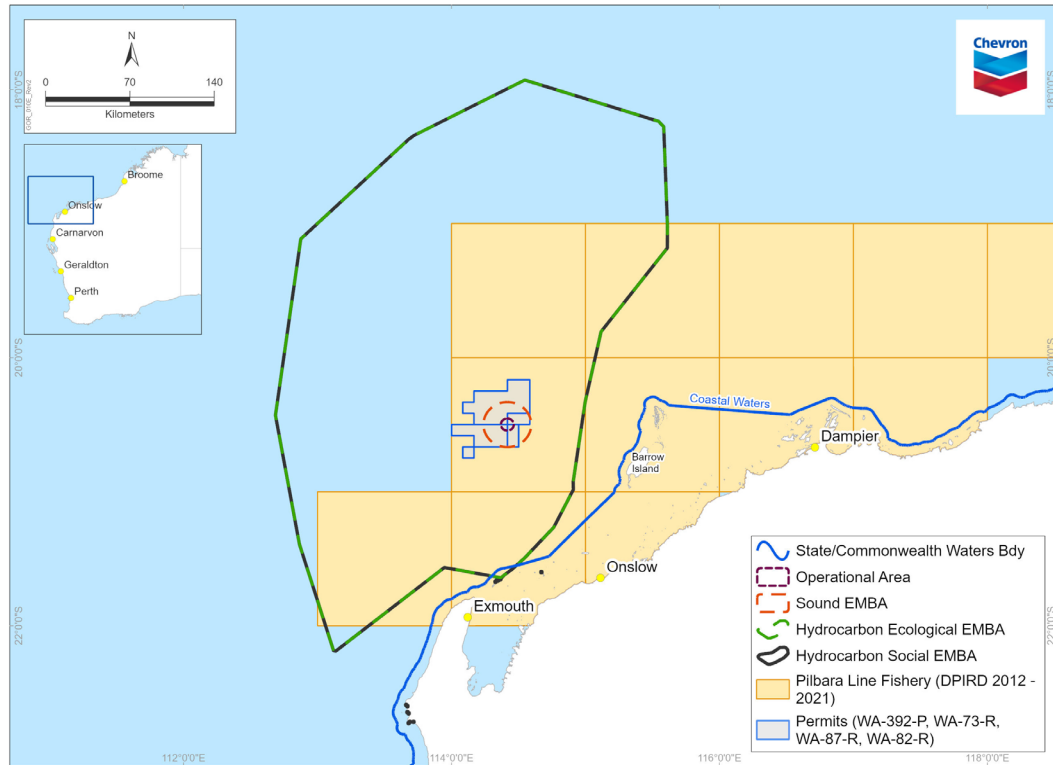
Fishery	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
<b>North Coast Bioregion</b>				
Mackerel Managed Fishery			✓	✓
Pilbara Crab Managed Fishery			✓	✓
Pilbara Line Fishery	✓	✓	✓	✓
Pilbara Trap Managed Fishery	✓	✓	✓	✓
West Australian Sea Cucumber (Beche-De-Mer) Fishery			✓	✓
<b>Gascoyne Bioregion</b>				
West Coast Deep Sea Crustacean Fishery			✓	✓
<b>Statewide</b>				
Marine Aquarium Fish Managed Fishery			✓	✓
Specimen Shell Managed Fishery			✓	✓

The Pilbara Line Fishery (line fishing methods) operates on an exemption basis which restricts vessels to operating within a nominated 5-month block period each year (typically May-September). The Pilbara Line Fishery catch is made up around 45-50 different fish species. The main species targeted by the fishery are bluespotted emperor (*Lethrinus punctulatus*), red emperor (*Lutjanus sebae*) and rankin cod (*Epinephelus multinotatus*), as well as some deeper offshore species such as ruby snapper and eightbar grouper. The total catch of the Fishery in 2020/2021 was 167 t (Ref. 28). Fishing effort reported during 2012-2021 is shown in Figure 4-7.

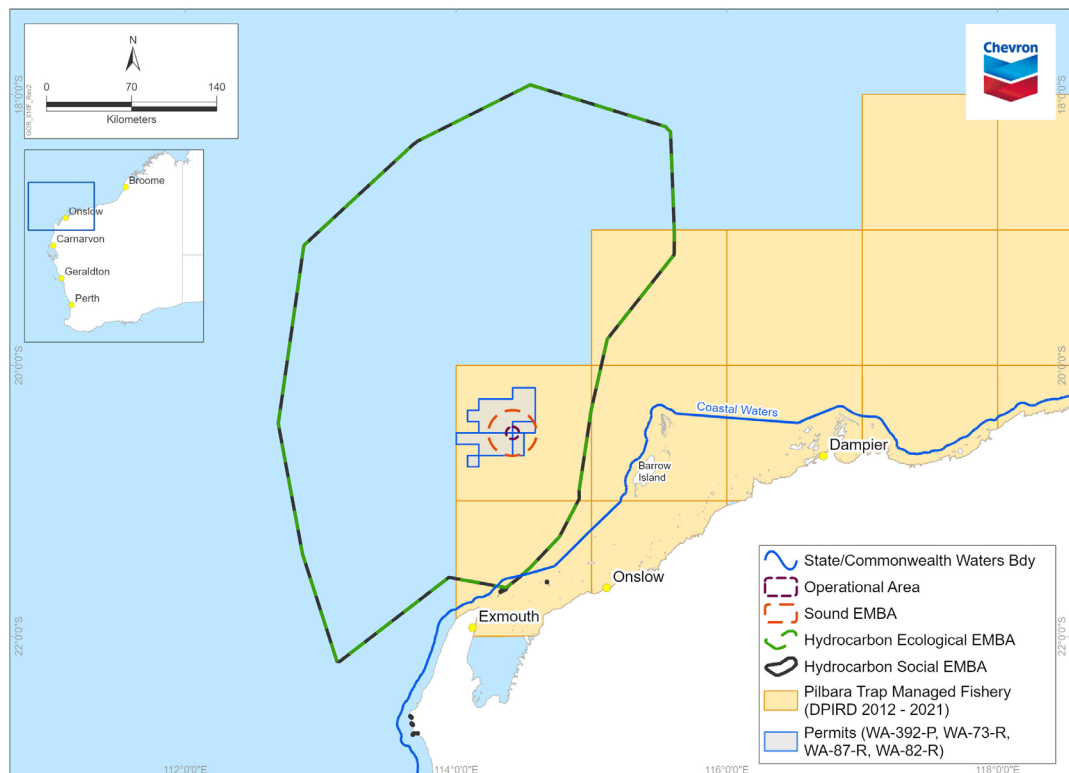
The Pilbara Trap Managed Fishery (trap methods) is managed through area closures and effort allocations (Ref. 28). The main species targeted by the Pilbara Trap Managed Fishery are bluespotted emperor (*Lethrinus punctulatus*), red emperor (*Lutjanus sebae*) and rankin cod (*Epinephelus multinotatus*). The total catch for the fishery in 2020/2021 was 584 t (Ref. 29). Fishing effort reported during 2012-2021 is shown in Figure 4-8.

Both of these fisheries are part of the Pilbara Demersal Scalefish Fishery. For the 2021 fishing year, the bulk of the catch within the Pilbara Demersal Scalefish Fishery was landed by the trawl sector (which does not occur within the OA); with a smaller contributions from the trap (20%) and line (6%) sectors (Ref. 29).





**Figure 4-7: Pilbara Line Fishery—recorded fishing effort (based on 60 nm graiticular reporting blocks) for 2012–2021, within the vicinity of the EMBA**



**Figure 4-8: Pilbara Trap Managed Fishery—recorded fishing effort (based on 60 nm graiticular reporting blocks) for 2012–2021, within the vicinity of the EMBA**



#### 4.4.1.3 Pearling and aquaculture

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

The OA and Sound EMBA occur offshore and do not have any interface with the coast or shallow coastal waters, and therefore there is no overlap with any known licenced aquaculture or pearling operations.

The Hydrocarbon Ecological EMBA interfaces with the west coast of North Muiron Island only. The Hydrocarbon Social EMBA interface with the west coast of North Muiron, South Muiron, and Serrurier islands, as well as around the Point Cloates / Ningaloo Station area (Figure 4-1). There are no known pearl farm leases or aquaculture sites within the Hydrocarbon EMBA's.

#### 4.4.2 Recreational fisheries

Recreational fishing is one of the most popular activities in WA with an estimated third of the population fishing recreationally (Ref. 94). The WA Department of Primary Industries and Regional Development (DPIRD) conducts state-wide recreational fishing surveys every two years, with the first survey completed in 2011. The survey collects information from more than 3,000 recreational fishers who record their catches in logbooks over a 12-month period with DPIRD also conducting interviews throughout the State and monitoring the number of boat launches and retrievals using cameras at various boat ramps.

The 2020–2021 survey report (Ref. 95) identified that most boat-based recreational fishing effort occurred in nearshore habitat (46% and 54% for North-Coast and Gascoyne Coast respectively), followed by inshore demersal habitats (32% and 39% for North Coast and Gascoyne Coast respectively). Most fishing effort was attributed to line fishing (87% and 91% for North-Coast and Gascoyne Coast respectively).

Tour operator fishing efforts recorded over a 10-year period (2012–2021) (Ref. 27) identified limited previous activity within the OA. Fishing effort was reported in 2013 and 2017 only, with  $\leq 3$  vessels operating (the lowest classification for publicly released data).

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

#### 4.4.3 Traditional fisheries

Customary fishing applies to persons who have a traditional connection with the area being fished, and is fishing for personal, domestic, ceremonial, educational or non-commercial needs (Ref. 96). A Customary Fishing Policy has been incorporated into the *Fish Resources Management Act 1994* (WA), which allows for customary fishing by applicable persons to occur within a sustainable fisheries management framework. Customary fishing does not apply to other species of marine fauna (e.g. crocodile, turtle, or dugong).

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

As described in Section 4.3.5.2.1, ongoing use of marine and coastal resources, including customary fishing, is expected to occur in NWMR and adjacent coastal waters. However, it is expected that much of this activity will occur within shallow

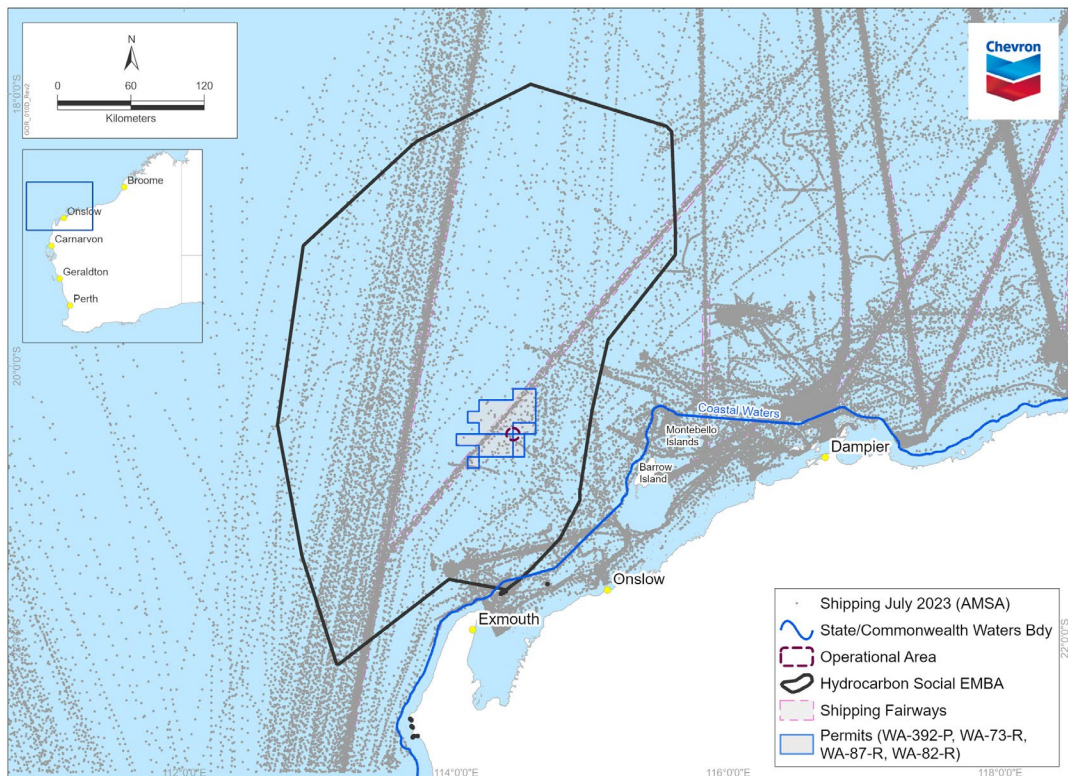
coastal waters and therefore would not intersect with the OA or Sound EMBA. Where shore-based fishing is undertaken, this may intersect with the Hydrocarbon EMBA.

The EMBA does not intersect with the MoU Box that allows for traditional Indonesian fishers within Australian waters. The MoU Box is managed via a bilateral agreement between Australian and Indonesian governments.

#### 4.4.4 Commercial shipping

AMSA collects vessel traffic data from a variety of sources, including satellite shipborne automated identification system (AIS) data, across Australia's Search and Rescue region. This data has been used to develop Figure 4-9, which shows vessel traffic (from July 2023) within the vicinity of the EMBA.

Negligible vessel traffic has been recorded within the OA. The OA is located to the southeast of the nearest NWS shipping fairway (Figure 4-9). Commercial vessels transiting the NWS are expected to remain within the fairways and therefore will not typically coincide with the OA.



**Figure 4-9: Vessel traffic within the vicinity of the EMBA**

#### 4.4.5 Tourism and recreation

Tourism is an important industry for WA, directly employing 56,300 people and indirectly employing a further 22,100 (Ref. 97). Charter fishing, diving, snorkelling, wildlife watching, and cruising are some of the commercial tourism activities in and adjacent to the NWMR (Ref. 72). With the exception of offshore fishing (Section 4.4.2), most marine tourism and recreational activities occur in the shallower State waters (Ref. 72).

The OA and Sound EMBA occur offshore and do not have any interface with nearshore waters or the coast, and as such limited tourism and recreational

activities are expected (Section 4.4.2). The Hydrocarbon EMBA's only interest with small areas of the coast including the west coast of North Muiron, South Muiron, and Serrurier Islands and around the Point Cloates / Ningaloo Station area (Figure 4-1). As described in Section 4.3.5.1, tourism and recreational activities may occur around these places.

The Gascoyne and Pilbara regions are popular visitor destinations for both Australian and international tourists. The main marine nature-based tourist activities within the Gascoyne Region are concentrated around and within the Ningaloo Coast World Heritage property (~114 km south of the OA; Section 4.6). Activities undertaken include recreational fishing, snorkeling and scuba diving, wildlife watching and encounters (including Whale Sharks, Manta Rays, Humpback Whales and turtles) (Ref. 98), as well as beach access, surfing and paddling sports. Recreational fishing within the Pilbara region tends to be concentrated in State waters adjacent to population centres.

#### 4.4.6 Other marine and coastal industries

Several other marine and coastal industries may be present within the EMBA (Table 4-18). There were no offshore renewable energy facilities, ports, salt mines, or onshore processing facilities identified within the EMBA.

**Table 4-18: Presence of industries**

Industry	OA	Sound EMBA	Hydrocarbon Social EMBA
Petroleum exploration and production			✓
Defence			✓
Submarine cable			✓

The Northern Carnarvon Basin is one of the most heavily explored and developed petroleum basins in Australia. The Northern Carnarvon, Browse and Bonaparte basins together comprise most of Australia's natural gas reserves (Ref. 26). The Carnarvon Basin supports >95% of WA's oil and gas production, and accounts for ~63% of Australia's total production of crude oil, condensate, and natural gas (Ref. 26).

The OA extends into four petroleum titles: WA-392-P, WA-73-R, WA-82-R and WA-87-R. No other petroleum activities have been identified within these petroleum titles.

The Royal Australian Air Force have a base located at Learmonth, and there is a designated maritime firing practices and exercise area associated with this base (Ref. 99). There are no known sites of unexploded ordnance within the OA (Ref. 100).

Submarine telecommunications cables are underwater infrastructure linking Australia with other countries; the submarine communications cables carry the bulk of Australia's international voice and data traffic. One known submarine cable intersects with the Hydrocarbon EMBA's, the Darwin-Jakarta-Singapore Cable (DJSC). This cable links the existing Australia Singapore Cable (ASC) to the North-West Cable System. Under Part 2 of the *Telecommunications Act 1997* (Cth), the Australian Communications and Media Authority can declare protection

zones covering the cables to prohibit and/or restrict activities that may damage them. The protection zones are generally the area within 1.85 km (1 nm) either side of the cable and include both the waters and seabed within the area. No protection zone has been declared for the Darwin-Jakarta-Singapore Cable.

#### 4.5 Qualities and characteristics of locations, places and areas

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

##### 4.5.1 Australian marine parks

Marine parks help conserve marine habitats and the marine species that live within and rely on these habitats. Marine parks also provide places for people to watch wildlife, dive, and go boating, snorkeling, or fishing (Ref. 101).

The North-west Marine Parks Network Management Plan (Ref. 189) defines the following types of values for the Marine Parks in the North-west Network:

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

The objectives of the North-west Marine Parks Network Management Plan (Ref. 189) are to provide for:

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

Australian Marine Parks (AMPs), occur within Commonwealth waters and have been proclaimed under the EPBC Act in 2007 and 2013. The presence of AMPs within the EMBA, and a summary of values, is described in Table 4-19 and Figure 4-10.

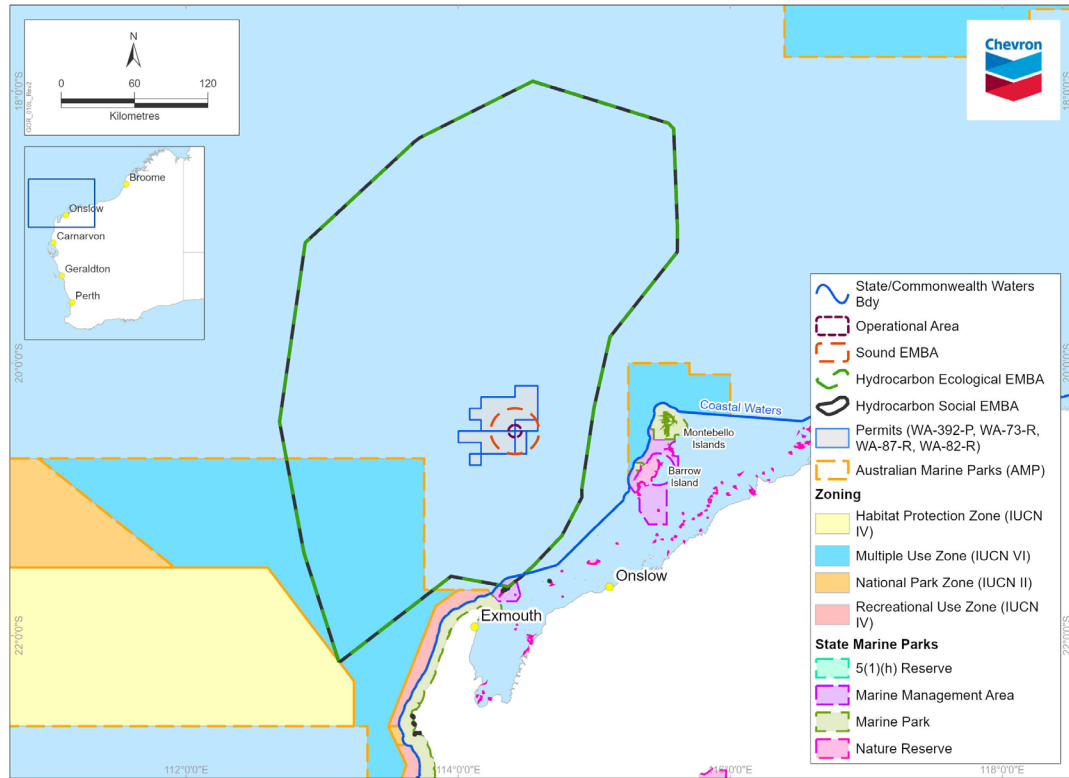
There are no AMPs within the OA; the closest is the Gascoyne Marine Park boundary located ~62 km southwest of the OA.

**Table 4-19: Presence of AMPs**

Australian Marine Park <sup>^</sup>	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
<b>Gascoyne (Multiple use zone [IUCN VI])</b>			✓	✓
The Gascoyne Marine Park is located ~20 km off the west coast of the Cape Range Peninsula, adjacent to the Ningaloo Reef Marine Park and the Western Australian Ningaloo Marine Park, and extends to the limit of Australia's EEZ. The Marine Park covers an area of 81,766 km <sup>2</sup> and water depths between 15 m and 6,000 m.				

Australian Marine Park <sup>^</sup>	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
<p><b>Natural values</b></p> <p>The Marine Park includes examples of ecosystems representative of:</p> <ul style="list-style-type: none"> <li>• Central Western Shelf Transition—continental shelf with water depths up to 100 m, and a significant transition zone between tropical and temperate species</li> <li>• Central Western Transition—characterised by large areas of continental slope; a range of topographic features such as terraces, rises, and canyons; seasonal and sporadic upwelling; and benthic slope communities comprising tropical and temperate species</li> <li>• Northwest Province—an area of continental slope comprising diverse and endemic fish communities.</li> </ul> <p>The marine park includes four KEFs characterised by seasonal and sporadic upwelling, nutrient-rich water and aggregations of marine life and high diversity of demersal fish assemblages. The Marine Park supports a range of species including species listed as threatened, migratory, marine, or cetacean under the EPBC Act. BIAs within the Marine Park include breeding habitat for seabirds; interesting habitat for marine turtles; a migratory pathway for Humpback Whales; and foraging habitat and migratory pathway for Pygmy Blue Whales.</p> <p><b>Cultural values</b></p> <p>Sea Country is valued for Indigenous cultural identity, health and wellbeing. Across Australia, Indigenous people have been sustainably using and managing their Sea Country for tens of thousands of years. The Baiyungu, Thalanyji and Yinikurtura People have responsibilities for sea country in the marine park.</p> <p><b>Heritage values</b></p> <p>No World, Commonwealth or national heritage listings apply to the Marine Park, however the Marine Park is adjacent to the Ningaloo Coast World heritage area.</p> <p><b>Social and economic values</b></p> <p>Commercial fishing, mining and recreation are important activities in the Marine Park. These activities contribute to the wellbeing of regional communities and the prosperity of the nation.</p>				

<sup>^</sup>Source: Ref. 189.



**Figure 4-10: Commonwealth and State marine protected areas within the vicinity of the EMBA**

#### 4.5.2 State marine protected areas

State Marine Parks, Management Areas and Reserves, proclaimed under the *Conservation and Land Management Act 1984 (WA)* (CALM Act), are located in State waters and are vested in the WA Conservation and Parks Commission.

The presence of marine parks or management areas within the EMBA is shown in Table 4-20 and Figure 4-10. There are no State marine parks or management areas within the OA; the closest is the Barrow Island Marine Management Area, located ~90 km southwest from the OA.

**Table 4-20: Presence of state marine parks, management areas and reserves**

State marine parks protected areas	IUCN Zones	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Murion Islands - Marine Management Area	Unassigned (IUCN VI)			✓	✓
	Conservation area (IUCN Ia)				✓
Ningaloo – Marine Park	Sanctuary Zone (IUCN Ia)				✓
	Special Purpose Zone (Shore Based Activities) (IUCN II)				✓
	Unassigned (IUCN II)				✓



### 4.5.3 State terrestrial protected areas

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

The OA occurs offshore and does not have any interface with the coast. The Hydrocarbon Ecological EMBA interfaces with the west coast of North Muiron Island only. The Hydrocarbon Social EMBA interface with the west coast of North Muiron, South Muiron, and Serrurier Islands, as well as around the Point Cloates / Ningaloo Station area (Figure 4-1) The State terrestrial protected areas that intersect with the Hydrocarbon EMBA are shown in Table 4-21.

**Table 4-21: Presence of State terrestrial protected areas**

Lands protected areas	Zone Type (IUCN category)	OA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
Pilbara Islands Nature Reserves <sup>14A</sup>	Nature Reserve (IUCN Ia)		✓	✓
Nyinggulara National Park <sup>A</sup>	Nature Reserve (IUCN Ia)			✓

<sup>A</sup> Protected area is landward of HWM.

### 4.6 Heritage value of places

Listed World Heritage properties, and National Heritage places, are MNES under the EPBC Act, and a relevant value and sensitivity under the OPGGS(E)R.

Table 4-22 identifies the presence of these, and other marine or coastal heritage protected places, within the EMBA.

**Table 4-22: Presence of heritage value**

Feature	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
<b>World Heritage property</b>				
Ningaloo Coast			✓	✓
<b>National Heritage place</b>				
Ningaloo Coast			✓	✓
<b>Commonwealth Heritage place</b>				
N/A	<i>(none identified within EMBA)</i>			
<b>Indigenous Protected Areas</b>				
N/A	<i>(none identified within EMBA)</i>			

<sup>14</sup> The Pilbara Inshore Islands management plan includes 20 existing nature reserves, with several small unallocated Crown Land islands proposed to become nature reserves. Of the existing nature reserves, the Hydrocarbon Ecological EMBA intersects with Muiron Islands, and the Hydrocarbon Social EMBA intersects with Muiron and Serrurier Islands.

Feature	OA	Sound EMBA	Hydrocarbon Ecological EMBA	Hydrocarbon Social EMBA
<b>Sites or artefacts protected under the <i>Underwater Cultural Heritage Act 2018 (Cth)</i></b>				
Historic shipwrecks (>75 years old)			✓	✓
Shipwrecks			✓	✓
Sunken aircraft	<i>(none identified within EMBA)</i>			
In situ artefacts	<i>(none identified within EMBA)</i>			
<b>Sites or artefacts protected under the <i>Aboriginal Cultural Heritage Act 1972 (WA)</i><sup>15</sup></b>				
Ningaloo Station (Skeletal Material / Burial)				✓
<b>Determined areas under the <i>Native Title Act 1993 (Cth)</i></b>				
Native Title determination WCD2019/016				✓
<b>Claim areas under the <i>Native Title Act 1993 (Cth)</i></b>				
N/A	<i>(none identified within EMBA)</i>			

#### 4.6.1 Ningaloo Coast

The Ningaloo Coast is located in WA adjacent to the East Indian Ocean. The area has a high level of terrestrial species endemism, and high marine species diversity and abundance (Ref. 103). The integration of the Ningaloo Reef and Exmouth Peninsula karst system as a cohesive limestone structure is at the heart of the natural heritage significance of the Ningaloo Coast (Ref. 104).

The marine portion of the World Heritage property contains a high diversity of habitats that includes lagoon, reef, open ocean, the continental slope, and the continental shelf (Ref. 103). Intertidal systems such as rocky shores, sandy beaches, estuaries, and mangroves are also present (Ref. 103). The most dominant marine habitat is Ningaloo Reef, which sustains both tropical and temperate marine fauna and flora, including marine reptiles and mammals (Ref. 103).

The main terrestrial feature of the Ningaloo Coast is the extensive karst system and network of underground caves and water courses of the Cape Range (Ref. 103). The karst system includes hundreds of separate features such as caves, dolines, and subterranean water bodies and supports a rich diversity of highly specialised subterranean species (Ref. 103). Above ground, the Cape Range Peninsula belongs to an arid ecoregion recognised for its high levels of species richness and endemism, particularly for birds and reptiles (Ref. 103).

In addition to the natural values of the Ningaloo Coast, Indigenous values are identified under the National Heritage listing (Ref. 104). Archaeological deposits in the rock shelters on Cape Range show First Nations people sophisticated knowledge of marine resources between 35,000 and 17,000 years ago. The rock

<sup>15</sup> Only Aboriginal Sites, being a place described under Section 5 of the *Aboriginal Heritage Act 1976 (WA)*, with a potential coastal and/or marine interface that intersect with the geographic extent of the EMBA (including areas of predicted shoreline loading) have been included. This is considered a conservative approach, as the heritage sites within the Department of Planning, Lands and Heritage spatial dataset (Ref. 102) include a buffer around sites to protect privacy regarding the location. As such, the identified heritage sites may not be present within the EMBA.



shelters are considered to provide the best evidence in Australia for the use of marine resources during the Pleistocene (Ref. 104).

#### 4.6.2 Underwater cultural heritage

Australia's UCH is protected under the UCH Act; this legislation protects shipwrecks, sunken aircraft and other types of underwater heritage, including First Nations UCH in Australian waters<sup>16</sup>.

Under section 15 of the UCH Act, UCH is defined as "any trace of human existence that has a cultural, historical, or archaeological character, and is located under water". The UCH Act protects physical sites and artefacts; intangible heritage values with no physical component are not protected under the Act (Ref. 224).

A desktop analysis was undertaken to determine the presence of UCH within the EMBA. This analysis included:

- searches of the online *Australasian Underwater Cultural Heritage Database* (Ref. 225) for known UCH
- consultation with First Nations people and/or representative bodies (relevant persons) to identify presence of UCH artefacts.

Based on the database searches, both historic (>75 years old) shipwrecks and other shipwreck sites were identified in the EMBA (Table 4-22). No sunken aircraft, or other types or artefacts, were identified within the EMBA from the database searches.

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

#### 4.6.3 Aboriginal cultural heritage

The *Aboriginal Cultural Heritage Act 1972 (WA)* recognises Aboriginal cultural heritage in the WA, including within State waters. A desktop analysis was undertaken to determine the presence of Aboriginal cultural heritage within the EMBA to the extent that it extends into State waters and land. This analysis included:

- searches of heritage sites within the Department of Planning, Lands and Heritage spatial dataset (Ref. 102)
- consultation with First Nations people and/or representative bodies (relevant persons) to identify the presence of Aboriginal cultural heritage.

Aboriginal Heritage places within the Department of Planning, Lands and Heritage spatial dataset (Ref. 102) that were identified in the EMBA are listed in Table 4-22. Heritage sites within the Department of Planning, Lands and Heritage spatial dataset (Ref. 102) include a buffer around sites to protect privacy regarding the location. As such, the identified heritage sites may not be present within the EMBA. Note: There may be other Aboriginal cultural heritage within the meaning of the *Aboriginal Cultural Heritage Act 1972 (WA)* present in the EMBA even if not within the Department of Planning, Lands and Heritage spatial dataset (Ref. 102).

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

The consultation undertaken during the preparation of this EP is summarised in Section 6. Cultural values or features identified through consultation are also summarised within Table 4-14.

#### **4.6.4 Native Title**

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

No native title claims extend to the EMBA.

A Native Title determination (WCD2019/016) extends over the Ningaloo Coast area. The Yinggarda, Baiyungu, and Thalanyji people received recognition as a Native Title holder over an area of 71,354 m<sup>2</sup>. The determination area encompasses several pastoral leases, mining tenements, roads, and reserves, as well as portions of the Kennedy Range and Cape Range national parks, Ningaloo Marine Park, Lake MacLeod, and waters in the Exmouth Gulf and Ningaloo Marine Park (Ref. 90). The Yinggarda, Baiyungu and Thalanyji people have each maintained a physical presence in their respective part of the determination area and have a continuing physical or spiritual involvement in that area (Ref. 90). The determination area contains places of special significance, such as cultural, spiritual and ceremonial sites and natural resources (Ref. 90).

The relevant Prescribed Bodies Corporates (PBCs) are the NTGAC (representing the Baiyungu and Thalanyji people) and the YAC.

## 5 environmental impact and risk assessment methodology

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

The impact and risk assessment for this EP was undertaken in accordance with the CAPL's *ABU (Australian Business Unit) Operational Excellence (OE) Risk Management Process* (Ref. 32) and using Chevron Corporation's Integrated Risk Prioritization Matrix (Table 5-1). This approach generally aligns with the processes outlined in ISO 31000:2018 *Risk management – Principles and guidelines* (Ref. 33) and the HB 203:2012 *Managing environment-related risk* (Ref. 34).

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

- expertise and experience of CAPL personnel involved in previous drilling campaigns
- relevant persons consultation (Section 6).

### 5.1 Identification and description of the petroleum activity

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

### 5.2 Identification of relevant values and sensitivities

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

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

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

Environmental values and sensitivities are also considered to be associated with each of the receptor groups identified and described throughout Section 4 (i.e. in addition to those relevant values and sensitivities as identified under the OPGGS(E)R). All environmental values and sensitivities have been taken into

consideration during the consultation process (and identification in functions, interests, or activities; Section 6), and the impact and risk assessment (Section 7).

### **5.3 Identification of relevant aspects**

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

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

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

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

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

### **5.4 Identification of relevant environmental impacts and risks**

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

### **5.5 Evaluation of impacts and risks**

#### **5.5.1 Consequence**

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

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

- the potential degree of change relative to the existing environment or to acceptability criteria.

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

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

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

## 5.5.2 Control measures and ALARP

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

The OPGGS(E)R defines a control measure as "a system, an item of equipment, a person or a procedure, that is used as a basis for managing environmental impacts and risk".

### 5.5.2.1 ALARP decision context

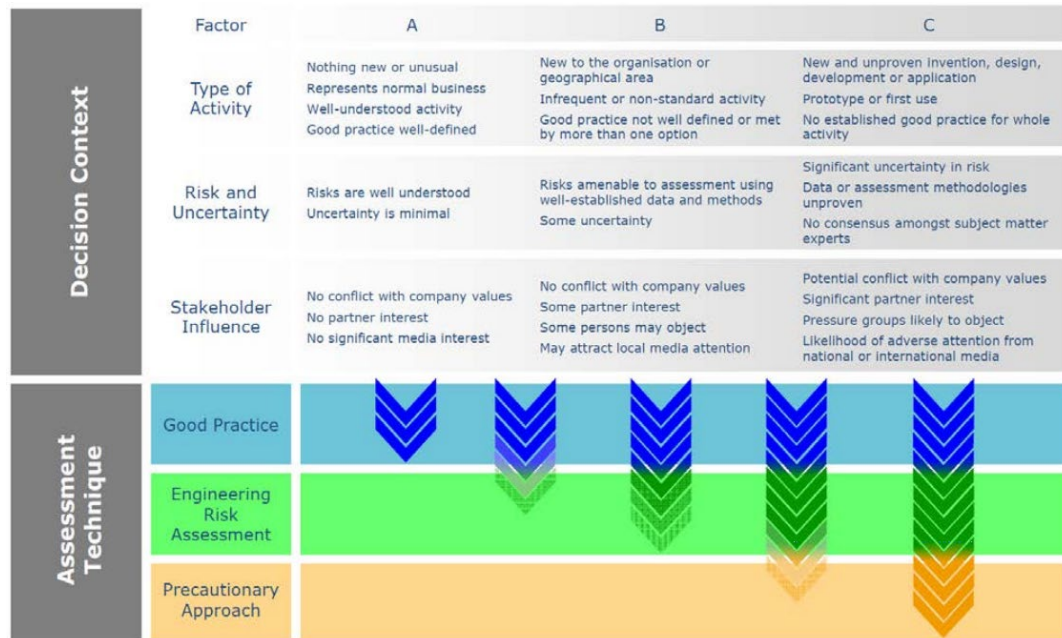
In alignment with NOPSEMA's ALARP guidance note (Ref. 35), CAPL has adapted the approach developed by Oil and Gas UK (OGUK; now Offshore Energies UK) (Ref. 36) for use in an environmental context to determine the assessment technique required to demonstrate that impacts and risks are ALARP. Specifically, the framework considers the magnitude of impacts and risks along with these guiding factors:

- activity type
- risk and uncertainty
- stakeholder influence.

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

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

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



(Source: Ref. 36)

**Figure 5-1: ALARP decision support framework**

In accordance with the regulatory requirement to demonstrate that environmental impacts and risks are ALARP, CAPL has considered the above decision context in determining the level of assessment required. This is applied to each aspect described in Section 6. The assessment techniques considered include:

- good practice
- engineering risk assessment
- precautionary approach.

### 5.5.2.2 Good practice

OGUK (Ref. 36) defines 'good practice' as:

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

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

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

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



### 5.5.2.3 Engineering risk assessment

All impacts and risks that require further assessment are subject to an engineering risk assessment. Based on the various approaches recommended by OGUK (Ref. 36), CAPL believes the methodology most suited to this activity is a comparative assessment of risks, costs, and environmental benefit. A cost–benefit analysis should show the balance between the risk benefit (or environmental benefit) and the cost of implementing the identified measure, with differentiation required such that the benefit of the risk-reduction measure can be seen and the reason for the benefit understood.

### 5.5.2.4 Precautionary approach

After considering all available engineering and scientific evidence, OGUK (Ref. 36) state that if the assessment is insufficient, inconclusive, or uncertain, then a precautionary approach to hazard management is needed. A precautionary approach will mean that uncertain analysis is replaced by conservative assumptions that will result in control measures being more likely to be implemented.

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

### 5.5.3 Likelihood

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

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

### 5.5.4 Quantification of the level of risk

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

### 5.6 Impact and risk acceptance criteria

NOPSEMA provides guidance on demonstrating that impacts and risks will be of an 'acceptable level' (Ref. 16). This guidance indicates that an acceptable level is the level of impact or risk to the environment that may be considered broadly acceptable with regard to all relevant considerations, including:

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

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

### 5.6.1 Principles of ESD and precautionary principle

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

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

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

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

### 5.6.2 Defining an acceptable level of impact and risk

In alignment with NOPSEMA's ALARP guidance note (Ref. 35), CAPL has applied the approach that lower-order environmental impacts or risks (Table 5-3) assessed as Decision Context A are 'broadly acceptable', while higher-order

environmental impacts or risks determined to be Decision Context B or C require further evaluation against a defined acceptable level because they are not inherently 'broadly acceptable'. However, in alignment with NOPSEMA's decision making guidance (Ref. 16) even where the impact or risk is evaluated as being a lower-order impact or risk, but the aspect associated with the activity is listed as a threat to a protected matter under a document made or implemented under this EPBC Act, or identified as an aspect of concern to a listed conservation value under an EPBC Act Marine Bioregional Plans, and can result in a credible impact or risk, CAPL will define an acceptable level of impact and risk in accordance with a document made or implemented under this EPBC Act.

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

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

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

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

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

### 5.6.3 Summary of acceptance criteria

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

**Table 5-4: Acceptability criteria**

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

Criteria	Test
	management is consistent with company policy, culture, and standards.
External context	What objections and claims regarding this aspect were made, and how were they considered / addressed?
Defined acceptable level	Is the impact and risk broadly acceptable (i.e. Decision Context A)?
	If no: For higher-order environmental impacts and risks (Decision Context B or C), what is the defined level of impact, and does the activity meet this level?

## 5.7 Environmental performance outcomes, standards, and measurement criteria

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

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

- **environmental performance outcomes**—a measurable level of performance required for the management of environmental aspects of an activity to ensure that environmental impacts and risks will be of an acceptable level
- **environmental performance standards**—a statement of the performance required of a control measure
  - These statements will consider the effectiveness of the control measures, and, in accordance with NOPSEMA’s decision making guidance (Ref. 16), effectiveness will be considered with regards to the controls’ functionality, availability, reliability, survivability, independence, and compatibility with other control measures
- **measurement criteria**—compliance and assurance statement or records that detail how CAPL enacts the outlined performance standard; these are used to determine whether the environmental performance outcomes and standards were met and whether the implementation strategy was complied with. If no practicable quantitative target exists, a qualitative criterion is set.

## 6 relevant persons consultation

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

Ongoing consultation, as required under regulation 22(15) of the OPGGS(E)R, is described in Section 8.3.4.

### 6.1 Purpose

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

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

The consultation process should also inform the titleholder’s understanding of the environment, including (amongst other things) people and communities, the heritage value of places, and their social and cultural features which may be affected by a titleholder’s proposed activities (Ref. 208). The purpose of consultation is also to:

- identify the social and cultural features of communities within the ecosystem
- inform the control measures to eliminate, reduce and mitigate impacts and risks to those socio-cultural values and sensitivities in response to relevant persons concerns
- to inform NOPSEMA of relevant persons’ identities, the nature of the consultation, and the control measures adopted (Ref. 210 at paragraphs 55–57).

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<sup>17</sup> Paragraph 89 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 210). Note: The regulation number in the above text has been revised to reflect the OPGGS(E)R 2023, from the original *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC judgement transcript.

Regulation 25 establishes an obligation on titleholders to carry out consultation with relevant persons during preparation of an EP, and this obligation must be discharged prior to submitting an EP to NOPSEMA (Ref. 208).

## 6.2 Consultation design

The consultation during the preparation of this EP was undertaken in accordance with CAPL's *Stakeholder Engagement and Issues Management Process: ABU Standardised OE Process* (Ref. 45) and further guided by:

- NOPSEMA's *Environment plan decision making guideline* (Ref. 16)
- NOPSEMA's *Environment plan content requirements guidance note* (Ref. 209)
- NOPSEMA's *Consultation in the course of preparing an environment plan guideline* (Ref. 208)
- NOPSEMA's *Consultation with Commonwealth agencies with responsibilities in the marine area guideline* (Ref. 17)
- NOPSEMA's *Petroleum activities and Australian Marine Parks guidance note* (Ref. 211)
- Full Court of the Federal Court of Australia's decision in *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193* (Ref. 210)
- Commonwealth of Australia's *Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environment Protection and Biodiversity Conservation Act 1999*(Ref. 213)
- Government of Western Australia's *Aboriginal Cultural Heritage Act 2021— Consultation Guidelines* (Ref. 214)
- WA Department of Energy Mines, Industry Regulation and Safety (DEMIRS) *Guideline for the Development of Petroleum, Geothermal and Pipeline Environment Plans in Western Australia* (Ref. 215)
- Australian Fisheries Management Authority's (AFMA) *Petroleum industry consultation with the commercial fishing industry* (Ref. 216)
- Western Australian Fishing Industry Council's (WAFIC) *Oil & Gas Consultation Approach for Unplanned Events* (Ref. 217)
- WAFIC's *Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector* (Ref. 282)
- DPIRDs *Guidance statement for oil and gas industry consultation with the Department of Fisheries* (Ref. 218)
- WA Department of Transport's (DoT) *Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements* (Ref. 219).

The consultation design is reviewed on a case-by-case basis to incorporate any feedback from relevant persons regarding the type of information or method of engagement that is preferred to ensure that the purpose of the consultation is achieved.

### 6.2.1 Relevant person

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

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

Following the direction given by the Full Court of the Federal Court in *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 210), and subsequent NOPSEMA guidance (Ref. 209) it is clear that the phrase “functions, interests or activities” stated in regulation 25(1)(d) should be broadly construed<sup>18</sup> on the basis that a broad construction best promotes the objects of the OPGGS(E)R. In *Santos NA Barossa Pty Ltd v Tipakalippa*, the Court construed the following terms used in regulation 25(1)(d) as follows:

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

Persons or organisations are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R if their functions, interests or activities may be affected by the petroleum activity to be carried out under the EP. CAPL’s approach has been to take a broad interpretation of “function, interest, and activity” and screen in relevant persons.

Where interests are held communally, CAPL has made a decisional choice to consult with representative bodies (Ref. 209 at paragraphs 96–102) and has sought to do so through meetings (Ref. 209 at paragraph 104). CAPL has sought to provide sufficient information to individuals who are relevant persons by providing information to representative bodies for dissemination with members and by attending meetings with group members (Ref. 209 at paragraph 47) and CAPL has also sought to identify those representative body organisations themselves as relevant persons (Ref. 209 paragraph 48). As documented in the summary of consultation (appendix d), CAPL has asked these representative bodies if there are persons outside of the individuals they represent who may be

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<sup>18</sup> Paragraph 51 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 209).

<sup>19</sup> Paragraph 60 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 209).

<sup>20</sup> Paragraphs 63 and 65 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 209).

<sup>21</sup> Paragraphs 58 and 59 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 209). Note: The regulation number in the above text has been revised to reflect the OPGGS(E)R 2023, from the original *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC judgement transcript.

relevant persons for the purposes of consultation to endeavour to make all necessary efforts to identify relevant persons.

### 6.2.2 Sufficient information

Under regulation 25(2) of the OPGGS(E)R and NOPSEMA's guidelines (Ref. 16; Ref. 208), for the purpose of consultation, the titleholder must provide each relevant person with sufficient information to enable them to make an informed assessment of the possible consequences of the petroleum activity on their functions, interests, or activities.

The base level of information provided to all relevant persons includes:

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

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

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

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

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

- CAPL issued an initial factsheet to identified relevant persons in May 2022; this factsheet included information about the proposed petroleum activity, potential impacts and risks, control measures, and included maps showing EMBA
- CAPL released information regarding the proposed DS-1 exploration drilling activities to the Online Consultation Hub (<https://australia.chevron.com/our-businesses/upcoming-activities>) on 3 February 2023 and emailed the link to relevant persons; the Online Consultation Hub contains all the base level of information as described above



- CAPL published notices in The Australian and The West Australian on 3 February 2023; in the Pilbara News, Mid-West Times, and Northwest Telegraph on 8 February 2023, in Business News on 13 February 2023, and National Indigenous Times on 21 February 2023
- CAPL published a LinkedIn post on 24 February 2023 with a link to the Online Consultation Hub that has information regarding DS-1 exploration drilling activity
- CAPL developed posters, presentation materials, and handouts for use and distribution in face-to-face meetings
- CAPL attended various face-to-face meetings with relevant persons (see appendix d)
- CAPL held an information session in the town of Onslow outlining its planned activities, including the DS-1 exploration drilling activities, on 14 March 2023.

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

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

Category of persons or organisations	Consultation strategy and information provided
Commercial fishery licence holders and/or representative bodies	<ul style="list-style-type: none"> <li>• initial correspondence with WAFIC to provide base level information on the petroleum activity and link to the CAPL Online Consultation Hub</li> <li>• follow up correspondence with WAFIC to confirm the commercial fishery licence holders to be consulted</li> <li>• in consultation with WAFIC, determine the level of consultation required and whether tailored consultation material needs to be developed</li> <li>• provision of consultation material to WAFIC for distribution to relevant commercial fishery licence holders</li> <li>• WAFIC provides any feedback received to CAPL, and CAPL provides information to respond to commercial fishery licence holders; any feedback received is considered in the development of the EP</li> <li>• where a commercial fishery that is not represented by WAFIC has been determined as relevant, the representative body is provided consultation material and feedback is requested</li> <li>• after a reasonable period has been provided to consider the consultation information (as outlined in Section 6.2.3), CAPL will confirm with WAFIC or the relevant industry body (as required) whether further consultation is required</li> <li>• ongoing consultation with follow up correspondence, phone calls and meetings as required.</li> </ul>
First Nations people and/or representative bodies	<ul style="list-style-type: none"> <li>• initial correspondence with relevant First Nations representative bodies to request a meeting with the board, Elders, and other relevant persons</li> <li>• provision of base level information on the petroleum activity and link to the CAPL Online Consultation Hub as a precursor to face-to-face meetings</li> <li>• initial face-to-face meeting held using bespoke consultation material, including posters, presentations and verbal discussions               <ul style="list-style-type: none"> <li>– a key objective of the initial meeting is to co-design the consultation strategy going forward and to determine if there</li> </ul> </li> </ul>

Category of persons or organisations	Consultation strategy and information provided
	<p>are additional relevant persons not present at the meeting who should be informed and consulted with.</p> <ul style="list-style-type: none"> <li>• follow up emails, phone calls and meetings, as required, to ensure the functions, interests and activities of First Nations peoples' have been identified and to gain an understanding of cultural values and sensitivities in the EMBA; any feedback received is considered in the development of the EP</li> <li>• site visits on Country with First Nations people may be conducted as required</li> <li>• after a reasonable period has been provided to consider the consultation information (as outlined in Section 6.2.3), CAPL provides the First Nations people and/or representative bodies a summary of consultation undertaken to date and requests agreement on the summary</li> <li>• ongoing consultation with follow up correspondence, phone calls and meetings as required.</li> </ul>
ENGOS	<ul style="list-style-type: none"> <li>• provision of base level information on the petroleum activity and link to the CAPL Online Consultation Hub via email with a request for feedback and an offer to meet face-to-face</li> </ul>
Government departments or agencies	<ul style="list-style-type: none"> <li>• where consultation guidance material is available (as outlined in Section 6.2.2), CAPL tailors its consultation to meet the requirements of the guidance material</li> </ul>
Other petroleum titleholders / commercial industries	<ul style="list-style-type: none"> <li>• local community / town meetings may be held using presentations, posters and verbal discussions as required</li> </ul>
Tourism and recreation operators	<ul style="list-style-type: none"> <li>• any feedback received is responded to and considered in the development of the EP</li> </ul>
WA World Heritage advisory committees	<ul style="list-style-type: none"> <li>• after a reasonable period has been provided to consider the consultation information (as outlined in Section 6.2.3), CAPL will determine whether further consultation is required</li> </ul>
Self-identified and other relevant persons	<ul style="list-style-type: none"> <li>• ongoing consultation with follow up correspondence, phone calls and meetings as required.</li> </ul>

### 6.2.3 Reasonable period

Under regulation 25(3) of the OPGGS(E)R and NOPSEMA's guidelines (Ref. 16; Ref. 208), relevant persons must be provided with a reasonable period for the consultation to occur, allowing the relevant person to make an informed assessment of the possible consequences of the proposed petroleum activity on their functions, interests, or activities and respond to the titleholder. "Reasonable period" was not defined by the Full Federal Court in *Tipakalippa* (Ref. 210), however, consistent with the Court's analysis in the "NTA authorities" section of the judgment, CAPL has sought to identify existing guidelines and practices to help inform what a "reasonable period" may constitute for the relevant person.

Guidance on consultation with Commonwealth departments or agencies indicate that agencies will provide an initial response to consultation requests within 10 business days (Ref. 17) or up to eight weeks (Ref. 212).

Available guidance regarding consultation with State departments or agencies indicates a reasonable period for standard activities is no less than 20 business days (Ref. 218), and up to six weeks (Ref. 219).

Guidance taken from the *Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector* (Ref. 282) suggests that reasonable period for effective consultation is between 30 to 60 days, with 30 days considered the minimum.

Guidance taken from the *Aboriginal Cultural Heritage Act 2021—Consultation Guidelines* (Ref. 214) published by the WA government in 2023 suggests that up to 12 weeks may be a reasonable period of time to allow identification, contact, and response, from First Nations peoples (subject to any alternative timeframe being agreed through co-design of consultation).

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

#### 6.2.4 Sensitive information

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

- a) the relevant person may request that particular information the relevant person provides in the consultation not be published; and
- b) information subject to such a request is not to be published under this Part”.

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

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

#### 6.2.5 Identification of relevant persons

In accordance with NOPSEMA’s guideline for consultation (Ref. 208), titleholders must identify who is a relevant person and the rationale used to determine that identification as a relevant person.

Identifying relevant persons requires an assessment of:

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

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

- identified what types of authorities, persons, or organisations may be relevant to the values and sensitivities present within the EMBA
- reviewed the functions, interests, or activities of the types of organisations or individuals identified, and determined if the functions, interests, or activities of organisations or individuals may be affected by the petroleum activity through multiple lines of evidence:
- existing industry guidance (e.g. Ref. 17; Ref. 211; Ref. 216; Ref. 217; Ref. 218; Ref. 219)
- CAPL's previous consultation history for activities on the NWS
- advice from representative industry and/or community bodies
- online searches
- review of publicly available databases or registers (e.g. access and use authorisations within AMPs, DPIRD's register of fishery licence holders).

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

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

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
Physical presence – other marine users <ul style="list-style-type: none"> <li>• MODU—presence within the OA during the exploration drilling activity</li> <li>• drilling—presence of wellhead and other subsea equipment (e.g. riser) within the OA during the exploration drilling activity</li> <li>• field support—presence of vessels within the OA during the exploration drilling activity.</li> </ul>	Commercial shipping	Interest and activity – Commercial shipping	Temporary presence of MODU and support vessels has the potential to result in disruption to other marine users.	The OA is located outside major shipping fairways and commercial vessel traffic density within the OA is low. Therefore, the temporary presence of the MODU and support vessels within the OA are not expected to have significant consequences for the functions, interests or activities of commercial shipping.	Commercial shipping industry Government departments or agencies
	Commercial fishing	Interest and activity – Commercial fishing	Temporary presence of MODU and support vessels has the potential to result in disruption to other marine users.  Potential for unplanned interactions (e.g. entanglement) between other marine users with the subsea infrastructure or equipment.	Three commercial fisheries (one Commonwealth and two State) with fishing effort recorded within a 10-year period here identified in the OA. However, the level of fishing effort within the OA is typically low.  The subsea wellhead will be within a proposed 500 m safety exclusion zone around the MODU. Any deviation required by fishing vessels around the MODU (and its safety exclusion zone), the support vessels within the OA, or the subsea infrastructure, is not expected to significantly affect commercial fishers, however it is acknowledged there may be an intersection with commercial fishing and the OA.	Commercial fishery licence holders and/or representative bodies Government departments or agencies
Physical presence – marine fauna <ul style="list-style-type: none"> <li>• MODU—presence within the OA during the</li> </ul>	Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural connections	Unplanned interaction with marine fauna.  Changes to cultural heritage values.	One BIA overlaps with the OA: <ul style="list-style-type: none"> <li>• Pygmy Blue Whale (migration).</li> </ul> As vessels will be stationary or slow-moving whilst implementing the activities within the scope of this EP,	Government departments or agencies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
<p>exploration drilling activity</p> <ul style="list-style-type: none"> <li>field support—presence of vessels within the OA during the exploration drilling activity.</li> </ul>				<p>and due to the low number of vessels within the OA at any one time, incidences of fauna strike are not expected.</p> <p>If a fauna strike occurred and resulted in death, it is not expected to have a detrimental effect on the overall population of protected species; this event would result in a limited environmental impact. However, it is acknowledged that relevant persons may hold interests relating to the protection of marine fauna.</p>	<p>First Nations people and/or representative bodies</p> <p>ENGOS</p>
<p>Seabed disturbance –</p> <ul style="list-style-type: none"> <li>MODU—use of mooring system within the OA during the exploration drilling activity</li> <li>drilling—well-spudding and installation of subsea equipment within the OA during the exploration drilling activity</li> <li>field support—temporary wet parking of ROVs within the OA during the exploration drilling activity</li> </ul>	<p>Marine environmental quality</p> <p>Benthic habitat and communities</p> <p>Cultural values</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p>	<p>Alteration of benthic habitats.</p> <p>Localised and temporary reduction in water quality.</p> <p>Changes to cultural heritage values.</p>	<p>The petroleum activity is expected to result in disturbance to the seabed due to anchoring and drilling. The potential disturbance footprint is highly localised. Impacts to water quality from drilling activities are expected to be localised and temporary as sediments would settle out of the water column relatively quickly. No protected UCH sites or artefacts have been identified within the OA. Notwithstanding it is acknowledged that that relevant persons may hold interests relating to marine environmental quality, benthic habitats and communities and cultural values, in particular with respect to the protection of Sea Country.</p>	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p> <p>ENGOS</p>

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
<ul style="list-style-type: none"> <li>field support— unplanned vessels anchoring (e.g. during an emergency) within the OA during the exploration drilling activity.</li> </ul>					
<p>Air emissions –</p> <ul style="list-style-type: none"> <li>MODU— combustion of fuel onboard the MODU within the OA during the exploration drilling activity</li> <li>field support— combustion of fuels from vessels and helicopters within the OA during the exploration drilling activity.</li> </ul>	<p>Marine environmental quality</p> <p>Cultural values</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p>	<p>A localised and temporary reduction in air quality.</p> <p>Contribution to the reduction of the global atmospheric carbon budget.</p>	<p>As reduction in air quality will be temporary and highly localised, and due to the overall <i>de minimis</i> contribution to the reduction of the global carbon budget from activities under this EP, it is not expected that the functions, interests or activities of relevant persons will be affected. However it is acknowledged that relevant persons may hold interests relevant to this aspect.</p>	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p> <p>ENGOS</p>
<p>Light emissions –</p> <ul style="list-style-type: none"> <li>MODU— navigational and operational lighting from the MODU within the OA during the exploration drilling activity</li> <li>field support— navigational and operational lighting from vessels within</li> </ul>	<p>Marine environmental quality</p> <p>Marine fauna</p> <p>Cultural values</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p>	<p>A localised and temporary change in ambient light.</p> <p>Change in fauna behaviour for light sensitive species.</p>	<p>CAPL expects that its activities could result in temporary changes to ambient light emissions extending to a radius of ~1.4 km from the MODU. No BIAs of light sensitive species overlap with the OA.</p> <p>Impacts associated with lighting are expected to be temporary, localised and to limited to transient individuals. However, it is acknowledged that relevant persons may hold interests relevant to the values and</p>	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p> <p>ENGOS</p>

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
the OA during the exploration drilling activity.				sensitivities that may be impacted by this aspect.	
<p>Underwater sound –</p> <ul style="list-style-type: none"> <li>drilling— exploration drilling activities within the OA</li> <li>field support—use of DP by vessels within the OA during the exploration drilling activity</li> <li>field support— helicopter operations within the OA during the exploration drilling activity.</li> </ul>	<p>Marine environmental quality</p> <p>Marine fauna</p> <p>Cultural values</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p>	<p>Localised and temporary change in ambient underwater sound level.</p> <p>Auditory impairment, temporary threshold shift, permanent threshold shift, recoverable or non-recoverable injury to marine fauna.</p>	<p>One BIA of overlaps with the Sound EMBA:</p> <ul style="list-style-type: none"> <li>Pygmy Blue Whale (migration BIA).</li> </ul> <p>CAPL has undertaken underwater sound modelling which indicates localised and short-term behavioural impacts to transient individuals may arise (depending on the timing of the activity and seasonal presence of sensitive fauna. Temporary threshold shift (TTS) and permanent threshold shift (PTS) are considered highly unlikely to occur due to the need for fauna to remain in close proximity to for extended durations before auditory impairments or injuries occur. Notwithstanding, it is acknowledged that relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.</p>	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p> <p>ENGOs</p>
<p>Invasive marine pests –</p> <ul style="list-style-type: none"> <li>MODU— planned discharged of ballast water or presence of biofouling on the MODU within the OA during exploration drilling activity</li> </ul>	<p>Benthic habitat and communities</p> <p>Cultural values</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p>	<p>Displacement of, or competition with, native species.</p>	<p>The proposed exploration well is in water depths of ~958 m, and is located offshore from the mainland coast, large ports and islands, and the seabed is predominantly soft sediments. Thus, the more favourable requirements of expansive hard substrate and sufficient light for invasive marine pests survival are not common within the OA. Although it is highly unlikely the activities in this EP would result in the introduction of</p>	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p> <p>ENGOs</p>



Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
<ul style="list-style-type: none"> <li>field support—planned discharged of ballast water or presence of biofouling on the support vessels within the OA during the exploration drilling activity.</li> </ul>				invasive marine pests, once established, can be difficult to eradicate and therefore there is the potential for a long-term change in habitat structure. As a result, relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	
<p>Planned discharges – facility and vessel operations</p> <ul style="list-style-type: none"> <li>MODU—general MODU operations within the OA during the exploration drilling activity</li> <li>field support—general vessel operations within the OA during the exploration drilling activity.</li> </ul>	<p>Marine environmental quality</p> <p>Marine fauna</p> <p>Cultural values</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p>	<p>Localised and temporary reduction in water quality.</p> <p>Changes to predator-prey dynamics.</p>	Impacts and risks associated with planned discharges from the MODU and support vessel are expected to be limited to close to the release location and temporary in nature. It is unlikely the functions and activities of relevant persons would be impacted by planned discharges from MODU and vessels, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p>
<p>Planned discharges – drill cuttings and fluids</p> <ul style="list-style-type: none"> <li>drilling—planned and contingency activities</li> <li>well abandonment—metal swarf cuttings, and wellbore content.</li> </ul>	<p>Marine environmental quality</p> <p>Benthic habitats and communities</p>	<p>Interest and activity – Environmental conservation</p>	<p>Localised and temporary reduction in water quality.</p> <p>Alteration/smothering of benthic habitat.</p> <p>Indirect impacts to fauna arising from chemical toxicity.</p>	Impacts and risks associated with planned discharges of drill cuttings and fluids and other chemicals, are expected to be limited to close to the release location and temporary in nature. It is unlikely the functions and activities of relevant persons would be impacted by these discharges, however, relevant persons may hold interests relevant to the values and	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p>

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
				sensitivities that may be impacted by this aspect.	
Planned discharges – Cement <ul style="list-style-type: none"> <li>drilling—cementing operations</li> <li>well abandonment—cement cuttings, contaminated cement discharge.</li> </ul>	Marine environmental quality Benthic habitats and communities	Interest and activity – Environmental conservation	Localised and temporary reduction in water quality. Alteration/smothering of benthic habitat.	Impacts and risks associated with planned discharges of cement are expected to be limited to close to the release location. It is unlikely the functions and activities of relevant persons would be impacted by cement discharges, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies
Planned discharges – BOP Fluids <ul style="list-style-type: none"> <li>drilling—pressure and function testing of the BOP.</li> </ul>	Marine environmental quality	Interest and activity – Environmental conservation	Localised and temporary reduction in water quality.	Impacts and risks associated with planned discharges of BOP fluids are expected to be limited to close to the release location and temporary in nature. It is unlikely the functions and activities of relevant persons would be impacted by planned BOP fluid discharges, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies
Unplanned release – waste <ul style="list-style-type: none"> <li>MODU— waste lost overboard from the MODU during the exploration drilling activity.</li> <li>field support— waste lost overboard from vessels during the</li> </ul>	Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural connections	Marine pollution resulting in entanglement or injury/mortality of marine fauna.	Unplanned releases of waste may result in impacts to injury/mortality to individual marine fauna. It is unlikely the functions and activities of relevant persons would be impacted by an unplanned release of waste, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.	Government departments or agencies First Nations people and/or representative bodies

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
exploration drilling activity.					
<p>Unplanned release – minor loss of containment</p> <ul style="list-style-type: none"> <li>• using, handling, and transferring hazardous materials and chemicals on board (&lt;1 m<sup>3</sup>)</li> <li>• transferring hazardous materials between MODU and support vessels (50 m<sup>3</sup>)</li> <li>• hydraulic line failure from equipment (&lt;1 m<sup>3</sup>)</li> <li>• emergency disconnect (~46 m<sup>3</sup> NADF).</li> </ul>	<p>Marine environmental quality</p> <p>Marine fauna</p> <p>Cultural values</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p>	<p>Indirect impacts to fauna arising from chemical toxicity.</p>	<p>Based on the nature of the unplanned release – minor loss of containment scenarios considered credible in this EP, the extent and severity of any potential impact is expected to be spatially and temporally limited. It is unlikely the functions and activities of relevant persons would be impacted by an unplanned release from minor loss of containment, however relevant persons may hold interests relevant to the values and sensitivities that may be impacted by this aspect.</p>	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p> <p>ENGOS</p>
<p>Unplanned release – vessel collision</p> <ul style="list-style-type: none"> <li>• field support—vessel operations within the OA.</li> </ul> <p>Unplanned release – well control event</p> <ul style="list-style-type: none"> <li>• drilling—unplanned hydrocarbon influx, breach of well</li> </ul>	<p>Marine environmental quality</p> <p>Benthic habitat and communities</p> <p>Coastal communities</p> <p>Marine fauna</p> <p>Marine protected areas</p>	<p>Interest and activity – Environmental conservation</p> <p>Cultural connections</p> <p>Commercial fishing</p> <p>Commercial shipping</p> <p>Recreational fishing</p> <p>Marine recreation</p>	<p>Marine pollution resulting in sublethal or lethal effects to marine fauna.</p> <p>Smothering of subtidal and intertidal habitats.</p> <p>Indirect impacts to commercial fisheries.</p> <p>Reduction in amenity resulting in impacts to tourism and recreation.</p>	<p>Although highly unlikely, an unplanned emergency event resulting in a hydrocarbon spill may affect the functions, interests and activities of relevant persons within the spatial extent of the EMBA. Refer to Section 4.1 for information on the EMBA for the activity.</p>	<p>Government departments or agencies</p> <p>First Nations people and/or representative bodies</p> <p>WA World Heritage advisory committees</p> <p>ENGOS</p> <p>Commercial fishery licence holders and/or representative bodies</p>

Environmental aspect (and aspect source)	Values and sensitivities	Function, interest, or activity	Potential impact or risk	Intersection	Category of persons or organisations
fluids, or loss of hydrostatic barrier	World heritage properties National heritage places Cultural values Tourism Recreation Commercial fishing Commercial shipping Other commercial industries	Petroleum exploration / production	Changes to values and sensitivities of Australian Marine Parks. Changes to cultural heritage values.		Commercial shipping industry Tourism and recreation operators Other petroleum titleholders Submarine cable operators Research organisations
Spill response - application of subsea chemical dispersants	Marine fauna Cultural values	Interest and activity – Environmental conservation Cultural connections	Marine pollution resulting in sublethal or lethal effects to marine fauna.	The application of chemical dispersants will result in dispersant and hydrocarbons in the water column, potentially affecting marine fauna, however will only be undertaken where there is likely to be a net benefit and therefore the functions, interests and activities of relevant persons are unlikely to be affected.	Government departments or agencies First Nations people and/or representative bodies
Ground disturbance – shoreline spill response	Marine fauna Coastal communities Cultural values	Interest and activity – Environmental conservation Cultural connections	Potential to damage terrestrial habitats (including nests), with subsequent impacts to fauna such as turtles and birds.	Shoreline protection and deflection and clean-up activities have the potential to result in short-term and localised damage to or alteration of habitats and ecological communities. Shoreline activities will only be undertaken where there is likely to be a net benefit and therefore the functions, interests and activities of relevant persons are unlikely to be affected.	Government departments or agencies First Nations people and/or representative bodies

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

### 6.2.5.1 Self-identification

As part of the consultation process (Figure 6-1) CAPL publicly advertised the upcoming petroleum activity (refer to Section 6.2.2), to allow for any authorities, persons, or organisations that have not already been identified through the identification process to review information about the petroleum activity, self-identify as a relevant person, and register as a relevant person with CAPL.

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

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

Two persons and one organisation self-identified during consultation—two of these were determined to be relevant (see rationale in Table 6-4), one was not (refer to summary in appendix d).

## 6.3 Consultation process

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

- described the petroleum activity
- identified environmental aspects
- defined the EMBA and identified environmental values and sensitivities
- evaluated environmental impacts and risks and demonstrated these are reduced to ALARP and acceptable levels
- identified functions, interests, or activities that may be affected
- identified relevant persons
- undertook consultation, including provision of sufficient information to enable relevant persons to understand how this activity may affect their functions, interests, or activities
- assessed the merit of any objections or claims raised by the relevant persons
- provided a response to the objection or claim, and ensured the response was captured in the EP.

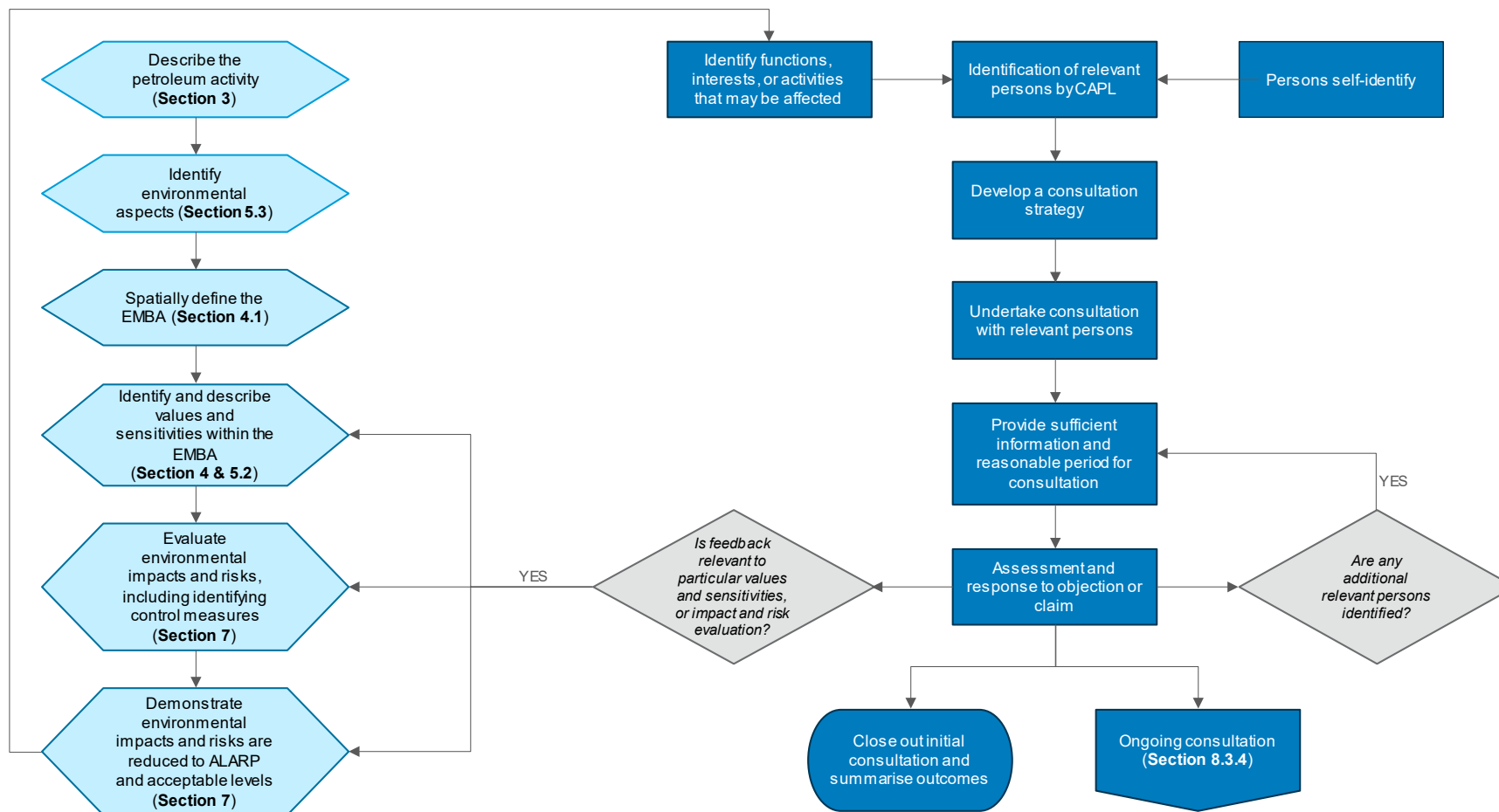


Figure 6-1: Relevant persons consultation process

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

In accordance with the OPGGS(E)R, relevant persons include the Commonwealth, State or Northern Territory agencies or authorities to which activities under this EP may be relevant (Section 6.2.1).

CAPL determined relevant persons under these regulations by considering:

- the spatial extent of the EMBA
- the environmental aspects, and potential environmental impacts and risks associated with the petroleum activity
- the responsibilities of the Commonwealth, State or Northern Territory agency or authority, which was determined by:
  - CAPL’s previous consultation history for petroleum activities on the NWS
  - online searches
  - published guidance, including NOPSEMA’s *Consultation with Commonwealth agencies with responsibilities in the marine area* guideline (Ref. 17).

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

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

In accordance with the OPGGS(E)R, the department of the responsible State Minister is a relevant person (Section 6.2.1).

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

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

In accordance with the OPGGS(E)R, if the petroleum activity occurs in the Principal Northern Territory offshore area, the department of the responsible Northern Territory Minister is a relevant person (Section 6.2.1).

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

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

In accordance with the OPGGS(E)R, relevant persons include a person or organisation whose functions, interests or activities may be affected by the activities under this EP (Section 6.2.1).

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



**Table 6-3: Identification of a person or organisation**

Category of persons or organisations	Considerations for identifying a relevant person
<p>Commercial fishery licence holders and/or representative bodies</p>	<p>Commonwealth commercial fisheries:</p> <ul style="list-style-type: none"> <li>fishery management area intersects with the EMBA, and a record of recent active fishing effort (based on annual ABARES data) occurring within the EMBA</li> <li>fishing method, preferred locations or water depths, fishing season</li> <li>key target species, distribution, and behaviour</li> <li>potential for temporal and/or spatial interaction between petroleum activity and the commercial fishery.</li> </ul> <p>State commercial fisheries:</p> <ul style="list-style-type: none"> <li>guidance from WAFIC (Ref. 217) regarding separate consultation strategies for unplanned events such as oil spills, where the titleholder can demonstrate likelihood of an event is “extremely low”</li> <li>fishery management area intersects with the OA, and a record of recent active fishing effort (based on DPIRD FishCube data) occurring within the OA</li> <li>fishing method, preferred locations or water depths, fishing season</li> <li>key target species, distribution, and behaviour</li> <li>potential for temporal and/or spatial interaction between petroleum activity and the commercial fishery.</li> </ul> <p>Peak industry bodies:</p> <ul style="list-style-type: none"> <li>where a fishery has been determined as relevant, the representative body is also considered relevant.</li> </ul>
<p>ENGOS</p>	<ul style="list-style-type: none"> <li>CAPL’s operating experience in the NWS and pre-existing knowledge of local ENGOS</li> <li>intersection between the spatial extent of the EMBA and/or values and sensitivities of the environment and the ENGO’s interests.</li> </ul>
<p>First Nations people and/or representative bodies</p>	<p>First Nations people utilise the coast and marine areas for their cultural identity, health and wellbeing, and their domestic and commercial economies. Therefore, the activities under the EP may be relevant to First Nations people who have an enduring cultural and spiritual connection to the sea.</p> <p>First Nations people or groups were identified through:</p> <ul style="list-style-type: none"> <li>Native Title claims or determinations intersecting with, or within the vicinity of the EMBA</li> <li>where an AMP is present within the EMBA, a review of any identified First Nations people or groups</li> <li>review of Native Title determinations to determine cultural and/or spiritual link with BIAs.</li> <li>Country located within or coastally adjacent to the EMBA</li> </ul> <p>Representative bodies:</p> <ul style="list-style-type: none"> <li>CAPL’s operating experience in the NWS and previous interactions with First Nations representative bodies</li> <li>where people or a group has been determined as relevant, the representative body is also considered relevant.</li> </ul>
<p>Local government departments or agencies</p>	<ul style="list-style-type: none"> <li>local government boundary intersects with the EMBA.</li> </ul>

Category of persons or organisations	Considerations for identifying a relevant person
Other petroleum titleholders	<ul style="list-style-type: none"> <li>• CAPL’s operating experience in the NWS and pre-existing knowledge of other petroleum operators</li> <li>• other Commonwealth (based on spatial data from NOPTA) petroleum titles that intersect with the EMBA, and with current or proposed activities occurring (based on publicly available EPs from NOPSEMA’s EP submission website) within the EMBA</li> <li>• other State (based on spatial data from DEMIRS) petroleum titles that intersect with the EMBA, and with current or proposed activities occurring (based on publicly available EP summaries from DEMIRS EARS database) within the EMBA</li> <li>• potential for temporal and/or spatial interaction between petroleum activity and the operator of another petroleum title.</li> </ul>
Tourism and recreation operators	<p>Tourism and recreation operators:</p> <ul style="list-style-type: none"> <li>• CAPL’s operating experience in the NWS and pre-existing knowledge of local tour and recreational operators</li> <li>• a record of recent active tour operator fishing effort (based on DPIRD FishCube data) occurring within the EMBA</li> <li>• where an AMP is present within the EMBA, a review of the ‘authorisations issued’ from Parks Australia (Ref. 253)</li> <li>• potential for temporal and/or spatial interaction between petroleum activity and the tourism/recreational operator</li> </ul> <p>Peak industry bodies:</p> <ul style="list-style-type: none"> <li>• where a tourism or recreational operator has been determined as relevant, the representative body is also considered relevant.Ref.</li> </ul>
WA World Heritage advisory committees	<ul style="list-style-type: none"> <li>• World Heritage area intersects with the EMBA, and an Australian World Heritage advisory committee exists.</li> </ul>

### 6.3.5 Relevant persons under regulation 25(1)(e)

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

Where a person or organisation on this list does not already become a relevant person under regulation 25(1)(d) (using the process as described in Section 6.3.4), CAPL may voluntarily opt to include them in the consultation for the petroleum activity as part of wider and ongoing engagement with their broad stakeholder base.

### 6.3.6 Conclusion on relevant persons identified

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

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

Relevant person	Rationale
<b>Commonwealth agencies or authorities (regulation 25(1)(a))</b>	
Australian Communications and Media Authority (ACMA)	ACMA is a relevant agency for consultation where an activity has the potential to impact economic or social benefits communications infrastructure for Australia. As identified in Section 4.4.6, the EMBA overlaps existing submarine cables. Therefore, the activities under the EP may be relevant to ACMA.
Australian Fisheries Management Authority (AFMA)	As identified in NOPSEMA's consultation guideline (Ref. 17) AFMA is a relevant agency for consultation where an activity can impact or has the potential to impact on fisheries resources in AFMA managed fisheries. Commonwealth fishery management areas have been identified as overlapping with the EMBA (Section 4.4.1). Therefore, the activities under the EP may be relevant to the AFMA.
Australian Hydrographic Office (AHO)	As identified in NOPSEMA's consultation guideline (Ref. 17) AHO is a relevant agency for consultation when nautical products or other maritime safety information is required to be updated. Vessel operations are required for the activities within scope of this EP (Section 3.7.1), a safety exclusion zone will be requested around the vessels (Section 3.7.1). Therefore, the activities under the EP may be relevant to the AHO.
Australian Maritime Safety Authority (AMSA)	As identified in NOPSEMA's consultation guideline (Ref. 17) AMSA is a relevant agency for consultation where a proposed activity may impact on the safe navigation of commercial shipping in Australian waters. The EMBA for this EP intersects with shipping routes (Section 4.4.4). Therefore, the activities under the EP may be relevant to the AMSA.
Department of Agriculture, Fisheries and Forestry (DAFF)	As identified in NOPSEMA's consultation guideline (Ref. 17) DAFF is a relevant agency for consultation where an activity has the potential to impact on fishing operations and/or fishing habitats in Commonwealth waters. Commonwealth and State managed fisheries have been identified as overlapping with the EMBA (Section 4.4.1). Therefore, the activities under the EP may be relevant to DAFF.
Director of National Parks (DNP)	As identified in NOPSEMA's consultation guideline (Ref. 17) DNP is a relevant agency for consultation where <ul style="list-style-type: none"> <li>the activity or part of activity is within the boundaries of a proclaimed AMP</li> <li>activities proposed to occur outside a reserve may impact on the values within an AMP</li> <li>an environmental incident occurs in Commonwealth waters surrounding an AMP and may impact on the values within the park.</li> </ul> The EMBA for this EP intersects with AMPs (Section 4.5.1). Therefore, the activities under the EP may be relevant to the DNP.
Department of Climate Change, Energy, the Environment and Water – (DCCEEW) Underwater Cultural Heritage	As identified in NOPSEMA's consultation guideline (Ref. 17) DCCEEW is a relevant agency for consultation where an activity has the potential to directly or indirectly adversely impact on protected UCH. The EMBA for this EP overlaps with UCH sites (shipwrecks) (Section 4.6). Therefore, the activities under the EP may be relevant to the DCCEEW.

Relevant person	Rationale
Department of Defence (DoD)	<p>As identified in NOPSEMA’s consultation guideline (Ref. 17) DoD is a relevant agency for consultation where:</p> <ul style="list-style-type: none"> <li>• a proposed activity may impact DoD training and operational requirements;</li> <li>• a proposed activity encroaches on known training areas and/or restricted airspace</li> <li>• there is a risk of unexploded ordnance in the area where the activity is taking place.</li> </ul> <p>DoD areas and/or facilities do intersect with the EMBA (Section 4.4.6). Therefore, the activities under the EP may be relevant to the DoD.</p>
<b>State agencies or authorities (regulation 25(1)(a))</b>	
Department of Biodiversity, Conservation and Attractions (DBCA)	<p>DBCA promotes biodiversity and conservation through sustainable management of WA’s species, ecosystems, lands and the attractions in their care. The EMBA for this EP intersects with State terrestrial and marine protected areas (Sections 4.5.2 and 4.5.3). Therefore, the activities under the EP may be relevant to DBCA.</p>
Department of Primary Industries and Regional Development (WA DPIRD): Fisheries (DPIRD)	<p>DPIRD’s responsibility is to conserve, sustainably develop and share the use of WA’s aquatic resources and their ecosystems. As identified in their consultation guideline (Ref. 218), DPIRD considers that it is a relevant person where a petroleum activity may potentially affect commercially and recreationally important fish species, their prey and habitats, and the business activities of the fishers who harvest these resources in State or Commonwealth waters. State managed fisheries and recreational fisheries have been identified as overlapping with the EMBA (Sections 4.4.1 and 4.4.2). Therefore, the activities under the EP may be relevant to DPIRD.</p>
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	<p>DoT (MEER) is the hazard management agency for marine oil pollution and maritime transport emergencies in Western Australian waters. The MEER’s role is to develop marine oil spill response capabilities, provide resources and support during response operations, training programs, assist in the development of oil spill contingency plans and raise community awareness about the impact of oil spills. MEER considers that it is a relevant person if activities have the potential to cause a marine oil pollution incident in State waters (Ref. 219). While the unplanned hydrocarbon release events identified for this EP will occur in Commonwealth waters, some areas of State waters may be exposed (Section 7.14). Therefore, the activities under the EP may be relevant to DoT MEER.</p>
Department of Water and Environment (DWER)	<p>DWER supports Western Australia’s community, economy and environment by managing and regulating the state’s environment and water resources on behalf of the Minister for the Environment. Therefore, the activities under this EP may be relevant to DWER.</p>
Environmental Protection Authority (EPA)	<p>The EPA is an independent Board providing advice to the Minister for Environment. The functions of the EPA are broad and include: conducting environmental impact assessments, preparing statutory policies for environmental protection, preparing and publishing guidelines for managing environmental impacts, and providing strategic advice to the Minister for Environment. Therefore, the activities under this EP may be relevant to the EPA.</p>
Pilbara Ports Authority	<p>The Pilbara Ports Authority assumes oversight of Barrow Island, Onslow, Port of Ashburton and more, and operates as a corporatized entity that reports to the State Government of Western Australia’s Minister of Ports. The activity occurs within</p>

Relevant person	Rationale
	Commonwealth and State waters, requires vessels and ports for use. Therefore, the activities under the EP may be relevant to the Pilbara Ports Authority.
<b>Department of the responsible State Minister (regulation 25(1)(b))</b>	
Department of Energy, Mines, Industry Regulation and Safety (DEMIRS)	DEMIRS is the department of the responsible State Minister. Therefore, they are considered a relevant person as per Regulation 25(1)(c) of the OPGGS(E)R.
<b>Person or organisation whose functions, interests, or activities may be affected by the petroleum activity (regulation 25(1)(d))</b>	
<b>First Nations people and/or representative bodies</b>	
Baiyungu Aboriginal Corporation (BAC)	Baiyungu Country extends from Point Cloates (north of Carnarvon) along the coast to Point Quobba, then stretches east to Manberry Station and north to Winning Pool Station. A major area of significance is Coral Bay and neighbouring Cardabia Station (a pastoral station run by BAC and the Baiyungu people).
Baiyungu people	The EMBA does not directly intersect with this area of coast, however the EMBA does extend into the offshore waters of the Gascoyne.  No Native Title determination currently exists within the EMBA and this representative body have not been identified in an AMP Management Plan. However, given that the EMBA occurs offshore from the Gascoyne coast, and engagement with BAC identified that Sea Country is of recognised value to the Baiyungu people, the activities under the EP may therefore be relevant to this organisation and the Baiyungu people.  Note: CAPL has also consulted NTGAC who also represents the Baiyungu people for Native Title rights and interests.
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	The BTAC was registered in 2008 to represent, protect, and support the interests of the Thalanyji people. Thalanyji Country spreads out across the Ashburton River coastal plain south to Tubridji Point, then across to Yannarie River and upstream to Emu Creek, across the range hills of southwest Pilbara to Henry River and Cane River in the north.
Thalanyji people	The EMBA does not directly intersect with this area of coast, however the EMBA does extend into the offshore waters of the Pilbara.  No Native Title determination currently exists within the EMBA and this group have not been identified in an AMP Management Plan. However, given that the EMBA occurs offshore from the Pilbara coast, and engagement with BTAC identified that Sea Country is of recognised value to the Thalanyji people, the activities under the EP may therefore be relevant to this RNTBC and the Thalanyji people.  Note: CAPL has also consulted NTGAC who also represents the Thalanyji people for Native Title rights and interests.
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	The NTGAC was registered in 2019 to represent, protect and support the interests of the Baiyungu, Thalanyji and Yinggarda people. The RNTBC represents an area that extends approximately from Exmouth Gulf to Lake Macleod.
Baiyungu people	The EMBA does not directly intersect with this area of coast, however the EMBA does extend into the offshore waters of the Gascoyne and Pilbara.

Relevant person	Rationale
Thalanyji people	Native Title determination WCD2019/016 intersects with the EMBA (Section 4.6.3). Therefore, the activities under the EP may be relevant to this RNTBC and the Baiyungu, Thalanyji and Yinggarda people.
Yinggarda people	
Ngarluma Aboriginal Corporation RNTBC (NAC)	The NAC was registered in 2005 to represent, protect and support the interests of the Ngarluma and Yindjibarndi people. Ngarluma Country encompasses the interior hills, tablelands, river systems, and coastline of the west Pilbara region of WA, including the Burrup Peninsula and islands of the Dampier Archipelago. The EMBA does not directly intersect with this area of coast, however it does extend into the offshore waters of the Pilbara. No Native Title determination currently exists within the EMBA and this group have not been identified in an AMP Management Plan. However, given that the EMBA occurs offshore from the Pilbara coast, the activities under the EP may therefore be relevant to this RNTBC and the Ngarluma and Yindjibarndi people. Note: CAPL has also consulted NYFL who also represents the Ngarluma and Yindjibarndi people.
Ngarluma people	
Yindjibarndi people	
Ngarluma Yindjibarndi Foundation Ltd (NYFL)	The Ngarluma Yindjibarndi Foundation Ltd is the Traditional Owner organisation that delivers social and economic outcomes for its members and broader community. The Ngarluma and Yindjibarndi lands in the Pilbara area of WA stretch from the Pilbara coast to the Millstream-Chichester National Park to the south, from around Whim Creek in the east to just west of Pannawonica. The EMBA does not directly intersect with this area of coast, however it does extend into the offshore waters of the Pilbara. No Native Title determination currently exists within the EMBA and this group have not been identified in an AMP Management Plan. However, given that the EMBA occurs offshore from the Pilbara coast and engagement with NYFL identified that Sea Country is of recognised value to the Ngarluma and Yindjibarndi people, the activities under the EP may therefore be relevant to this organisation and the Ngarluma and Yindjibarndi people. Note: CAPL has also consulted NAC who also represents the Ngarluma and Yindjibarndi people.
Ngarluma people	
Yindjibarndi people	
Mardathoonera Cultural Heritage Pty Ltd (MCH)	An individual contacted CAPL via phone and identified themselves as a Traditional Custodian for the Mardathoonera people. The Mardathoonera people are a Pilbara language group, and engagement with MCH identified that Barrow Island was culturally significant. Given that Barrow Island is in close proximity of the EMBA for this EP, CAPL considers that MCH has functions, interests or activities that may be affected by the petroleum activity to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Murujuga Aboriginal Corporation (MAC)	The Murujuga Aboriginal Corporation (MAC) was incorporated in 2006 and is the approved corporate body for the Burrup and Maitland Industrial Estates Agreement. MAC has members from five traditional Aboriginal language groups from the Pilbara region: Ngarluma, Yaburara, Mardudhunera, Yindjibarndi, and Wong-Goo-Tt-Oo. MAC is not a PBC for the purposes of native title; instead MAC holds the freehold title to Murujuga National Park. The EMBA does not directly intersect with the Burrup Peninsula or Dampier Archipelago, however it does extend into the offshore waters of the Pilbara.
Ngarluma people	
Mardudhunera people	
Yaburara people	

Relevant person	Rationale
Yindjibarndi people	<p>No Native Title determination currently exists within the EMBA and this group have not been identified in an AMP Management Plan. However, given that the EMBA occurs offshore from the Pilbara coast, the activities under the EP may therefore be relevant to this organisation and the Ngarluma, Yaburara, Mardudhunera, Yindjibarndi, and Wong-Goo-Tt-Oo people.</p> <p>Note: CAPL has also consulted NAC who also represents the Ngarluma people, NYFL who represent the Ngarluma and Yindjibarndi people, and WAC who also represents the Mardudhunera and Yaburara people.</p>
Wong-Goo-Tt-Oo people	
Robe River Kuruma Aboriginal Corporation (RRKAC)	<p>RRKAC is the RNTBC for the Robe River Kuruma (RRK) native title determined areas. The RRK people have traditional rights to an area in the Pilbara. Their lands lie within the Shire of Ashburton, and around the township of Pannawonica, and comprise part of the Fortescue River and the complete river system of the Jajiwurra (Robe River), in the most westerly part of the Hamersley Range.</p> <p>The EMBA does not directly intersect with the Jajiwurra river mouth, however it does extend into the offshore waters of the Pilbara.</p> <p>No Native Title determination currently exists within the EMBA and this group have not been identified in an AMP Management Plan. However, given that the EMBA occurs offshore from the Pilbara coast, the activities under the EP may therefore be relevant to this organisation and the RRK people.</p>
RRK people	
Wirrawandi Aboriginal Corporation RNTBC (WAC)	<p>The WAC was registered in 2018 to hold and manage the native title rights and interests for the Mardudhunera and Yaburara people. Mardudhunera and Yaburara Country is in the Pilbara region (approximately between Maitland and Robe rivers).</p> <p>The EMBA does not directly intersect with this area of coast, however it does extend into the offshore waters of the Pilbara.</p> <p>No Native Title determination currently exists within the EMBA and this group have not been identified in an AMP Management Plan. However, given that the EMBA occurs offshore from the Pilbara coast, the activities under the EP may therefore be relevant to this organisation and the Mardudhunera and Yaburara people</p>
Mardudhunera people	
Yaburara people	
Yinggarda Aboriginal Corporation (YAC)	<p>The YAC was registered in 2019 to represent, protect and support the interests of the Yinggarda people. Yinggarda Country is in the Gascoyne region and includes the township of Carnarvon.</p> <p>The EMBA does not directly intersect with this area of coast, however it does extend into the offshore waters of the Gascoyne. Native Title determination WCD2019/016 intersects with the EMBA (Section 4.6.3). Therefore, the activities under the EP may be relevant to this RNTBC and the Yinggarda people.</p>
Yinggarda people	
<b>Commercial fishery licence holders and/or representative bodies</b>	
Aquaculture Council of WA	<p>These organisations are peak bodies representing the commercial fishers within Commonwealth or State-managed commercial fisheries. Commonwealth and State managed fisheries have been identified within the EMBA (Section 4.4). As such, these organisations have functions, interests, or activities, that may be affected by the activities to be carried out under the EP.</p>
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	
Commonwealth Fisheries Association	



Relevant person	Rationale
Tuna Australia	
Western Australian Fishing Industry Council (WAFIC)	
<b>Tourism and recreation operators</b>	
Recfishwest WA	This organisation is the peak body representing the State-managed recreational fisheries. Recreational fishing has been identified within coastal and nearshore areas of the EMBA (Section 4.4). As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Ningaloo Visitor Centre	Ningaloo Visitor Centre is located in Exmouth and provides advice and services to both locals and tourists. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region). As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Boating Industry Association Western Australia (BIAWA)	BIAWA is the voice of the West Australian recreational boating industry, with the main purpose to promote and encourage safe boating and other aquatic sports and pastimes within WA. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region). As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Ashburton Anglers	Ashburton Anglers are a local fishing club. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region). As such, this organisation has functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Apache Fishing Charters	Recreational fisheries, tourism and recreational activities have been identified as occurring within or adjacent to the EMBA (Section 4.4). As such, these businesses may have functions, interests, or activities, that may be affected by the activities to be carried out under the EP.
Archipelago Adventures	
Blue Horizon Charters	
Blue Juice Charters	
Blue Lightning Fishing Charters	
Bluesun2 Boat Charters	
Cape Immersion Tours	
Cruise Lines International Association	



Relevant person	Rationale
Ebb and Flow / Glass Bottom Boats	
Exmouth Dive & Whalesharks Ningaloo	
Image Dive and Charters	
Live Ningaloo	
Mackerel Islands & Onslow Beach Resort	
Mahi Mahi Charters	
Montebello Island Safaris	
Ningaloo Blue Dive	
Ningaloo Glass Bottom Boat	
Ningaloo Whaleshark n Dive	
Ningaloo Whaleshark Swim	
Sail Ningaloo	
Top Gun Charters	
View Ningaloo	
Wilderness Island	
<b>Local government departments or agencies</b>	
Exmouth Chamber of Commerce and Industry (ECCI)	The EMBA for this EP does intersect with a small area of mainland coast (Gascoyne region) and some islands (Pilbara region) (Section 4.3.5.1). Therefore, local governments may be considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Onslow Chamber of Commerce and Industry - CCI	
Shire of Ashburton (Pilbara)	
Shire of Exmouth (Gascoyne)	

Relevant person	Rationale
<b>WA World Heritage advisory committees</b>	
Ningaloo Coast World Heritage Advisory Committee (NCWHAC)	The NCWHAC provides advice to the Commonwealth and State Environment Ministers on the protection, conservation and management specific to Ningaloo Coast World Heritage Area. The EMBA for this EP does intersect with Ningaloo Coast World and National heritage areas (Section 4.6). Therefore, NCWHAC is considered a relevant person under regulation 25(1)(d) of the OPGGS(E)R.
<b>Other petroleum titleholders</b>	
BP	Petroleum operations have been identified to occur within the spatial extent of the EMBA. Therefore, other petroleum titleholders are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Carnarvon Energy	
Eni Australia	
Exxon Mobil	
Jadestone Energy	
Kato Energy / Kato NWS Pty Ltd	
Kufpec	
PGS Australia Pty Ltd	
Santos	
Sapura OMV Upstream	
Terrafirma Offshore PTY LTD	
TGS NOPEC Geophysical Company Pty Ltd	
Vermilion Oil & Gas	
Western Gas	
Woodside	
<b>ENGOS</b>	
Australian Marine Conservation Society (AMCS)	

Relevant person	Rationale
Cape Conservation Group	ENGOS are organisations concerned about public welfare, people and the environment. Several environmental receptors intersect with the EMBA (Section 4). Therefore, ENGOS may be considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Protect Ningaloo	
<b>Other</b>	
Australian Institute of Marine Science (AIMS)	AIMS are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Australian Marine Oil Spill Response Centre (AMOSOC)	AMOSOC are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Care For Hedland Environmental Association	<p>A representative from the Care for Hedland Environmental Association contacted CAPL via the Online Consultation Hub to self-identify for consultation.</p> <p>Care for Hedland run a community-based Flatback Turtle monitoring program, and engagement with the representative identified that a genetic link existed between the Flatback Turtles nesting populations at Port Hedland, Barrow Island, and the broader NWS.</p> <p>While the EMBA is &gt;330 km from Port Hedland, and any direct interaction with Port Hedland is not predicted to occur from planned activities or an unplanned event associated with this EP, given the migratory nature of marine turtles and that the Pilbara Coast represents a single genetic stock (Ref. 159), CAPL considers that the Care for Hedland Environmental Association has functions, interests or activities that may be affected by the petroleum activity to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.</p>
Oil Spill Response Limited	Oil Spill Response Limited are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
Vocus Communications	Vocus Communications are a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP. Therefore, they are considered relevant persons under regulation 25(1)(d) of the OPGGS(E)R.
<b>Any other person or organisation that the titleholder considers relevant (regulation 25(1)(e))</b>	
<b>Commercial fishery licence holders and/or representative bodies</b>	
Australian Council of Prawn Fisheries	Australian Council of Prawn Fisheries is made up of industry bodies and companies that deal with wild prawns or the prawn industry. Commercial prawn fisheries operate outside the boundary of EMBA, however under regulation 25(1)(e) CAPL selected to include the council in consultation.
Northern Prawn Fishery	Northern Prawn Fishery targets prawns in northern Australian waters. The Northern Prawn Fishery operates outside the boundary the EMBA, however under regulation 25(1)(e) CAPL selected to include the fishery in consultation.

Relevant person	Rationale
Pearl Producers Association	Pearl Producers Association are the peak representative body of the Australian South Sea Pearling Industry. Relevant pearling operations occur outside the boundary of EMBA, however under regulation 25(1)(e) CAPL selected to include the council in consultation.
Cygnets Bay Pearl Farm	These pearling operators have operations occurring outside the boundary of EMBA, however under regulation 25(1)(e) CAPL selected to include the council in consultation.
Maxima Pearling Company	
Paspaley Pearls	
Western Rock Lobster Council	Western Rock Lobster (WRL) is the peak industry body representing the interests of the western rock lobster fishery. The WRL fishery operates outside the boundary of EMBA, however under regulation 25(1)(e) CAPL selected to include the WRL Council in consultation.
<b>Tourism and recreation operators</b>	
Tourism Western Australia	The EMBA for this EP intersects Commonwealth and State waters offshore, and some small areas of coast, within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Karratha Tourism and Visitor Centre	The EMBA for this EP intersects Commonwealth and State waters offshore, and some small areas of coast, within the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
<b>Local government departments or agencies</b>	
Carnarvon Chamber of Commerce Inc.	The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
City of Karratha (Pilbara)	
Karratha & Districts Chamber of Commerce and Industry	
Shire of Carnarvon (Gascoyne)	
<b>Other</b>	
Member for Pilbara	The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Member of Legislative Authority - North West Central	
Member of Mining and Pastoral Region	

Relevant person	Rationale
Minister for Environment WA	The Minister of the Environment is tasked with protecting the natural environment and promoting conservation. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Pilbara Development Commission	The Pilbara Development Commission works across government to support economic growth, stimulate job growth and increase industry innovation among other things. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Exmouth Gulf Taskforce	The Exmouth Gulf Taskforce provides high level advice to the Minister for Environment on the environmental management of the Exmouth Gulf and its surrounds, to help preserve the region's unique environmental, cultural and social values. The EMBA for this EP intersects Commonwealth and State waters offshore from Exmouth, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Gascoyne Junction Community Resource Centre	The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Coral Bay Progress Association	
WA Coastal and Marine Community Network	
WA Marine Science Institute	The Western Australian Marine Science Institution (WAMSI) is a collaboration of state and federal government and academic science organisations working together to provide independent marine research for the benefit of the environment, the community and the Blue Economy. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Western Australian Museum	The Western Australian Museum is the State's premier cultural organisation, housing WA's scientific and cultural collection. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Centre for Whale Research Western Australia	The Centre for Whale Research (Western Australia) Inc. is a non-profit research established in 1993 to conduct scientific research into marine mammals. The EMBA for this EP intersects Commonwealth and State waters offshore, and a small area of mainland coast (Gascoyne region) and some islands (Pilbara region), and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Wilderness Society	ENGOS are organisations concerned about public welfare, people and the environment. The EMBA for this EP intersects Commonwealth and State waters offshore of the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.
Whale and Dolphin Conservation Society	

Relevant person	Rationale
International Fund for Animal Welfare (IFAW) - Oceania	
Greenpeace	
Coral Futures Corporation	
Conservation Council of Western Australia	
Australian Conservation Foundation (ACF)	
Port Hedland Chamber of Commerce Inc	The Port Hedland Chamber of Commerce Inc provide services and support for the economic growth and development on Port Hedland. The EMBA for this EP intersects Commonwealth and State waters offshore of the Pilbara and Gascoyne regions, and therefore under regulation 25(1)(e) CAPL selected to include this organization in consultation.

### 6.3.7 Assessment and response

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

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

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

### 6.3.8 Summary information

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

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

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

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

### 6.3.9 Conclusion on consultation

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

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

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

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

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

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

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

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

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<sup>22</sup> Paragraph 89 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 210).

<sup>23</sup> Paragraphs 55–57 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 210).

<sup>24</sup> Paragraph 136 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 210).

<sup>25</sup> Paragraphs 31 and 32 of *Santos NA Barossa Pty Ltd v Tipakalippa* [2022] FCAFC 193 (Ref. 210).



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

CAPL has completed all practicable and reasonable steps to discharge its consultation obligations. As detailed in this EP, CAPL has provided sufficient information (Section 6.2.2) and a reasonable period of time (Section 6.2.3) to enable relevant persons to make an informed assessment of the possible impacts and risks of the petroleum activity on their functions, interests or activities (meeting the requirements of regulation 25). CAPL has provided sufficient time to relevant persons to provide relevant input for CAPL to assess relevant persons claims and objections, and to action the input from relevant persons. CAPL has:

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

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

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

- it has been over 12 months since consultation on this EP commenced, and information on the DS-1 exploration drilling activity, including potential impact and risks associated with the petroleum activity, has been presented on CAPL's website during this time with the option to provide feedback online
- CAPL has maintained a toll-free contact number for persons or organisations to call and participate in consultation
- CAPL published notices in seven newspapers, including the National Indigenous Times, as outlined in Section 6.2.2
- CAPL has attended several face-to-face meetings with First Nations representative bodies while consulting on this EP (as outlined in appendix d), and provided tailored and bespoke consultation material for consideration
- two persons and one organisation self-identified during the consultation period indicating that CAPL has been successful in promoting its consultation efforts.

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

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

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

To the extent a relevant person says that it has further information to share or claims that consultation under regulation 25 has not completed, appendix d provides reasons specifically why CAPL considers consultation under regulation 25 has been met in relation to that relevant person.

## 7 environmental impact and risk assessment and management strategy

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

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

**Table 7-1: Summary of impact and risk evaluation**

Section	Aspect	Impact	Risk			Decision context	ALARP	Acceptable
		C <sup>^</sup>	C <sup>^</sup>	L	R			
7.1	Physical presence—other marine users	–	6	4	9	A	Yes	Yes
7.2	Physical presence—marine fauna	–	6	4	9	A	Yes	Yes
7.3	Seabed disturbance	5	5	6	10	A	Yes	Yes
7.4	Air Emissions	6	6	6	10	A	Yes	Yes
7.5	Light emissions	6	5	5	9	A	Yes	Yes
7.6	Underwater sound	5	5	4	8	A	Yes	Yes
7.7	Invasive marine pests	–	2	6	7	A	Yes	Yes
7.8	Planned discharges—facility and vessel	6	6	6	10	A	Yes	Yes
7.9	Planned discharges—drill cuttings and fluids	4	5	3	7	A	Yes	Yes
7.10	Planned discharges—cement	4	6	6	10	A	Yes	Yes
7.11	Planned discharges—BOP fluids	6	6	6	10	A	Yes	Yes
7.12	Unplanned release—waste	–	6	5	10	A	Yes	Yes
7.13	Unplanned release—minor loss of containment	–	5	5	9	A	Yes	Yes
7.14	Unplanned release—vessel collision	–	4	5	8	A	Yes	Yes
7.15	Unplanned release—well control	–	4	5	8	A	Yes	Yes
7.16.4.1	Planned discharges – SSDI response	–	5	5	9	A	Yes	Yes
7.16.4.2	Ground disturbance—shoreline spill response	–	5	5	9	A	Yes	Yes
7.16.4.3	Physical presence—oiled wildlife response	–	5	5	9	A	Yes	Yes

C = consequence, L = likelihood, R = risk

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

## 7.1 Physical presence—other marine users

Source			
<p>Activities identified as having the potential to result in interaction with other marine users are:</p> <ul style="list-style-type: none"> <li>• MODU—presence within the OA during the exploration drilling activity</li> <li>• drilling—presence of wellhead and other subsea equipment (e.g. riser) within the OA during the exploration drilling activity</li> <li>• field support—presence of vessels within the OA during the exploration drilling activity.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
N/A	–	<p>Unplanned interactions with other marine users may result in:</p> <ul style="list-style-type: none"> <li>• disruption to commercial shipping and fishing activities</li> <li>• entanglement of trawl fishing gear on subsea infrastructure or equipment.</li> </ul>	6
Consequence evaluation			
<p>The MODU and support vessels will be present within the OA during the exploration drilling activity, which are estimated to take ~50 days to complete. The OA consists of an area of ~78.5 km<sup>2</sup>. The wellhead and other subsea equipment will be in place for most of the drilling campaign; these will be located within the proposed 500 m safety exclusion zone around the MODU.</p> <p>The potential for unplanned interactions between other marine users with the wellhead or subsea equipment is limited to where these users interact with the seafloor. Marine users that have the potential to interact with the subsea equipment are limited to commercial fisheries that utilise trawling fishing methods. The potential risks to trawling vessels from subsea equipment includes disruption to fishing efforts caused by the need for vessels to avoid the equipment and physical damage to trawling gear that contacts the wellhead or subsea equipment. However, given the location of the wellhead and equipment within a proposed exclusion zone at the centre of the OA, this risk is not considered credible, and no further evaluation has been undertaken.</p> <p>The stationary presence of the MODU and the use of support vessels during the exploration drilling activity has the potential to result in a disruption to other marine users, including commercial shipping or fishing vessels.</p> <p>As identified in Table 4-16 and Table 4-17, there are three commercial fisheries with recent fishing effort that overlaps the OA. The commercial fisheries include one Commonwealth managed fishery (NWSTF), and two State managed fisheries (Pilbara Line and Pilbara Trap fisheries). Although Commonwealth and State fisheries are present, the level of fishing effort within the OA is typically low. The entire fishery has a small number of active permits and vessels (e.g. six permits and four vessels were active during the 2020-2021 season [Section 4.4.1.1]). Fishing effort records obtained from DPIRD (Ref. 27) for State managed commercial fisheries indicate that fishing effort within the OA varies each year, but that there may be up to 6 vessels operating some years. Limited use of the OA for tour operated recreational fishing has also been recorded (Section 4.4.2); however given the very intermittent use and low numbers of vessels, negligible interaction with recreational fishing is expected. Any deviation required by fishing vessels around the MODU (and its safety exclusion zone) or the support vessels within the OA, is not expected to impact on the functions, interests, or activities of other marine users.</p> <p>The OA is located outside major shipping fairways and commercial vessel traffic density within the OA is low (Figure 4-9). Therefore, the presence of the MODU and support vessels within the OA are not expected to affect commercial shipping operations. Any deviation required by commercial shipping operators is not expected to impact on the functions, interests, or activities of other marine users.</p> <p>As such, the physical presence of the MODU and support vessels within the OA during the exploration drilling activity, are not expected to cause significant impacts to other marine users, with limited potential impact to their functions, interests, or activities. Therefore, CAPL has ranked the potential consequence to other marine users from physical presence as Incidental (6).</p>			

ALARP decision context justification		
<p>Offshore drilling and support vessel operations are commonplace and well-practised both nationally and internationally. The control measures to manage the risks associated with unplanned interactions with other marine users are well defined and understood by the industry.</p> <p>During relevant persons consultation, claims were received regarding the risk of vessel collision within designated shipping fairways, and also noted the use of standard practices for vessel operations including notification requirements to JRCC and AHO, and the use of appropriate signals (lights and shapes). These claims were responded to by CAPL (see summary in 'external context' below, and within appendix d).</p> <p>The risks arising from the physical presence of the MODU and support vessels to other marine users are considered lower-order risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.</p>		
Good practice control measures		
Control measure	Description	
Relevant persons consultation— Ongoing consultation (notifications)	<p>Communicating the activity details, location, requested safety exclusion zone, and presence of vessels to other marine users ensures they are informed and aware, thereby reducing the risk of unplanned interactions.</p> <p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) relevant persons that have requested ongoing notifications will also be notified of the commencement and completion of the petroleum activity (Table 8-5).</p>	
Maritime safety information	<p>Maritime safety information, such as AUSCOAST navigational warnings, are issued by the Joint Rescue Coordination Centre (JRCC) Australia, part of AMSA.</p> <p>Under the <i>Navigation Act 2012</i> (Cth), the Australian Hydrographic Office (AHO) is also responsible for maintaining and disseminating navigational charts and publications, including providing safety-critical information to mariners (including any change to prohibited/restricted areas, obstructions to surface navigation, etc.) via the Notice to Mariners system. Notice to Mariners can be permanent or temporary notifications.</p> <p>Maritime safety information (radio-navigation warnings and/or Notice to Mariners) will be issued; thus, enabling other marine users to also safely plan their activities.</p>	
Marine Standard	<p>Chevron's <i>Marine Standard Non Tankers: Corporate OE Standard</i> (Ref. 39) ensures that various legislative requirements are met. These include:</p> <ul style="list-style-type: none"> <li>• crew meet the minimum standards for safely operating a vessel, including watchkeeping requirements</li> <li>• navigation, radar equipment, and lighting meet industry standards.</li> </ul> <p>These requirements will ensure that direct MODU and vessel radio contact is available to other marine users operating in this area to enable ease of communication in highlighting risks and safety exclusion zones.</p>	
Additional control measures and cost benefit analysis		
Control measure	Benefit	Cost
N/A	N/A	N/A
Likelihood and risk level summary		
<b>Likelihood</b>	<p>Due to the nature and scale of this petroleum activity, the slow-moving nature of vessels within the OA, the limited area of operation and the limited duration of this program, the likelihood of interaction with other marine users is considered low. Interaction with the wellhead or subsea equipment is not expected to occur. As such, CAPL consider the likelihood of the consequence occurring is ranked as Unlikely (4).</p>	

<b>Risk level</b>	Very low (9)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	<p>The risks associated with this aspect are unplanned interactions causing incidental disruption to other marine users, which is not considered as having the potential to affect biological diversity and ecological integrity. The consequence associated with this aspect is Incidental (6). Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	<p>Legislation and other requirements considered relevant for this aspect include:</p> <ul style="list-style-type: none"> <li>• <i>Navigation Act 2012 (Cth)</i>.</li> </ul> <p>CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.</p>	
	<b>Requirement</b>	<b>Demonstration</b>
	<p><i>Navigation Act 2012 (Cth)</i> Notice to Mariners.</p>	<p>Requirement to issue a Notice to Mariners has been incorporated into the <b>maritime safety information</b> control measure.</p>
<b>Internal context</b>	<p>The following CAPL management processes or procedures were deemed relevant for this aspect:</p> <ul style="list-style-type: none"> <li>• <i>Marine Standard Non Tankers: Corporate OE Standard (Ref. 39)</i>.</li> </ul> <p>Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>	
<b>External context</b>	<p>During relevant persons consultation, claims were received regarding the risk of vessel collision within designated shipping fairways, and also noted the use of standard practices for vessel operations including notification requirements to JRCC and AHO, and use of appropriate signals on vessels (appendix d).</p> <p>CAPL responded to this claim by confirming that the OA (and therefore planned vessel activities) for this EP does not intersect with NWS shipping fairways.</p> <p>CAPL also confirmed that the notifications to JRCC and AHO are included within standard control measures (refer to 'maritime safety information' control) and notification requirements (refer to Table 8-5).</p> <p>Vessels are required to operate in accordance with any Class, Flag or Port State laws and regulations. This includes the use of appropriate signals to reflect nature of vessel operations.</p> <p>No further objections or claims were raised regarding interaction with other marine users arising from the activity.</p>	
<b>Defined acceptable level</b>	<p>These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p>	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
Other marine users are aware of the potential impacts and risks from the petroleum activity.	<p><b>Relevant persons consultation—Ongoing consultation (notifications)</b></p> <p>Relevant persons (that have requested notifications) will be advised of the commencement and expected completion dates.</p>	Relevant persons consultation records.

	<p><b>Maritime safety information</b> Notify relevant agency of activities, vessel movements, and requested safety exclusion zone, to enable them to generate radio-navigation warnings and/or Notice to Mariners prior to commencing offshore activities.</p>	Record of lodgement of notification to relevant agency.
	<p><b>Marine Standard</b> MODU and vessel crew will meet the minimum competency, navigation equipment, and radar requirements of the Marine Standard.</p>	Records indicate that MODU and vessels meet the crew competency, navigation equipment, and radar requirements of the Marine Standard.

## 7.2 Physical presence—marine fauna

Source			
<p>Activities identified as having the potential to result in interaction with marine fauna are:</p> <ul style="list-style-type: none"> <li>• MODU—presence within the OA during the exploration drilling activity</li> <li>• field support—presence of vessels within the OA during the exploration drilling activity.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
N/A	–	<p>Unplanned interactions with marine fauna may result in:</p> <ul style="list-style-type: none"> <li>• injury or death of marine fauna.</li> <li>• changes to cultural heritage values</li> </ul>	<p>6</p> <p>6</p>
Consequence evaluation			
<p><b>Injury or death of marine fauna</b></p> <p>The MODU and support vessels will be present within the OA during the exploration drilling activity, which are estimated to take ~50 days to complete. The OA consists of an area of ~78.5 km<sup>2</sup>. The stationary presence of the MODU and the use of support vessels during the exploration drilling activity has the potential to result in unplanned interactions with marine fauna. Surface-dwelling fauna are the species most at risk from this aspect and thus are the focus of this evaluation. As identified in Section 4.3.3, several marine species listed as either threatened and/or migratory under the EPBC Act have the potential to occur within the OA. The OA overlaps with the Pygmy Blue Whale migration BIA. No other BIAs for other regionally significant fauna were identified within the OA. No habitat critical to the survival of a species was identified within the OA. As such the focus of this evaluation is on cetaceans as they provide a representative case to enable an indicative consequence evaluation to be undertaken.</p> <p>A review of the documents made or implemented under the EPBC Act for cetacean species likely to be present within the OA (e.g. Fin Whale [Ref. 57], Sei Whale [Ref. 58], and Blue Whale [Ref. 59]) indicates that either vessel disturbance or interaction (such as collisions) as a key threat to the recovery of the species.</p> <p>For all cetacean species likely to be present within the OA, these documents indicate that management actions are limited to reporting of incidents via the national database (refer to incident reporting in Section 8.4.2) and ensuring that the risk of vessel strike is assessed (see the following text below).</p> <p>Cetaceans are naturally inquisitive marine mammals that are often attracted to offshore vessels and facilities. The reaction of whales to the approach of a vessel is quite variable. Some species remain motionless when near a vessel, while others are curious and often approach vessels that have stopped or are slow moving, although they generally do not approach, and sometimes avoid, faster-moving vessels (Ref. 60). There have been recorded instances of cetacean deaths in Australian waters (e.g. a Bryde's Whale in Bass Strait in 1992) (Ref. 61), although the data indicates deaths are associated with container ships and fast ferries. Mackay et al (Ref. 62) report that four fatal and three non-fatal collisions with Southern Right Whales were recorded in</p>			

Australian waters between 1950 and 2006, with one fatal and one non-fatal collision reported between 2007 and 2014.

The *Conservation Management Plan for the Blue Whale 2015–2025* (Ref. 59) indicates that although all forms of vessels can collide with whales, severe or lethal injuries are expected to occur by larger or faster vessels. Laist et al. (Ref. 63) found that larger vessels with reduced manoeuvrability moving >10 knots may cause fatal or severe injuries to cetaceans, with the most severe injuries caused by vessels travelling faster than 14 knots. Given that vessels will be stationary or slow moving whilst undertaking the activities within the scope of this EP, any interaction with marine fauna would not be expected to cause severe injuries.

Predictions from modelling based on passive acoustic data indicate greatest numbers of Pygmy Blue Whales during April to July (northern migration), and November and December (southern migration) (Ref. 201). As the DS-1 exploration drilling activity is planned to commence between 2024 and 2025, the activity could overlap with the months of predicted higher densities (i.e. migration periods). However, although the OA intercepts with the BIA, it is expected based on recent satellite tracking and acoustic detection that Pygmy Blue Whales travel further offshore in deeper waters (Ref. 65, Ref. 66). The BIA in the vicinity of the DS-1 activities is not considered to be a 'confined migratory pathway'<sup>26</sup>.

If a fauna strike occurred and resulted in death, it is not expected to have a detrimental effect on the overall population; this event would result in a limited environmental impact (individual impacts). Thus, fauna strike is evaluated as having the potential to result in an Incidental (6) consequence.

#### Changes to cultural heritage values

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. It is understood that the term 'Country' refers to more than just a geographical area, and includes values, places, resources, stories, and cultural obligations associated with that geographical area (Ref.242; Ref. 269). One of the specific tangible values of Sea Country identified through consultation was marine fauna (e.g. whales, dugongs, turtles; Table 4-14). The consequence evaluations to these receptors are provided above.

Intangible cultural heritage refers to the "practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage" (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives of MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14).

Songlines are paths that track across Country and skies, representing Indigenous knowledge that has been collected, protected and transmitted (Ref. 271). Songlines are living tools that embed and mediate history, ecological knowledge, relationships, ancestral beings, and cultural belonging on Country (Ref. 271). Certain songlines may be referred to as 'Dreaming Pathways' because of the tracks forged by Creator Spirits during the Dreaming (Ref. 237). Kearney et al (Ref. 272) describe that for saltwater peoples "stories and songlines locate, interpret and inscribe knowledges of both the Dreaming tracks, bodies and movements of ancestral beings that criss-cross over Sea Country and the permanent sites of ancestral inhabitation within the marine environment". Fauna are also woven into the Dreaming, songlines and stories (Ref. 273). For example, representatives from MCH identified that there are songlines, including a whale songline, that go through Barrow Island and offshore and connect Barrow Island to the mainland (Table 4-14).

Listening and talking with Country through stories, songlines, and other practices are ways First Nations care for, navigate, and connect with Country (Ref. 274). Songlines rely on the continued health of Country, and people's continued access and connection to it (Ref. 271). When Country is damaged or altered, so too are songlines and the knowledge they embody and enact (Ref. 271). Representatives from MCH described this as when songlines are disrupted, their *widdart* (heart) is disconnected (Table 4-14). No impact pathway to a change in access to Country from an unplanned interaction with marine fauna within the OA is anticipated. The consequence evaluation for marine fauna is provided above—if an interaction did occur, any impact would be to individuals, and is not expected to affect the overall population of the species. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from an unplanned interaction with marine fauna within the OA.

<sup>26</sup> Confined migratory pathways are typically constrained by a physical (or other) barrier and create a narrow or restricted bottleneck through which most of the population must pass.



<p>Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from an unplanned marine fauna interaction is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).</p>		
<p><b>ALARP decision context justification</b></p>		
<p>Offshore drilling and support vessel operations are commonplace and well-practised both nationally and internationally. The control measures to manage the risk associated with fauna strike are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.</p> <p>During relevant persons consultation, no objections or claims were raised regarding disruption to other marine users arising from the petroleum activity.</p> <p>The risks arising from the physical presence of the MODU and support vessels to marine fauna are considered lower-order risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.</p>		
<p><b>Good practice control measures and source</b></p>		
<b>Control measure</b>	<b>Source</b>	
EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans	The requirements to manage interactions between vessels and cetaceans are detailed in the EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans. These regulations describe strategies to ensure cetaceans are not harmed during offshore interactions with people.	
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPL's understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<p><b>Additional control measures and cost benefit analysis</b></p>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<p><b>Likelihood and risk level summary</b></p>		
<b>Likelihood</b>	Due to the nature and scale of vessel activities within the scope of this EP, the slow-moving nature of vessels within the OA, and the limited area of operation, the likelihood of a vessel collision with marine fauna is considered low. Based upon previous experience in the OA, CAPL consider the likelihood of the consequence occurring is Unlikely (4).	
<b>Risk level</b>	Very Low (9)	
<p><b>Determination of acceptability</b></p>		
<b>Principles of ESD</b>	<p>The risks associated with this aspect are unplanned interactions causing individual fauna injury or mortality, which is not considered as having the potential to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Incidental (6).</p> <p>Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental</b>	Legislation and other requirements considered relevant for this aspect include:	



<b>legislation and other requirements</b>	<ul style="list-style-type: none"> <li>• EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans</li> <li>• <i>Conservation Management Plan for the Blue Whale 2015–2025</i> (Ref. 59)</li> <li>• <i>Conservation Advice Balaenoptera borealis Sei Whale</i> (Ref. 58)</li> <li>• <i>Conservation Advice Balaenoptera physalus Fin Whale</i> (Ref. 57)</li> <li>• <i>National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna</i> (Ref. 251).</li> </ul>												
	<table border="1"> <thead> <tr> <th>Requirement</th> <th>Demonstration</th> </tr> </thead> <tbody> <tr> <td> <p><i>EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans</i></p> <p>Caution and no approach zones for interacting with cetaceans from vessels.</p> </td> <td> <p>Requirements of Regulation 8.05 and 8.06 for vessels interacting with cetaceans has been incorporated into the <b>EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</b> control measure.</p> </td> </tr> <tr> <td> <p><i>Conservation Management Plan for the Blue Whale 2015–2025</i></p> <p>Management action A.4.2: Ensure all vessel strike incidents are reported in the National Ship Strike Database.</p> <p>Management action A.4.3: Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented.</p> </td> <td> <p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>This section provides a risk evaluation for vessel strikes on Blue Whales, and control measures have been identified.</p> <p>Therefore, this exploration drilling activity is not considered to be inconsistent with the <i>Conservation Management Plan for the Blue Whale</i>.</p> </td> </tr> <tr> <td> <p><i>Conservation Advice Balaenoptera borealis Sei Whale</i></p> <p>Conservation action: Ensure all vessel strike incidents are reported in the National Vessel Strike Database.</p> </td> <td> <p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>Therefore, this activity is not considered to be inconsistent with the <i>Conservation Advice Balaenoptera borealis Sei Whale</i>.</p> </td> </tr> <tr> <td> <p><i>Conservation Advice Balaenoptera physalus Fin Whale</i></p> <p>Conservation action: Ensure all vessel strike incidents are reported in the National Vessel Strike Database.</p> </td> <td> <p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>Therefore, this activity is not considered to be inconsistent with the <i>Conservation Advice Balaenoptera physalus Fin Whale</i>.</p> </td> </tr> <tr> <td> <p><i>National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna</i></p> <p>No specific action identified.</p> </td> <td>N/A.</td> </tr> </tbody> </table>	Requirement	Demonstration	<p><i>EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans</i></p> <p>Caution and no approach zones for interacting with cetaceans from vessels.</p>	<p>Requirements of Regulation 8.05 and 8.06 for vessels interacting with cetaceans has been incorporated into the <b>EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</b> control measure.</p>	<p><i>Conservation Management Plan for the Blue Whale 2015–2025</i></p> <p>Management action A.4.2: Ensure all vessel strike incidents are reported in the National Ship Strike Database.</p> <p>Management action A.4.3: Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented.</p>	<p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>This section provides a risk evaluation for vessel strikes on Blue Whales, and control measures have been identified.</p> <p>Therefore, this exploration drilling activity is not considered to be inconsistent with the <i>Conservation Management Plan for the Blue Whale</i>.</p>	<p><i>Conservation Advice Balaenoptera borealis Sei Whale</i></p> <p>Conservation action: Ensure all vessel strike incidents are reported in the National Vessel Strike Database.</p>	<p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>Therefore, this activity is not considered to be inconsistent with the <i>Conservation Advice Balaenoptera borealis Sei Whale</i>.</p>	<p><i>Conservation Advice Balaenoptera physalus Fin Whale</i></p> <p>Conservation action: Ensure all vessel strike incidents are reported in the National Vessel Strike Database.</p>	<p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>Therefore, this activity is not considered to be inconsistent with the <i>Conservation Advice Balaenoptera physalus Fin Whale</i>.</p>	<p><i>National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna</i></p> <p>No specific action identified.</p>	N/A.
	Requirement	Demonstration											
	<p><i>EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans</i></p> <p>Caution and no approach zones for interacting with cetaceans from vessels.</p>	<p>Requirements of Regulation 8.05 and 8.06 for vessels interacting with cetaceans has been incorporated into the <b>EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</b> control measure.</p>											
	<p><i>Conservation Management Plan for the Blue Whale 2015–2025</i></p> <p>Management action A.4.2: Ensure all vessel strike incidents are reported in the National Ship Strike Database.</p> <p>Management action A.4.3: Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented.</p>	<p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>This section provides a risk evaluation for vessel strikes on Blue Whales, and control measures have been identified.</p> <p>Therefore, this exploration drilling activity is not considered to be inconsistent with the <i>Conservation Management Plan for the Blue Whale</i>.</p>											
	<p><i>Conservation Advice Balaenoptera borealis Sei Whale</i></p> <p>Conservation action: Ensure all vessel strike incidents are reported in the National Vessel Strike Database.</p>	<p>Requirements to report vessel strike incidents is included in Section 8.4.2.</p> <p>Therefore, this activity is not considered to be inconsistent with the <i>Conservation Advice Balaenoptera borealis Sei Whale</i>.</p>											
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<p><i>National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna</i></p> <p>No specific action identified.</p>	N/A.												
<b>Internal context</b>	No CAPL management processes or procedures were deemed relevant for this aspect.												
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding interaction with marine fauna arising from the activity.												
<b>Defined acceptable level</b>	These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.												

	<p>However, in alignment with Section 5.6.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:</p>	
	<p><b>Plan</b></p>	<p><b>Objective</b></p>
	<p><i>Conservation Management Plan for the Blue Whale 2015–2025</i></p>	<p><u>Recovery objective</u>: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p>
	<p>Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:</p> <ul style="list-style-type: none"> <li>impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species.</li> </ul> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<p><b>Environmental performance outcome</b></p>	<p><b>Environmental performance standard</b></p>	<p><b>Measurement criteria</b></p>
<p>No injury or mortality to marine fauna within the OA from vessel activities associated with the petroleum activity</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity</p>	<p><b>EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</b></p> <p>Vessels will implement caution and no approach zones, where practicable:</p> <ul style="list-style-type: none"> <li>caution zone (300 m either side of whales; 150 m either side of dolphins)—vessels must operate at ≤6 knots within in this zone, maximum of three vessels within zone, and vessels should not enter if a calf is present</li> <li>no approach zone (300 m to the front and rear of whales and 100 m either side; 300 m for whale calves; 150 m to the front and rear of dolphins and 50 m either side)—vessels should not enter this zone and should not wait in front of the direction of travel of an animal or pod or follow directly behind.</li> </ul> <p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p> <p><b>Relevant persons consultation—Ongoing consultation (First</b></p>	<p>Induction materials include relevant marine fauna caution and no approach zone requirements.</p> <p>Training records confirm offshore personnel involved in the activities have completed the induction.</p> <p>Vessel records show if marine fauna interaction occurred within caution or approach zones, and what mitigation (e.g. divert or slow vessel) measure was implemented.</p> <p>Relevant persons consultation records.</p> <p>As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.</p>

	<p><b>Nations people and/or representative bodies)</b></p> <p>If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	
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### 7.3 Seabed disturbance

Source			
<p>Activities identified as having the potential to result in seabed disturbance are:</p> <ul style="list-style-type: none"> <li>• MODU—use of mooring system within the OA during the exploration drilling activity</li> <li>• drilling—well-spudding and installation of subsea equipment within the OA during the exploration drilling activity</li> <li>• field support—temporary wet parking of ROVs within the OA during the exploration drilling activity</li> <li>• field support—unplanned vessels anchoring (e.g. during an emergency) within the OA during the exploration drilling activity.</li> </ul> <p>In addition to these activities, discharge of drilling fluids and cuttings has the potential to result in seabed disturbance. However, these discharges are assessed in Section 7.9 and not considered further in this section.</p>			
Potential impacts and risks			
Impacts	C	Risks	C
<p>Seabed disturbance may result in:</p> <ul style="list-style-type: none"> <li>• alteration of benthic communities and habitats</li> <li>• localised and temporary change in water quality.</li> </ul>	<p>5</p> <p>6</p>	<p>Seabed disturbance may result in:</p> <ul style="list-style-type: none"> <li>• changes to cultural heritage values</li> </ul>	<p>5</p>
Consequence evaluation			
<p><b>Alternation of benthic communities and habitat</b></p> <p>The MODU will be positioned within the OA using an 8- to 12-point mooring system, with a disturbance footprint from an anchoring system (including anchors and chains) estimated at up to ~0.013 km<sup>2</sup> (Ref. 11; Section 3.2.1). The direct disturbance footprint of drilling on the seabed is expected to be relatively small (e.g. &lt;0.001 km<sup>2</sup>), and the ROV is very small (e.g. &lt;15 m<sup>2</sup>). The OA consists of an area of ~78.5 km<sup>2</sup>. This indicative seabed disturbance area represents &lt;0.02% of the OA.</p> <p>Although anchoring is not a routine activity from support vessels, it has been carried through as a contingent activity in the event anchoring is required within the OA due to a significant weather event. NERA (Ref. 11) indicates that a vessel anchored within water depths greater than 70 m with a single anchor could result in a total disturbance area of up to ~0.0013 km<sup>2</sup>. Assuming three vessels were required to anchor, this indicative seabed disturbance area represents &lt;0.005% of the OA.</p> <p>The benthic habitat within the OA is expected to predominantly be soft substrate (Section 4.3.1). The values and sensitivities within the OA with the potential to be impacted by seabed disturbance includes the following KEF:</p> <ul style="list-style-type: none"> <li>• continental slope demersal fish communities.</li> </ul> <p>Bacteria and fauna present on the continental slope are the basis of the food web for demersal fish and higher-order consumers in this KEF system (Ref. 72). Although physical habitat modification is considered a pressure of potential for this KEF, this modification has been associated with fishing activities (Ref. 72).</p> <p>The habitat type within the OA (i.e. soft sediment, with sparse epibenthic communities) is widespread through the region, and as such the potential disturbance footprint (~0.014–</p>			

0.018 km<sup>2</sup>) is highly localised, expected to recover, and not expected to affect ecosystem function or connectivity of communities. As such, CAPL has ranked the consequence as Minor (5).

**Localised and temporary change in water quality**

During activities that interact with the seabed (e.g. installation of MODU anchors, or seabed equipment, etc.), some unconsolidated sediment may be resuspended into the water column, resulting in a decrease in local water quality. As described above, the area of seabed disturbance within the OA is limited, and as it is related to discrete activities, does not occur continually for the duration of the exploration drilling activities.

Given the hydrodynamics in open ocean areas, the area of decreased water quality is expected to be localised and temporary, as sediments would settle out of the water column relatively quickly (Ref. 11). As such, CAPL has ranked the consequence as Incidental (6).

**Changes to cultural heritage values**

The DS-1 exploration well (and associated seabed disturbance) is located ~40 km west of subsea infrastructure associated with the Gorgon Gas Development. There is no operational subsea infrastructure within proximity of the DS-1 exploration well. The closest known non-operated infrastructure is ~13 km northwest associated with a previous exploration well that was decommissioned with the wellhead in situ.

As discussed in Section 4.6, there are no World, National, or Commonwealth heritage listed places or sites, and no protected UCH<sup>27</sup> sites or artefacts have been identified within the OA. Therefore, no impacts to known protected seabed-based UCH (e.g. shipwrecks or archaeology), including First Nations UCH, are expected to occur.

Given known sea level history, the OA (which occurs in water depths >940 m) would not have been emergent land during the extended history of First Nations occupation of Australia. At the time of writing, CAPL understands through consultation with the relevant First Nations people and/or representative bodies that there are no known artefacts or specific sites of cultural value associated with the seabed within the OA. As such, it is anticipated that tangible heritage features would not be significantly adversely affected from planned seabed disturbance within the OA.

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was the ocean (Table 4-14). The consequence evaluations to related receptors (i.e. marine environmental quality, benthic communities and habitats) are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14).

Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from seabed disturbance within the OA is anticipated. The consequence evaluation to benthic communities and habitats is provided above and was assessed as resulting in highly localised and minor environmental impacts. Further, as described in the above evaluation, changes to the benthic habitat within the disturbance footprint is not expected to affect ecosystem function or connectivity. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from seabed disturbance within the OA.

Given the small disturbance area associated with the petroleum activity (~0.014–0.018 km<sup>2</sup>) and that the benthic habitat within the OA is expected to predominantly be soft substrate, a significant adverse change to cultural heritage values attributed to the offshore marine area from seabed disturbance is not predicted to occur. As such, CAPL has ranked the consequence as Minor (5).

**ALARP decision context justification**

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

<sup>27</sup> Under section 15 of the UCH Act, UCH is defined as “any trace of human existence that has a cultural, historical, or archaeological character, and is located under water”.

<p>During relevant persons consultation, a claim was raised regarding the potential presence of First Nations UCH (in the context of the UCH Act). This claim was responded to by CAPL (see summary in 'external context' below, and within appendix d).</p> <p>The impacts associated with seabed disturbance are considered lower-order impacts in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.</p>		
<b>Good practice control measures</b>		
<b>Control measure</b>	<b>Description</b>	
Mooring analysis	Mooring analysis will be undertaken before MODU anchoring, as per requirements of <i>API RP 2SK Design and analysis of station keeping systems for floating structures</i> (Ref. 105).	
Monitoring mooring line tensions	ISO 19901-7:2013: Station keeping systems for floating offshore structures and mobile offshore units (Ref. 106) states that mooring line tensions should be measured and recorded during normal operations to ensure that drag is reduced.	
ROV inspection	A visual inspection (via ROV) of the seabed will be conducted prior to well spudding commencing.	
Marine Standard	Chevron's Marine Standard (Ref. 39) ensures that various legislative and Chevron requirements are met, including MODU and vessels will meet the crew competency, navigation equipment, and radar requirements.	
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
UCH finds protocol	<p>In alignment with the draft <i>Guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage</i> (Ref. 224) a UCH finds protocol will be implemented where there are activities interacting with the seabed with the risk of disturbing unlocated UCH.</p> <p>The purpose of the UCH finds protocol is to ensure that inadvertent discoveries of UCH (including First Nations UCH) are identified on site and responded to with adequate conservation and management actions. The protocol will identify actions to be taken should potential UCH be identified within the OA.</p>	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	Due to the limited area of seabed disturbance, and with the control measures in place, the likelihood of impacts to cultural values from seabed disturbance is Rare (6).	
<b>Risk level</b>	Very low (10)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	The potential impacts associated with this aspect is limited to localised short-term effects that are not expected to affect biological diversity and ecological integrity.	

	The consequence associated with this aspect is Minor (5). Therefore, no further evaluation against the Principles of ESD is required.	
<b>Relevant environmental legislation and other requirements</b>	Legislation and other requirements considered relevant to this aspect include: <ul style="list-style-type: none"> <li>• <i>API RP 2SK Design and analysis of station keeping systems for floating structures</i> (Ref. 105)</li> <li>• <i>ISO 19901-7:2013: Station keeping systems for floating offshore structures and mobile offshore units</i> (Ref. 106).</li> </ul>	
	<b>Requirement</b>	<b>Demonstration</b>
	<i>API RP 2SK Design and analysis of station keeping systems for floating structures.</i>	Technical requirements have been incorporated into the <b>Mooring analysis</b> control measure.
	<i>ISO 19901-7:2013: Station keeping systems for floating offshore structures and mobile offshore units.</i>	Technical requirements have been incorporated into the <b>Monitoring mooring line tensions</b> control measure.
<b>Internal context</b>	The following CAPL management processes or procedures were deemed relevant for this aspect: <ul style="list-style-type: none"> <li>• <i>Marine Standard Non Tankers: Corporate OE Standard</i> (Ref. 39).</li> </ul> Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
<b>External context</b>	During relevant persons consultation, a claim regarding the potential presence of First Nations UCH sites within offshore Australian waters was received (appendix d). CAPL provided a response that confirmed that a desktop assessment for UCH has been undertaken which included consultation with First Nations to identify presence of UCH artefacts within the EMBA (refer to Section 4.6.2). No further objections or claims were raised regarding seabed disturbance arising from the activity.	
<b>Defined acceptable level</b>	These impacts are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
Reduce the risk of impacts to sensitive environmental receptors within the OA from the petroleum activity.  No adverse change to First Nations cultural heritage values from the petroleum activity.	<b>Mooring analysis</b> Mooring analysis for the MODU will be undertaken prior to anchoring activities commencing.	Records verify that mooring analysis was undertaken prior to MODU anchoring.
	<b>Monitoring mooring line tensions</b> Mooring line tensions will be monitored through the duration of the petroleum activity.	Records verify mooring line tensions were monitored for the duration of the petroleum activity.
	<b>ROV inspection</b> A visual inspection of the seabed will be undertaken prior to well spudding activities commencing.	Records verify that a visual seabed inspection was undertaken prior to well spudding.
	<b>Marine Standard</b> MODU and vessels will meet the crew competency, navigation equipment, and radar	Records indicate that MODU and vessels meet the crew competency, navigation equipment, and radar requirements of the Marine Standard.



	requirements of the Marine Standard.	
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	Relevant persons consultation records.
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.
No impacts to underwater cultural heritage from the petroleum activity.	<p><b>UCH finds protocol</b></p> <p>CAPL will develop and implement a UCH finds protocol to identify and manage any potential UCH during the petroleum activity.</p>	Records indicate that a UCH finds protocol was developed and in place prior to the commencement of the petroleum activity.
		Induction materials include relevant UCH requirements.
		Training records confirm personnel involved in offshore vessel activities and/or ROV operations have completed the induction.
		Records show if UCH (or potential UCH) were identified within the OA, and what conservation and management actions were implemented.
	<p><b>UCH finds protocol</b></p> <p>If First Nations UCH (or potential UCH) is identified during the petroleum activity, the finding is shared with the relevant First Nations representative bodies.</p>	Relevant persons consultation records.
<p><b>UCH finds protocol</b></p> <p>Where required, UCH finds have been reported to the relevant agency (Table 8-17).</p>	Record of lodgement of notification to relevant agency.	

## 7.4 Air Emissions

Source			
<p>Activities identified as having the potential to result in air emissions:</p> <ul style="list-style-type: none"> <li>• MODU—combustion of fuel onboard the MODU within the OA during the exploration drilling activity</li> <li>• field support—combustion of fuels from vessels and helicopters within the OA during the exploration drilling activity.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
<p>Air emissions may result in:</p> <ul style="list-style-type: none"> <li>• a localised and temporary change in air quality</li> <li>• contribution to the reduction of the global atmospheric carbon budget.</li> </ul>	6  6	<p>Generation of air emissions may result in:</p> <ul style="list-style-type: none"> <li>• changes to cultural heritage values.</li> </ul>	6
Consequence evaluation			
<p><b>Localised and temporary change in air quality</b></p> <p>The MODU and support vessels will be present within the OA during the exploration drilling activity, which are estimated to take ~50 days to complete. The MODU is also serviced by regular helicopter operations (Section 3.7.2). The MODU, vessels, and helicopters rely on the combustion of fuel for power generation, which can subsequently result in air emissions.</p> <p>Air emissions may include criteria pollutants (e.g. nitrogen oxides [NO<sub>x</sub>]), and greenhouse gases (e.g. carbon dioxide [CO<sub>2</sub>]). Impacts from air emissions depend on discharge volume, frequency, duration of exposure, as well as the location and nature of the receiving environment. Air quality changes associated with emissions are typically limited to the local air shed, given the rapid dispersal into the atmosphere following release.</p> <p>Modelling was undertaken for nitrogen dioxide (NO<sub>2</sub>) emissions from MODU power generation for another offshore project (Ref. 116). NO<sub>2</sub> is the focus of the modelling because it is considered the main (non-greenhouse) atmospheric pollutant of concern, with larger predicted emission volumes compared to the other pollutants and has potential to impact on human health (as a proxy for environmental receptors). Results of this modelling indicate that on an hourly average, there is the potential for an increase in ambient NO<sub>2</sub> concentrations of 0.0005 ppm within 10 km of the emission source and an increase of 0.00005 ppm in ambient NO<sub>2</sub> concentrations &gt;40 km away. Air emissions are expected to be the less from the support vessels in comparison to a MODU.</p> <p>The NEPM recommends that hourly exposure to NO<sub>2</sub> is &lt;0.12 ppm with annual average exposure &lt;0.03 ppm. Given that the modelling indicated that the highest hourly averages (0.00039 ppm or 0.74 µg/m<sup>3</sup>) were restricted to a distance ~5 km from the MODU (Ref. 116), exposures are considered to be below NEPM standards.</p> <p>Given the limited spatial extent of the change arising from air emissions, and the limited duration of the exploration drilling activity, CAPL has ranked the consequence associated with a direct change in local air quality as Incidental (6).</p>			
<p><b>Contribution to the reduction of the global atmospheric carbon budget</b></p> <p>The MODU and support vessels will be present within the OA during the exploration drilling activity, which are estimated to take ~50 days to complete. The MODU is also serviced by regular helicopter operations (Section 3.7.2). The MODU, vessels, and helicopters rely on the combustion of fuel for power generation, which can subsequently result in greenhouse gas emissions, which will contribute to a reduction in the global carbon budget.</p> <p>Direct Greenhouse gas (GHG) emissions from activities within this EP are estimated to be ~0.015 Mt CO<sub>2</sub>-e<sup>28,29</sup>. These direct emissions represent ~0.013% of national Australian emissions (when compared to December 2022 inventory) (Ref. 117).</p>			

<sup>28</sup> Emissions calculation is based on 50 days of moored MODU operations, 50 days of three vessels on DP (assuming 2 x anchor handler and 1 x platform supply vessel), and 35 helicopter transfers, using NGER energy content and emissions factors (Ref. 118).

<sup>29</sup> Any equipment (e.g. ROV) used to support vessel activities is powered by the support vessel itself, and as such these don't represent an additional emission source to that already accounted for by the vessel.



To determine the relevance of indirect emissions to the activities under this EP, CAPL undertook an assessment against the factors for determining what is an indirect consequence, in accordance with the 'Indirect consequences' of an action: Section 527E of the EPBC Act Policy Statement.

The assessment determined that there were no indirect emissions associated with the petroleum activity within scope of this EP because:

- there is no recovery of hydrocarbons associated with the exploration drilling activities (Section 3.1.1), and as such no gas processing, transport, or third party end-use of hydrocarbons would occur
- exploration drilling is not considered to facilitate to a major extent any existing petroleum activity associated with the Gorgon Gas Development.

According to the IPCC, Sixth Assessment Report for Working Group 1, "the total anthropogenic effective radiative forcing in 2019, relative to 1750, was 2.72 [1.96 to 3.48] Wm<sup>-2</sup> (*medium confidence*) and has been growing at an increasing rate since the 1970s, [and]... Over 1750–2019, CO<sub>2</sub> increased by 131.6 ± 2.9 ppm (47.3%)"<sup>30</sup> (Ref. 119).

The IPCC defines the term "carbon budget" as "refer[ing] to the maximum amount of cumulative net global anthropogenic CO<sub>2</sub> emissions that would result in limiting global warming to a given level with a given probability, taking into account the effect of other anthropogenic climate forcers. This is referred to as the total carbon budget when expressed starting from the pre-industrial period, and as the remaining carbon budget when expressed from a recent specified date. Historical cumulative CO<sub>2</sub> emissions determine to a large degree warming to date, while future emissions cause future additional warming. The remaining carbon budget indicates how much CO<sub>2</sub> could still be emitted while keeping warming below a specific temperature level."<sup>31</sup> (Ref. 120).

The remaining carbon budget for a 50% likelihood to limit global warming to 1.5°C, 1.7°C, and 2°C is respectively, 500 Gt CO<sub>2</sub>, 850 Gt CO<sub>2</sub>, and 1350 Gt CO<sub>2</sub><sup>32</sup> (Ref. 120).

If the total direct GHG emissions from activities associated with this EP are ~0.015 Mt CO<sub>2</sub>-e then the activities under this EP may contribute ~0.1–0.3 x 10<sup>-5</sup> percent to the reduction in the total remaining global carbon budget, which is a *de minimis* decrease.

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

#### Changes to cultural heritage values

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. Country is understood to also include Sky Country (Ref. 274). Consequence evaluations to related tangible environmental receptors (i.e. ambient air quality) are provided above.

Intangible cultural heritage refers to the "practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage" (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from air emissions within the OA is anticipated. The consequence evaluation to ambient air quality and the reduction in atmospheric global carbon budget are provided above, and were assessed as having a localised and limited environmental impacts to air quality, and a *de minimis* contribution to the reduction of the global carbon budget. Further, as described in the above evaluation, the source of air emissions within the OA (i.e. MODU and vessels) is temporary and is not expected to affect the long-term air quality of the marine environment. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from air emissions within the OA.

<sup>30</sup> IPCC, AR6, WG1, at TS-35.

<sup>31</sup> IPCC, AR6, WG1, at SPM-48 footnote 43

<sup>32</sup> IPCC, AR6, WG1, at SPM-29 Table SPM.2

<p>Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from air emissions within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).</p>		
<b>ALARP decision context justification</b>		
<p>Offshore drilling and support vessel operations and subsequent air emissions arising from these activities are commonplace in offshore environments nationally and internationally. The control measures to manage the impacts associated with air emissions are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.</p> <p>During relevant persons consultation, no objections or claims were raised regarding air emissions arising from the activity.</p> <p>The impacts associated with air emissions are considered to be lower-order impacts (Table 5-3). As such, CAPL applied ALARP Decision Context A for this aspect.</p>		
<b>Good practice control measures</b>		
<b>Control measure</b>	<b>Description</b>	
Reduced sulfur content fuel	Sulfur content of diesel/fuel oil complies with Marine Order 97 and regulation 14 of MARPOL 73/78 Annex VI. Only low-sulfur (0.50 mass % concentration [m/m]) fuel oil will be used to minimise sulfur oxides (SOx) emissions.	
Marine Order 97: Marine Pollution Prevention – Air Pollution	<p>Prior to commencement of drilling activities, the Marine Standard (Ref. 39) is used to verify that all MODU and vessels comply with Marine Order 97: Marine Pollution Prevention – Air Pollution (appropriate to vessel class) for emissions from combusting fuel, including:</p> <ul style="list-style-type: none"> <li>• will hold a valid International Air Pollution Prevention (IAPP) certificate and a current international energy efficiency (IEE) certificate</li> <li>• will have a Ship Energy Efficiency Management Plan (SEEMP) as per MARPOL 73/78 Annex VI (as appropriate to vessel class)</li> <li>• engine nitrous oxides (NOx) emission levels will comply with regulation 13 of MARPOL 73/78 Annex VI.</li> </ul>	
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	Due to the localised and temporary nature of air emissions within the OA, and with the control measures in place, the likelihood of impacts to cultural heritage values from air emissions is Rare (6).	
<b>Risk level</b>	Very low (10)	

Determination of acceptability		
<b>Principles of ESD</b>	<p>A potential impact associated with this aspect is limited to a direct reduction in air quality for a localised area for a short time, which is not considered to have the potential to affect biological diversity and ecological integrity.</p> <p>A potential impact associated with this aspect is a <i>de minimis</i> contribution to the reduction of the global carbon budget, which is not considered to have the potential to affect intergenerational equity.</p> <p>The consequence associated with this aspect is Incidental (6). Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	<p>Legislation and other requirements considered relevant to this aspect include:</p> <ul style="list-style-type: none"> <li>• Marine Order 97</li> <li>• MARPOL 73/78.</li> </ul>	
	Requirement	Demonstration
	<p><i>Marine Order 97</i> Gives effect to Annex VI of MARPOL 73/78</p>	<p>Prescribed limits (as per Division 7) for sulfur content of fuel oil have been incorporated into the <b>reduced sulfur content fuel</b> control measure.</p> <p>IAPP and IEE certificate (as per Division 2), SEEMP (as per Division 6), and nitrogen oxides emission requirements (as per Division 3) have been incorporated into the <b>Marine Order 97: Marine Pollution Prevention – Air Pollution</b> control measure.</p>
<b>Internal context</b>	<p>The following CAPL management processes or procedures were deemed relevant for this aspect:</p> <ul style="list-style-type: none"> <li>• Marine Standard <i>Non Tankers: Corporate OE Standard</i> (Ref. 39).</li> </ul> <p>Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>	
<b>External context</b>	<p>During relevant persons consultation, no objections or claims were raised regarding with air emissions arising from the activity.</p>	
<b>Defined acceptable level</b>	<p>These impacts are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p>	
Environmental performance outcome	Environmental performance standard	Measurement criteria
<p>Planned air emissions from vessel operations during the petroleum activity will meet Marine Order 97 requirements.</p>	<p><b>Reduced sulfur content fuel</b> Only low-sulfur (0.50 mass % concentration [m/m]) fuel oil will be used to minimise SO<sub>x</sub> emissions.</p>	<p>Bunker receipts verify the use of low-sulfur fuel oil.</p>
	<p><b>Marine Order 97: Marine Pollution Prevention – Air Pollution</b> Prior to commencement of activities, the following will be verified for the MODU/vessels, as per the Marine Standard:</p> <ul style="list-style-type: none"> <li>• hold a valid IAPP certificate and a current IEE certificate</li> <li>• will have a SEEMP as per MARPOL 73/78 Annex VI (as appropriate to vessel class)</li> </ul>	<p>OVIS report / ABU Marine OE Inspection Checklist confirms vessels hold IAPP and IEE certificates, a SEEMP is in place (as appropriate to class), and NO<sub>x</sub> emission levels comply with regulations.</p>

	<ul style="list-style-type: none"> <li>engine nitrous oxides (NOx) emission levels will comply with regulation 13 of MARPOL 73/78 Annex VI.</li> </ul>	
No adverse change to First Nations cultural heritage values from the petroleum activity.	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	Relevant persons consultation records.
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.

## 7.5 Light emissions

Source			
<p>Activities identified as having the potential to result in artificial light emissions:</p> <ul style="list-style-type: none"> <li>MODU—navigational and operational lighting from the MODU within the OA during the exploration drilling activity</li> <li>field support— navigational and operational lighting from vessels within the OA during the exploration drilling activity.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
<p>Light emissions may result in:</p> <ul style="list-style-type: none"> <li>localised and temporary change in ambient light.</li> </ul>	6	<p>A change in ambient light may result in:</p> <ul style="list-style-type: none"> <li>change in fauna behaviour for light-sensitive species</li> <li>changes to cultural heritage values.</li> </ul>	5 6
Consequence evaluation			
<p><b>Localised and temporary change in ambient light</b></p> <p>The MODU and support vessels will be present within the OA during the exploration drilling activity, which are estimated to take ~50 days to complete. Lighting is required at night for navigation and to ensure safe operations when working on the MODU and/or support vessels. Monitoring undertaken by Woodside (Ref. 107) indicates that light density from navigational lighting on a MODU attenuated to below 1.0 lux and 0.03 lux at distances of ~300 m and ~1.4 km, respectively. Light densities of 1.0 lux and 0.03 lux are comparable to natural light densities experienced during deep twilight and during a quarter moon.</p> <p>Based on Woodside (Ref. 107), CAPL expects that there would be a temporary change (~50 days) to ambient light levels within a radius of ~1.4 km from the MODU.</p> <p>Navigational and operational lighting is expected to be less on support vessels in comparison to a MODU. However, as a conservative approach for this consequence evaluation, CAPL estimates that its vessel activities will result in temporary changes to ambient light no greater than a radius of ~1.4 km from the support vessel. As described in Section 3.7.1, the number of support vessels within the OA may vary during the duration of exploration drilling activities.</p> <p>Given the limited spatial extent of the change arising from navigational and operational lighting, and the limited duration of the exploration drilling activity, CAPL has ranked the consequence associated with a direct change in ambient light levels as Incidental (6).</p>			

### Change in fauna behaviour

During activities that result in a change in ambient light conditions, a subsequent change in the behaviour of light sensitive fauna may occur.

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

As identified in Section 4.3.3, several marine species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the OA. The OA overlaps with the Wedge-tailed Shearwater breeding BIA. No BIAs for other regionally significant fauna were identified within the OA. No habitat critical for the survival of a species was identified within the OA. As such the focus of this evaluation is on birds as they provide a representative case to enable an indicative consequence evaluation to be undertaken.

The *National Light Pollution Guidelines for Wildlife* (Ref. 9) indicate that a 20 km buffer or exposure area can provide a general precautionary light impact limit based on observed effects of sky glow on fledgling seabirds grounded in response to artificial light 15 km away (Ref. 109). At its closest, the OA is located ~95 km northwest from the closest coast (Barrow Island). As light emissions from the MODU and support vessels are expected to result in a change to ambient conditions up to a maximum of 1.4 km from each source, no coastal areas (and therefore fledgling seabirds) are expected to be exposed.

Anthropogenic disturbance and artificial lighting are identified as threats within the *Wildlife Conservation Plan for Migratory Shorebirds* (Ref. 108) and light pollution is identified as a threat within the *Wildlife Conservation Plan for Seabirds* (Ref. 220). Studies conducted between 1992 and 2002 in the North Sea confirmed that artificial light was the reason that birds were attracted to and accumulated around illuminated offshore infrastructure (Ref. 110) and that lighting can attract birds from large catchment areas (Ref. 111). These studies indicate that migratory birds are attracted to lights from offshore platforms when travelling within a radius of 5 km from the light source, but their migratory paths are unaffected outside this zone (Ref. 112).

It is suggested that nocturnally active seabirds and/or migratory shorebirds may be affected by light-spill and make alterations to their normal behaviours. Procellariiforms (shearwaters, petrels and albatross) species forage at night on bioluminescent prey, and therefore are attracted to light of any kind (Ref. 113; Ref. 111). The presence of the Wedge-tailed Shearwater is seasonal, typically occurring between mid-August to April in the Pilbara region; and they are known to forage either relatively close to breeding islands or over a large area, depending on prey availability. Given the indicative schedule for DS-1 exploration drilling activity (i.e. planned to commence between 2024 and 2025; Section 3.1.3), there is the potential for overlapping with Wedge-tailed Shearwater during seasonal presence (mid-August to April). The mechanism of birds being attracted to light is not proven, but it is proposed that the artificial lighting may override the internal magnetic compass of migratory shorebirds or nocturnal seabirds (Ref. 114). However, Marquenie (Ref. 115) estimated that a change in migratory behaviour of birds was limited to <5 km from the source. Therefore, this type of impact is expected to be spatially restricted to the immediate vicinity of the MODU and/or support vessels, and affect only individuals (rather than populations).

Consequently, only localised short-term behavioural impacts to transient individuals have the potential to arise from these activities and have therefore been evaluated as Minor (5).

### Changes to cultural heritage values

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. It is understood that the term 'Country' refers to more than just a geographical area, and includes values, places, resources, stories, and cultural obligations associated with that geographical area (Ref. 242; Ref. 269). One of the specific tangible values of Sea Country identified through consultation was marine fauna (e.g. whales, turtles). The consequence evaluations to these receptors are provided above.

Intangible cultural heritage refers to the "practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage" (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14).

Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.



No impact pathway to a change in access to Country from artificial light emissions within the OA is anticipated. The consequence evaluation to marine fauna are provided above, and were assessed as localised and minor environmental impacts that are not expected to affect the overall population of the species. Further, as described in the above evaluations, the source of light emissions within the OA (i.e. MODU and vessels) is temporary and is not expected to affect the long-term ambient light of the marine environment. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from light emissions within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from light emissions within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

#### ALARP decision context justification

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

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

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

Notwithstanding this, CAPL has considered additional mitigation measures that could potentially further reduce the risk of light emissions with marine fauna species.

#### Good practice control measures and source

Control measure	Source
Marine Standard	<i>Chevron's Marine Standard</i> (Ref. 39) ensures that various legislative requirements are met. This includes ensuring that lighting sufficient for navigational, safety and emergency requirements are met, as appropriate to MODU and vessel class.
Light management	<p>The schedule for the exploration drilling activity (~50 days commencing between 2024 and 2025) may overlap with the seasonal presence (mid-August to April) of the Wedge-tailed Shearwater.</p> <p>As a conservative management measure, the MODU and support vessels working at night during the exploration drilling campaign will be required to reduce external lighting to the minimum required for safe operations (and where practicable have this lighting directed downwards). The MODU and vessels will also make use of window coverings (e.g. blinds) during night operations to shield internal lights from view. The OA is located ~95 km northwest from the nearest coast (Barrow Island) and as such, no measurable change in light from the vessels will occur at coastal locations.</p> <p>Table 8 and Table 11 within the <i>National Light Pollution Guidelines for Wildlife</i> (Ref. 9) provides a toolbox of light management options for seabirds and migratory shorebirds respectively, that may be relevant for consideration depending on the activity. This control measure is consistent with the following light management options identified within the <i>National Light Pollution Guidelines for Wildlife</i> (Ref. 9) for seabirds and migratory shorebirds:</p> <ul style="list-style-type: none"> <li>• implement light management actions during breeding (seabirds), or peak migration (migratory shorebirds) periods</li> <li>• aim lights downwards and direct them away from nesting areas (seabirds)</li> <li>• reduce unnecessary lighting at sea by restricting external lighting to the minimum required for safe operations and navigation, and using window blinds to shield internal lights.</li> </ul>
Relevant persons consultation— Ongoing consultation (First	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL

<p>Nations people and/or representative bodies)</p>	<p>will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<p><b>Additional control measures and cost benefit analysis</b></p>		
<p><b>Control measure</b></p>	<p><b>Benefit</b></p>	<p><b>Cost</b></p>
<p>External vessel lighting to use:</p> <ul style="list-style-type: none"> <li>• flashing or intermittent lights instead of fixed beam</li> <li>• motion sensors to turn on lights only when needed</li> <li>• luminaires with spectral content appropriate for the species present</li> <li>• avoid high intensity light of any colour.</li> </ul>	<p>Replacing external lighting on vessels with lighting that is flashing, intermittent, or motion triggered, or of a particular spectral signature and/or intensity, may have the potential to further reduce the impact of artificial light on marine fauna.</p> <p>Light emissions from vessels are expected to result in a change to ambient conditions up to ~1.4 km from the MODU and support vessel; and at its closest, the OA is located ~95 km from any coast and potential nesting area.</p> <p>The implementation of these additional light management controls is considered to be of limited environmental benefit and would not result in a reduction of residual risk consequence.</p>	<p>The cost of retrofitting external lighting of the MODU and support vessels is considered grossly disproportionate to the limited environmental benefit (and no change in residual risk consequence) they may provide for marine fauna. Therefore, control measure <u>has not</u> been adopted for use.</p>
<p>Use curfews to manage lighting.</p>	<p>The <i>National Light Pollution Guidelines for Wildlife</i> (Ref. 9) suggests the use of curfews may assist in managing artificial lighting rookeries during the fledgling period (seabirds) or near nocturnal foraging and roosting areas in coastal habitats (migratory seabirds).</p> <p>One of the mechanisms for implementing this method is the use of motion sensors—considered in the above control measure and is not repeated here.</p> <p>Other mitigation options refer to the user of timers to extinguish lighting near seabird or migratory shorebird rookeries after 7 pm.</p> <p>The intent of the curfews is to manage artificial light in coastal areas to minimise any disruption to biological important behaviours. Given that the light emissions from vessels are expected to result in a change to ambient conditions up to ~1.4 km from the vessel, and at its closest, the OA is located ~95 km from any coast, the implementation of curfews are considered to be of</p>	<p>The cost of implementing lighting curfews, either by retrofitting external lighting with motion sensors (as considered above), or by implementing restricted night operations (e.g. no operations after 7 pm) is considered grossly disproportionate to the limited environmental benefit (and no change in residual risk consequence) they may provide for marine fauna. Therefore, control measure has not been adopted for use.</p>

	limited environmental benefit, and would not result in a reduction of residual risk consequence.	
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	The MODU and support vessel activities for this petroleum activity occur within offshore waters away from the coast. As such, the likelihood of exposing light sensitive fauna resulting in the identified consequence was considered Remote (5).	
<b>Risk level</b>	Very low (9)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	<p>The impacts and risks associated with this aspect is disruption to light-sensitive species behaviour, which given the location and duration of the activity, is not considered as having the potential to affect biological diversity and ecological integrity.</p> <p>The risk associated with this aspect is Minor (5).</p> <p>Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	Legislation and other requirements considered relevant to this aspect include:	
	<ul style="list-style-type: none"> <li>• <i>Navigation Act 2012 (Cth)</i></li> <li>• <i>National Light Pollution Guidelines for Wildlife</i> (Ref. 9)</li> <li>• <i>Wildlife Conservation Plan for Migratory Shorebirds</i> (Ref. 108)</li> <li>• <i>Wildlife Conservation Plan for Seabirds</i> (Ref. 220)</li> </ul>	
	<b>Requirement</b>	<b>Demonstration</b>
	<i>Navigation Act 2012 (Cth)</i> Appropriate lighting, navigation and communication to inform other users.	Legislative requirements have been incorporated into the <b>Marine Standard</b> control measure.
	<i>National Light Pollution Guidelines for Wildlife</i> Undertake an environmental impact assessment.	This section provides an impact assessment and consideration of control measures as identified within the mitigation toolboxes for marine turtles, seabirds, and migratory shorebirds.
	<i>Wildlife Conservation Plan for Migratory Shorebirds</i> No specific action identified.	N/A.
	<i>Wildlife Conservation Plan for Seabird</i> No specific action identified.	N/A.
<b>Internal context</b>	<p>The following CAPL management processes or procedure were deemed relevant for this aspect:</p> <ul style="list-style-type: none"> <li>• <i>Marine Standard Non Tankers: Corporate OE Standard</i> (Ref. 39).</li> </ul> <p>Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding light emissions arising from the activity.	
<b>Defined acceptable level</b>	These impacts and risks are inherently acceptable as they are considered lower-order impacts and risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.	



<p>However, in alignment with Section 5.6.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:</p> <table border="1"> <thead> <tr> <th>Plan</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td><i>Wildlife Conservation Plan for Seabird</i></td> <td><u>Objective 2:</u> Seabirds and their habitats are identified, protected and managed in Australia.</td> </tr> <tr> <td><i>Wildlife Conservation Plan for Migratory Shorebirds</i></td> <td><u>Objective 1:</u> Protection of important habitats for migratory shorebirds has occurred throughout the East Asian-Australasian Flyway (EAAF) <u>Objective 3:</u> Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.</td> </tr> </tbody> </table> <p>Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:</p> <ul style="list-style-type: none"> <li>impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species</li> <li>no disruption of biologically important behaviours of seabirds and migratory shorebirds or seabirds within important habitats.</li> </ul> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>			Plan	Objective	<i>Wildlife Conservation Plan for Seabird</i>	<u>Objective 2:</u> Seabirds and their habitats are identified, protected and managed in Australia.	<i>Wildlife Conservation Plan for Migratory Shorebirds</i>	<u>Objective 1:</u> Protection of important habitats for migratory shorebirds has occurred throughout the East Asian-Australasian Flyway (EAAF) <u>Objective 3:</u> Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.
Plan	Objective							
<i>Wildlife Conservation Plan for Seabird</i>	<u>Objective 2:</u> Seabirds and their habitats are identified, protected and managed in Australia.							
<i>Wildlife Conservation Plan for Migratory Shorebirds</i>	<u>Objective 1:</u> Protection of important habitats for migratory shorebirds has occurred throughout the East Asian-Australasian Flyway (EAAF) <u>Objective 3:</u> Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.							
Environmental performance outcome	Environmental performance standard	Measurement criteria						
<p>No disruption of biologically important behaviours of marine fauna from vessel activities occurring within the OA.</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>Marine Standard</b> MODU and vessels will meet the lighting requirements of the Marine Standard.</p>	Records indicate that MODU and vessels meet lighting requirements of the Marine Standard.						
	<p><b>Light management</b> MODU and vessels working at night will be required to:</p> <ul style="list-style-type: none"> <li>reduce external lighting to the minimum required for safe operations and navigation</li> <li>where practicable, operational lighting directed downwards to working deck area</li> <li>use window coverings to shield internal lights from view (unless windows are required to be uncovered for safe operations).</li> </ul>	Inspection records during night operations confirm only minimum lighting for safe operations and navigation is in use, where practicable operational lighting is directed downwards to working deck area, and internal window coverings are used (unless required for safe operations).						
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	Relevant persons consultation records.						
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p>	As required, records show that the MoC process was undertaken in response to any new information on						

	If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.	cultural values or features within the OA or EMBA.
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## 7.6 Underwater sound

### 7.6.1 Acoustic modelling

CAPL commissioned JASCO Applied Sciences to conduct acoustic modelling to inform the risk assessment associated with underwater sound exposure from the drilling exploration activity (Ref. 121). The modelling was undertaken to assist in understanding the distances from operations at which underwater sound levels reached noise effect thresholds and criteria for marine mammals, turtles and fish (Ref. 121).

The acoustic modelling considered the following sound-producing activities:

- drilling from an anchored MODU
- an Offshore Support Vessel (OSV) on slow transit in standby operation
- an OSV conducting resupply operations under DP.

Five scenarios, each describing a unique combination of sound sources, were modelled (Table 7-2).

**Table 7-2 Acoustic modelling scenarios**

Scenario	Description
1	Anchored MODU drilling (24 h)
2	Anchored MODU drilling (24 h) + OSV resupply under DP (2 h)
3	Anchored MODU drilling (24 h) + OSV resupply under DP (8 h)
4	Anchored MODU drilling (24 h) + OSV on standby (24 h)
5	Anchored MODU drilling (24 h) + OSV resupply under DP (8 h) + OSV on standby (24 h)

#### 7.6.1.1 Exposure criteria

Different species groups perceive and respond to sound differently, and so a variety of exposure criteria for the different types of impacts and species groups are considered. JASCO (Ref. 121) have selected the following noise effect thresholds, based on current best available science, for use in the impact and risk assessment:

- frequency-weighted accumulated sound exposure levels (SEL<sub>24h</sub>) from Southall et al (Ref. 122) for the onset of permanent threshold shift (PTS<sup>33</sup>) and temporary threshold shift (TTS<sup>34</sup>) in marine mammals for non-impulsive sound sources (Table 7-3)

<sup>33</sup> PTS is a physical injury to an animals hearing organs.

<sup>34</sup> TTS is a temporary reduction in animals hearing sensitivity due to receptor hair cells in the cochlea becoming fatigued.

- marine mammal behavioural threshold based on the current interim US National Oceanic and Atmospheric Administration (NOAA) (2019) criterion for marine mammals of 120 dB re 1  $\mu$ Pa (SPL) for non-impulsive sound sources (Ref. 123) (Table 7-3)
- sound exposure guidelines for fish, fish eggs and larvae (including plankton) (Ref. 124) (Table 7-3)
- frequency-weighted accumulated sound exposure levels ( $SEL_{24h}$ ) from Finneran et al. (Ref. 125) for the onset of PTS and TTS in marine turtles (Table 7-3).

Recent Commonwealth guidance has defined “injury to Blue Whales” as both PTS and TTS hearing impairment, as well as any other form of physical harm arising from anthropogenic sources of underwater noise (Ref. 126).

**Table 7-3: Noise effect criteria for continuous sound for different types of impacts and species groups**

Receptor	Mortal or potential mortal injury	Recoverable injury	Permanent threshold shift	Temporary threshold shift	Masking	Behavioural
Low-frequency cetaceans	N/A	N/A	SEL <sub>24h</sub> : 199 dB re 1 µPa <sup>2</sup> s	SEL <sub>24h</sub> : 179 dB re 1 µPa <sup>2</sup> s	N/A	SPL: 120 dB re 1 µPa
High-frequency cetaceans	N/A	N/A	SEL <sub>24h</sub> : 198 dB re 1 µPa <sup>2</sup> s	SEL <sub>24h</sub> : 178 dB re 1 µPa <sup>2</sup> s	N/A	SPL: 120 dB re 1 µPa
Very high-frequency cetaceans	N/A	N/A	SEL <sub>24h</sub> : 173 dB re 1 µPa <sup>2</sup> s	SEL <sub>24h</sub> : 153 dB re 1 µPa <sup>2</sup> s	N/A	SPL: 120 dB re 1 µPa
Marine turtles	N/A	N/A	SEL <sub>24h</sub> : 220 dB re 1 µPa <sup>2</sup> s	SEL <sub>24h</sub> : 200 dB re 1 µPa <sup>2</sup> s	N/A	N/A
Fish (no swim bladder) (relevant to sharks)	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Moderate (I) Low (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Moderate (F) Low
Fish (swim bladder not involved in hearing)	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Moderate (I) Low (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Moderate (F) Low
Fish (swim bladder involved in hearing)	(N) Low (I) Low (F) Low	170 dB SPL for 48 h	N/A	158 dB SPL for 12 h	(N) High (I) High (F) High	(N) High (I) Moderate (F) Low
Fish eggs and fish larvae (relevant to plankton)	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	N/A	(N) Low (I) Low (F) Low	(N) High (I) Moderate (F) Low	(N) Moderate (I) Moderate (F) Low

*Relative risk (high, moderate, low) is given for fauna at three distances from the source (near [N], intermediate [I] and far [F])*

### 7.6.1.2 Modelling outputs

Horizontal maximum distances ( $R_{max}$ ) from the sound source to the relevant noise effect criteria for marine mammals, turtles, and fish are shown in Table 7-4 to Table 7-6. For multi-scenario summaries (Table 7-6), where distances to noise effect criteria varied between the modelled scenarios, the largest of these has been reported. For scenarios with multiple sound sources (i.e. Scenarios 2, 3, 4, and 5), the distances to noise effect criteria were reported from either the centroid of the sources or from the most dominant single source (Ref. 121).

The scenarios with the greatest potential for effect were those that included an OSV under DP conducting resupply (Table 7-6); whereas the predicted ensonified areas for the more common drilling and vessel standby operations were much lower (Table 7-5).

The  $SEL_{24h}$  is a cumulative metric that reflects the dosimetric impact of noise levels within 24 hours based on the assumption that a receptor is consistently exposed to such noise levels at a fixed position. Realistically, marine fauna are not expected to remain stationary in the same location for a 24 hour period. Therefore, a modelled exposure area for the  $SEL_{24h}$  criteria does not mean that marine fauna travelling within this area will be impaired, but rather that they could be exposed to the sound level associated with impairment (either PTS or TTS) if they remained in that location for 24 hours.

**Table 7-4: Modelled maximum horizontal distances ( $R_{max}$ ) from anchored MODU drilling (Scenario 1) to reach noise effect criteria for continuous sound**

Receptor	Recoverable injury	Permanent threshold shift	Temporary threshold shift	Behavioural
Low-frequency cetaceans	N/A	$SEL_{24h}$ : 0.02 km	$SEL_{24h}$ : 0.22 km	SPL: 0.72 km
High-frequency cetaceans	N/A	$SEL_{24h}$ : 0.02 km	$SEL_{24h}$ : 0.09 km	SPL: 0.72 km
Very high-frequency cetaceans	N/A	$SEL_{24h}$ : 0.14 km	$SEL_{24h}$ : 1.23 km	SPL: 0.72 km
Marine turtles	N/A	$SEL_{24h}$ : –	$SEL_{24h}$ : 0.02 km	N/A
Fish (swim bladder involved in hearing)	SPL for 48 hours: –	N/A	SPL for 12 hours: 0.02 km	N/A

*A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).*

**Table 7-5: Modelled maximum horizontal distances ( $R_{max}$ ) from anchored MODU drilling and an OSV on standby (Scenario 4) to reach noise effect criteria for continuous sound**

Receptor	Recoverable injury	Permanent threshold shift	Temporary threshold shift	Behavioural
Low-frequency cetaceans	N/A	$SEL_{24h}$ : 0.02 km	$SEL_{24h}$ : 0.22 km	SPL: 1.95 km
High-frequency cetaceans	N/A	$SEL_{24h}$ : 0.02 km	$SEL_{24h}$ : 0.09 km	SPL: 1.95 km
Very high-frequency cetaceans	N/A	$SEL_{24h}$ : 0.14 km	$SEL_{24h}$ : 1.27 km	SPL: 1.95 km

Receptor	Recoverable injury	Permanent threshold shift	Temporary threshold shift	Behavioural
Marine turtles	N/A	SEL <sub>24h</sub> : –	SEL <sub>24h</sub> : 0.02 km	N/A
Fish (swim bladder involved in hearing)	SPL for 48 hours: –	N/A	SPL for 12 hours: 0.02 km	N/A

A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).

**Table 7-6: Modelled maximum horizontal distances ( $R_{max}$ ) from anchored MODU drilling and OSV resupply scenarios (Scenarios 2, 3, and 5) to reach noise effect criteria for continuous sound**

Receptor	Recoverable injury	Permanent threshold shift	Temporary threshold shift	Behavioural
Low-frequency cetaceans	N/A	SEL <sub>24h</sub> : 0.13 km	SEL <sub>24h</sub> : 1.04 km	SPL: 13.6 km
High-frequency cetaceans	N/A	SEL <sub>24h</sub> : 0.06 km	SEL <sub>24h</sub> : 0.12 km	SPL: 13.6 km
Very high-frequency cetaceans	N/A	SEL <sub>24h</sub> : 0.18 km	SEL <sub>24h</sub> : 1.38 km	SPL: 13.6 km
Marine turtles	N/A	SEL <sub>24h</sub> : 0.05 km	SEL <sub>24h</sub> : 0.11 km	N/A
Fish (swim bladder involved in hearing)	SPL for 48 hours: –	N/A	SPL for 12 hours: 0.11 km	N/A

A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).

## 7.6.2 Pygmy Blue Whale exposure modelling

In addition to the acoustic modelling study, JASCO undertook an acoustic exposure analysis for migrating Pygmy Blue Whales, which describes the modelled predictions of sound levels that individual Pygmy Blue Whales may receive during the exploration drilling activities (Ref. 121).

Sound exposure distribution estimates are determined by moving large numbers of simulated animals ('animats') through a modelled time-evolving sound field, computed using specialised sound source and sound propagation models (Ref. 121). This approach provides the most realistic prediction of the maximum expected SPL, and the temporal accumulation of sound exposure level (SEL<sub>24h</sub>) for comparison against the relevant thresholds (Ref. 121).

The JASCO Animal Simulation Model Including Noise Exposure (JASMINE) was used to model the movement of Pygmy Blue Whales through the predicted sound field. Biologically meaningful movement rules were applied to each animat in the model to represent Pygmy Blue Whale behaviours. This included swim speeds, direction, diving and foraging depth, dive depths (for both migratory dives near the surface and deeper exploratory or feeding dives), and time spent at or near the surface before diving again. The animats, were set to simulate the real-world movements of migrating Pygmy Blue Whales within the migratory BIA. The spatial distribution of animats was restricted to the Pygmy Blue Whale BIA for the simulations (Ref. 121).

The same noise effect criteria as defined for low-frequency cetaceans in Section 7.6.1.1 were used in this Pygmy Blue Whale exposure modelling.

The modelled 95<sup>th</sup> percentile exposure ranges (ER<sub>95%</sub>) to the relevant noise effect criteria are shown in Table 7-7. For comparison, the horizontal maximum distances (R<sub>max</sub>) from the acoustic modelling are also shown in Table 7-7.

The ER<sub>95%</sub> distances reported are to the closest point of approach (CPA) for each of the animats (Ref. 121). However, these can mis-represent the range when there are two discrete sound field areas of distinctly difference size, such as in Scenario 4 (Ref. 121). Therefore, to provide additional context for interpretation of results, the exposure ranges were also calculated relative to the MODU location. Where this distance to the MODU differed from the CPA distance, both have been included in Table 7-7.

The ER<sub>95%</sub> to behavioural and TSS effect criteria are substantially lower than distances predicted by acoustic modelling (Table 7-7). Acoustic modelling is inherently more conservative as it does not incorporate the complex interactions of moving receptor.

**Table 7-7: Modelled 95<sup>th</sup> percentile exposure ranges (ER<sub>95%</sub>) and probability of exposure, compared to modelled maximum horizontal distances (R<sub>max</sub>) for Pygmy Blue Whales**

Modelling	Parameter	Permanent threshold shift	Temporary threshold shift	Behavioural
<b>Anchored MODU drilling (Scenario 1)</b>				
Acoustic modelling	R <sub>max</sub>	SEL <sub>24h</sub> : 0.02 km	SEL <sub>24h</sub> : 0.22 km	SPL: 0.72 km
Exposure modelling	ER <sub>95%</sub>	SEL <sub>24h</sub> : –	SEL <sub>24h</sub> : 0.01 km	SPL: 0.64 km
	Probability	SEL <sub>24h</sub> : –	SEL <sub>24h</sub> : 17%	SPL: 94%
<b>Anchored MODU drilling and an OSV on standby (Scenario 4)</b>				
Acoustic modelling	R <sub>max</sub>	SEL <sub>24h</sub> : 0.02 km	SEL <sub>24h</sub> : 0.22 km	SPL: 1.95 km
Exposure modelling	ER <sub>95%</sub>	SEL <sub>24h</sub> : –	SEL <sub>24h</sub> : 0.01 km	SPL: 0.61 km SPL: 2.02 km*
	Probability	SEL <sub>24h</sub> : –	SEL <sub>24h</sub> : 8%	SPL: 57% SPL: 37%*
<b>Anchored MODU drilling and OSV resupply scenarios (Scenarios 2, 3, and 5)</b>				
Acoustic modelling	R <sub>max</sub>	SEL <sub>24h</sub> : 0.13 km	SEL <sub>24h</sub> : 1.04 km	SPL: 13.6 km
Exposure modelling	ER <sub>95%</sub>	SEL <sub>24h</sub> : –	SEL <sub>24h</sub> : 0.03 km SEL <sub>24h</sub> : 0.09 km*	SPL: 10.73 km
	Probability	SEL <sub>24h</sub> : –	SEL <sub>24h</sub> : 38% SEL <sub>24h</sub> : 15%*	SPL: 44%

A dash indicates the threshold was not reached within the limits of the modelling resolution (20 m).

\* Distance and probability reported relative to the MODU location.

### 7.6.3 Risk assessment

Source			
Activities identified as having the potential to result in underwater sound emissions: <ul style="list-style-type: none"> <li>• drilling—exploration drilling activities within the OA</li> <li>• field support—use of DP by vessels within the OA during the exploration drilling activity</li> <li>• field support—helicopter operations within the OA during the exploration drilling activity.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
Underwater sound emission may result in: <ul style="list-style-type: none"> <li>• localised and temporary change in ambient underwater sound.</li> </ul>	5	A change in ambient underwater sound may result in: <ul style="list-style-type: none"> <li>• behavioural disturbance</li> <li>• auditory impairment, TTS, PTS, recoverable or non-recoverable injury to marine fauna.</li> <li>• changes to cultural heritage values</li> </ul>	5 – 5
Consequence evaluation			
<p><b>Localised and temporary change in ambient underwater sound</b></p> <p>Anthropogenic underwater sound emitted during the drilling exploration activity will result in a change in ambient underwater sound levels.</p> <p>Underwater broadband ambient sound spectrum levels range from 45–60 dB re 1 µPa in quiet regions (light shipping and calm seas) to 80–100 dB re 1 µPa for more typical conditions, and &gt;120 dB re 1 µPa during periods of high winds, rain or 'biological choruses' (many individuals of the same species vocalise near simultaneously in reasonably close proximity to each other (Ref. 127). Low-frequency ambient sound levels (20–500 Hz) are frequently dominated by distant shipping plus some great whale species. Light weather-related sounds will be in the 300–400 Hz range, with wave conditions and rainfall dominating the 500–50,000 Hz range (Ref. 127).</p> <p>The acoustic modelling for this exploration drilling activity indicates SPLs at 160 dB re 1 µPa and 120 dB re 1 µPa occurred at up to ~90 m and ~13.6 km from the sound source (Ref. 121).</p> <p>Sound emitted from helicopter operations is typically below 500 Hz (Ref. 128). The peak-received level diminishes with increasing helicopter altitude, but the duration of audibility often increases with increasing altitude. Estimates of SPL for helicopters range 149–162 dB re 1 µPa (Ref. 129, Ref. 130). Richardson et al. (Ref. 129) report that helicopter sound was audible in air for four minutes before it passed over underwater hydrophones, but detectable under water for only 38 seconds at 3 m depth, and 11 seconds at 18 m depth.</p> <p>Given the details above, the consequence of vessel or helicopter operations causing a change in ambient underwater sound has been assessed as Minor (5) as it will result in a localised and short-term environmental impact.</p>			
<p><b>Marine Mammals</b></p> <p><u>Behavioural disturbance</u></p> <p>Acoustic modelling indicated that the <math>R_{max}</math> from the source to SPL behavioural noise effect criteria for all cetaceans extended up to 13.6 km (Table 7-6) during resupply activities, while for other activities (e.g. drilling with a vessel on standby), it was up to 1.95 km (Table 7-5). The animat exposure modelling (i.e. taking into account moving marine fauna) indicated that a Pygmy Blue Whale would need to be within ~10.7 km during resupply activities or within ~0.64 km for other activities (e.g. drilling activities) of the acoustic source to be exposed to sound level above the noise effect criteria for behavioural disturbance (Table 7-7). As described in Section 3.7.1 operations involving a resupply vessel on DP are temporary (e.g. up to ~8 hours) and intermittent (e.g. 1–2 times a week). Similarly, if a support vessel (which would be using DP to hold position) is used to install or remove MODU anchors, this activity is of limited duration (e.g. two to three days) and occurs once at the beginning and end of the petroleum activity.</p> <p>The relevant values and sensitivities within the Sound EMBA with the potential to be exposed to underwater sound include:</p>			



- low frequency (e.g. baleen whales) and high frequency cetaceans (e.g. toothed whales, dolphins) that are listed as threatened and/or migratory under the EPBC Act
- migration BIA for Pygmy Blue Whales.

Other cetaceans, including very high-frequency cetaceans (e.g. *Kogia* spp.) may potentially occur within the Sound EMBA (Section 4.3.3.1) but are not listed as threatened and/or migratory under the EPBC Act. Within the Sound EMBA low-frequency cetaceans include the following EPBC listed threatened and/or migratory species: Antarctic Mink, Blue, Bryde's, Fin, Humpback, and Sei Whales; and the following high-frequency cetaceans: Sperm Whale, Killer Whale, and Spotted Bottlenose Dolphin (Section 4.3.3.1). All cetacean species (for all hearing groups) are expected to be transiting through the area. With the exception of Pygmy Blue Whales no areas of biologically important behaviours or known aggregation within or around the Sound EMBA have been identified. As such the following consequence evaluation focusses on Pygmy Blue Whales.

As the Sound EMBA intersects with the migration BIA of the Pygmy Blue Whales, there is the potential for Pygmy Blue Whales to be present within this area during migration periods (Table 4-13). An area classified as one of the 'most important areas' for Pygmy Blue Whale migration (Ref. 201) was identified within the southern extent of the Sound EMBA (Figure 4-2). The study also showed that monthly spatial predictions indicated higher densities around the Montebello Island region April to July (northern migration) and November and December (southern migration) (Ref. 201). Depending on the timing of the exploration drilling activities (i.e. ~50 days planned to commence between 2024 and 2025; Section 3.1.3), there is the potential for overlap with Pygmy Blue Whale migration periods.

Data from satellite tracking studies has suggested that northern migration by Pygmy Blue Whales occurs in deeper waters and further offshore than the defined BIA (e.g. distances  $238 \pm 14$  km offshore, and in water depths of  $2,617 \pm 143.5$  m north of North West Cape [Ref. 66; Section 4.3.3.1.1]; the Sound EMBA does not occur within these distances or water depth ranges). Studies (e.g. Ref. 65; Section 4.3.3.1.1) also suggest that Pygmy Blue Whales migrated southward much further from the WA coast compared to the northbound migration, at distances of up to 400 km from shore. In addition, the Sound EMBA is not within a confined migratory corridor, and no breeding or resting critical behaviours are expected within the Sound EMBA.

The 'Possible Foraging Areas' as defined within the *Conservation Management Plan for the Blue Whale* (Ref. 59), coincide with foraging BIAs, and occur ~129 km southwest and ~950 km northeast of the Sound EMBA respectively. Based on proxy indicators from passive acoustic and satellite telemetry data (Ref. 201), 'most important areas' for foraging for Pygmy Blue Whale were identified. The Sound EMBA does overlap with these 'most important areas' for foraging (Figure 4-3). However, the use of this area is not expected to be continual throughout the year but associated with Pygmy Blue Whale migration timing. Furthermore, foraging areas are known to be dynamic given their dependence on presence of prey (Ref. 201; Ref. 73).

As the DS-1 exploration drilling activity is scheduled to occur for ~50 days commencing between 2024 and 2025, the activity could overlap with the predicted migration periods for Pygmy Blue Whales. However, although the defined migration BIA for Pygmy Blue Whales overlaps the Sound EMBA, it is expected based on satellite tracking and acoustic detection studies that some Pygmy Blue Whales may travel further offshore in deeper waters (Ref. 65, Ref. 66). The BIA in the vicinity of the DS-1 activities is not considered to be a confined migratory pathway.

Estimates of SPL for helicopters range 149–162 dB re  $1 \mu\text{Pa}$  (Ref. 129; Ref. 130), which is above the noise exposure criterion for behavioural disturbance. However, the spatial and temporal extent of the potential exposure to underwater sound from helicopters is limited (e.g. 38 seconds at 3 m depth, and 11 seconds at 18 m depth; Ref. 129). The helicopter operations covered under this EP (i.e. crew transfers of minor supplies) are limited. Therefore, given the limited nature of the exposure, potential impacts from helicopters on cetacean behaviour are not evaluated further.

Given the temporary nature (~50 days) of the exploration drilling activity, and the mobile nature of cetacean species, only localised short-term behavioural impacts to transient individuals have the potential to arise from these activities and have therefore been evaluated as Minor (5).

#### TTS and PTS

Acoustic modelling indicated that the  $R_{\text{max}}$  from the source to PTS noise effect criteria for low, high, and very-high frequency cetaceans was up to 0.13 km, 0.06 km, and 0.18 km respectively (Table 7-6) during resupply activities, while for other activities (e.g. drilling with a vessel on standby), it was up to 0.02 km, 0.02 km, and 0.14 km respectively (Table 7-5). The animal exposure modelling for Pygmy Blue Whales indicated that the PTS threshold was not predicted to be exceeded.

Acoustic modelling indicated that the  $R_{\text{max}}$  from the source to TTS noise effect criteria for low, high, and very-high frequency cetaceans was up to 1.04 km, 0.12 km, and 1.38 km respectively

(Table 7-6) during resupply activities, while for other activities (e.g. drilling with a vessel on standby), it was up to 0.22 km, 0.09 km, and 1.27 km respectively (Table 7-5). The animat exposure modelling for Pygmy Blue Whales indicated that the TTS threshold was predicted to be 0.03 km during resupply activities and 0.01 km during drilling and vessel standby (Table 7-7). Note: Operations involving a resupply vessel on DP are temporary (e.g. up to ~8 hours) and intermittent (e.g. 1–2 times a week).

The relevant values and sensitivities within the Sound EMBA with the potential to be exposed to underwater sound include:

- low frequency cetaceans (e.g. baleen whales) and high frequency (e.g. toothed whales, dolphins) that are listed as threatened and/or migratory under the EPBC Act
- migration BIA for Pygmy Blue Whales.

Note that the SEL<sub>24h</sub> is a cumulative metric that requires a receptor to be consistently exposed to the relevant noise effect criteria for a 24-hour period before the associated auditory effect (TTS or PTS) may occur. For example, results from the animat exposure modelling indicate that the maximum distance to the TTS noise effect criteria for Pygmy Blue Whales was ~30 m from the acoustic source (Table 7-7); i.e. the whale must remain within ~30 m of the sound source for at least a 24-hour period before TTS auditory impairments may occur.

Given that behavioural disturbances are predicted at distances much larger than those predicted for auditory effects, it is unlikely that marine mammals will remain within the immediate proximity of the MODU or vessels for extended durations so that auditory impairment or injury would occur. As such the risk of TTS or PTS to marine mammals during exploration drilling activities is not considered credible, and no further evaluation has been undertaken.

The helicopter operations covered under this EP (i.e. crew transfers for exploration drilling activity) are expected to be infrequent. Therefore, exposure to continuous sound from this source for an extended period (e.g. 24 hours) is not credible, and comparison against an accumulated sound exposure levels is not relevant, and no further evaluation has been undertaken.

## **Turtles**

### TTS and PTS

The acoustic modelling for this exploration drilling activity indicates that the R<sub>max</sub> from the source to PTS and TTS noise effect criteria was up to ~50 m and ~110 m respectively (Table 7-6) during resupply activities, while for other activities (e.g. drilling with a vessel on standby), it was up to ~20 m for TTS and PTS was not predicted to occur (Table 7-5). Note: Operations involving a resupply vessel on DP are temporary (e.g. up to 8 hours) and intermittent (e.g. weekly or fortnightly).

The relevant values and sensitivities within the Sound EMBA with the potential to be exposed to underwater sound include:

- marine turtle species that are listed as threatened and/or migratory under the EPBC Act.

Within the Sound EMBA marine turtles include the following EPBC listed threatened and/or migratory species: Flatback, Green, Hawksbill, Leatherback, and Loggerhead Turtles (Section 4.3.3.2). All turtle species (if present) are expected to be transiting through the area; no areas of biologically important behaviours or known aggregation within or around the Sound EMBA have been identified.

Note that the TTS and PTS SEL<sub>24h</sub> is a cumulative metric that requires a receptor to be consistently exposed to the relevant noise effect criteria for a 24-hour period before the associated auditory effect (TTS or PTS) may occur. Specifically for marine turtles, this requires them to remain within ~110 m of the sound source for at least a 24-hour period before TTS auditory impairments may occur, and ~50 m of the sound source for at least a 24-hour period before PTS auditory injury may occur. Given that marine turtles (if present) are expected to be transitory through the area, the risk of auditory impairment is not considered credible, and no further evaluation has been undertaken.

The helicopter operations covered under this EP (i.e. crew transfers for exploration drilling activity) are expected to be infrequent. Therefore, exposure to continuous sound from this source for an extended period (e.g. 24 hours) is not credible, and comparison against an accumulated sound exposure levels is not relevant, and no further evaluation has been undertaken.

## **Fish including sharks and rays**

### Behavioural disturbance

Continuous sound sources have been identified as a moderate or high risk of causing behavioural changes or masking changes, within the near and intermediate vicinity of a sound source for all fish groups, including eggs and larvae (Table 7-3). Continuous sound of any level that is

detectable by fishes can mask signal detection, and thus may have a pervasive effect on fish behaviour. However, the consequences of this masking and any attendant behavioural changes for the survival of fishes are unknown (Ref. 124). It is expected that most fish (including sharks and rays) will exhibit avoidance behaviour from a sound source if it reaches levels that may cause behavioural or physiological effects.

As identified in Section 4.3.3.3, several fish species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Sound EMBA. No BIAs overlap with the Sound EMBA.

Pelagic fish species are expected to be transient through the Sound EMBA. If the fish are within the immediate vicinity of the sound source, behavioural responses are expected to be limited to an initial startle reaction before either returning to normal or resulting in the fish moving away from the area (Ref. 131). If demersal fish species are present within the Sound EMBA, these are also expected to be transient (the benthic habitat within the Sound EMBA is expected to predominantly be soft substrate (Section 4.3.1), as such site-attached fish communities are not expected to be present). In addition, given the water depths within the Sound EMBA (between ~770 m to 1,150 m), the sound emissions at the seabed are expected to only be from the drilling itself (i.e. not the vessels).

Consequently, only localised short-term behavioural impacts to transient individuals have the potential to arise from these activities and have therefore been evaluated as Minor (5).

TTS and Recoverable injury

Continuous sound sources have been identified as low risk of causing mortal or potential mortal injury to all fish groups, including eggs and larvae (Table 7-3).

Continuous sound sources have also been identified as low risk of causing a recoverable injury to fish with no swim bladders, fish with bladders not involved in hearing, eggs and larvae (Table 7-3). The noise effect criteria for recoverable injury to fish with a swim bladder involved in hearing was not predicted to be exceeded (Table 7-4, Table 7-5, Table 7-6).

Continuous sound sources have been identified as moderate risk within the near vicinity of a sound source and, as low risk within the intermediate and far vicinity of a sound source of causing TTS to fish with no swim bladders, or those with bladders not involved in hearing (Table 7-3). The risk of TTS to fish eggs and larvae is considered low for all distances from a sound source (Table 7-3). For fish species with a swim bladder involved in hearing, acoustic modelling indicated that the maximum distance from the source the TSS noise effect criterion was 0.11 km (Table 7-6) during resupply activities, while for other activities (e.g. drilling with a vessel on standby), it was up to ~20 m (Table 7-5).

Fish species are expected to be transient through the Sound EMBA. Given their transient nature, these fish are not expected to remain within close proximity (<110 m for pelagic species, and <20 m for demersal species) of a sound source for extended periods (12 hours) such that an auditory impairment (TTS) due to continued sound exposure would occur. On this basis, TTS to fish are not considered credible and no further evaluation has been undertaken.

The helicopter operations covered under this EP (i.e. crew transfers for exploration drilling activity) are expected to be infrequent. Therefore, exposure to continuous sound from this source for an extended period (e.g. 24 hours) is not credible, and comparison against an accumulated sound exposure levels is not relevant, and no further evaluation has been undertaken.

**Changes to cultural heritage values**

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was marine fauna (e.g. whales, turtles; Table 4-14). The consequence evaluations to these receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14).

Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from the emission of continuous (non-impulsive) sound within the OA is anticipated. The consequence evaluations for marine fauna are provided above, and were assessed as having a localised and minor environmental impact, and

is not expected to affect the overall population of the species. Further, as described in the above evaluations, the source of underwater sound emissions within the OA (i.e. MODU and vessels) is temporary and is not expected to affect the long-term underwater soundscape of the marine environment. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from underwater sound emissions within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from underwater sound emissions within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Minor (5).

**ALARP decision context justification**

Offshore MODU and vessel operations are commonplace and well-practised nationally and internationally. The application of control measures to manage impacts and risks arising from this aspect are well defined, understood by the industry, and are considered standard industry practice.

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

Although some species that are known to be sensitive to underwater sound have the potential to be exposed to underwater noise above exposure criteria during these activities, the impacts and risks arising from underwater sound emissions are considered lower-order impacts and risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

Notwithstanding this, CAPL has considered additional mitigation measures that could potentially further reduce the risk of behavioural disturbance with marine fauna species (in addition to legislated requirements).

**Good practice control measures**

Control measure	Description
Vessels under transit or on standby within the OA	For vessels under transit within the OA, the following cetacean interaction requirements will be maintained by the vessels: <ul style="list-style-type: none"> <li>caution and no approach zones for cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth)</li> <li>vessels must operate at ≤6 knots within caution zones or when moving away to maintain a no-approach zone distance.</li> </ul>
Helicopters under transit within the OA	For helicopters under transit within the OA, the following cetacean interaction requirements will be maintained by the helicopters: <ul style="list-style-type: none"> <li>height and distance from cetaceans as described in EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans (Cth).</li> </ul>
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).  Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.

**Additional control measures and cost benefit analysis**

Control measure	Benefit	Cost
Adaptive management—	Animat exposure modelling indicated that for the drilling and	The detection of Pygmy Blue Whales within the vicinity of

<p>Vessels under transit or on standby within the OA (during predicted peak migration period for Pygmy Blue Whales)</p>	<p>vessel standby (Scenario 4), the ER<sub>95%</sub> distance to the behavioral disturbance noise effect criteria for Pygmy Blue Whales was 0.61 km (Table 7-7; Ref. 121).</p> <p>Increasing the caution zone for cetaceans (i.e. beyond the 300 m required for whales under EPBC Regulations 2000) would reduce the likelihood of exposure of cetaceans to underwater sound at levels that may cause a behavioural effect.</p> <p>For vessels under transit or on standby within the OA during the predicted peak migration periods for Pygmy Blue Whales (i.e. May–June (northern) and November–December (southern); Table 4-13), an extended caution zone of 700 m (or to the field-of-view of the bridge-watch if this is &lt;700 m) will be implemented.</p>	<p>vessels may increase activity duration and overall costs due to transit deviations and/or delays. However, the environmental benefit of reducing impacts to Pygmy Blue Whales is considered to outweigh the costs from not implementing this control. Therefore, this control measure <u>has been</u> adopted for use</p>
<p>Adaptive Management— Vessels under transit or on standby within the OA (potential Pygmy Blue Whale foraging)</p>	<p>The exploration drilling for DS-1 may occur for ~50 days commencing between 2024 and 2025, and as such has the potential to overlap with the predicted peak migration periods for the Pygmy Blue Whale (Table 4-13). The Pygmy Blue Whale is an income breeder and may forage during migration.</p> <p>The predicted ensonified areas for the DS-1 exploration drilling do not intersect with any Foraging Areas (annual high use, known, or possible) as defined within the <i>Conservation Management Plan for the Blue Whale 2015–2025</i> (Ref. 59).</p> <p>Based on proxy indicators, a recent study suggests that the ‘most important areas’ for foraging along the WA coast include discontinuous use of the shelf edge from Ningaloo Reef to Rowley Shoals (Ref. 201). The predicted ensonified areas for the petroleum activity do intersect with part of this ‘most important area’ for foraging (Figure 4-3).</p> <p>In accordance with Australian Government guidance (Ref. 126) activities occurring outside designated Foraging Areas must adopt adaptive management approaches should indicators of whale foraging are evident.</p> <p>As the predicted ensonified areas do intersect with areas where foraging may occur, the following adaptive measures will be implemented if drilling activities occur during the predicted peak</p>	<p>No additional personnel costs. However, the detection of Pygmy Blue Whale foraging may lead to increased activity duration and overall costs due to transit deviations and/or delays..</p> <p>However, the benefit of reducing impacts to Pygmy Blue Whales is considered to outweigh the costs from not implementing this control. Therefore, control measure <u>has been</u> adopted for use.</p>



	<p>migration periods for Pygmy Blue Whales:</p> <ul style="list-style-type: none"> <li>if the bridge-watch crew on vessels under transit or on standby within the OA detects a Pygmy Blue Whale and observations indicate potential foraging behaviour (e.g. decreased speed and directionality), the vessel will implement a mitigation option (e.g. slow or divert vessel) if considered operationally safe and viable to do so.</li> </ul>	
<p>Adaptive management— Vessels undertaking resupply or MODU mooring installation/removal within the OA (shutdown of DP)</p>	<p>Underwater sound that radiates from vessels is produced mainly by propeller and thruster cavitation, with a smaller fraction produced by sound transmitted through the hull, such as by engines, gearing, and other mechanical systems (Ref. 121). Sound levels tend to be the highest when thrusters are used to position the vessel and when the vessel is transiting at high speeds (Ref. 121). During MODU anchor installation/removal or MODU resupply, the vessel will be stationary whilst undertaking the activity; and as such the predominant sound source is from the use of DP to hold position.</p> <p>Animat exposure modelling indicated that the ER<sub>95%</sub> distance to the behavioral disturbance noise effect criteria for Pygmy Blue Whales was 10.73 km (Table 7-7). Therefore, removing the use of vessel DP would significantly reduce the sound emissions and this predicted ensonified area. However when a vessel is holding position (e.g. during MODU anchor installation/removal or MODU resupply), the DP system is a critical safety device to avoid potential impact to other infrastructure (e.g. the MODU itself), and therefore removing it would introduce a significant safety risk to the operation. In addition, as described above, vessel operations involving MODU anchor installation/removal or resupply vessels on DP are temporary and intermittent during the drilling campaign.</p> <p>If vessel anchoring (or other mooring systems) were used in place of DP, this would introduce both new environmental risks (e.g. seabed disturbance) and safety risks (e.g. anchoring within proximity of MODU and wellhead).</p>	<p>Given the introduced risks, the cost of implementing this additional control is considered grossly disproportionate to the environmental benefit gained. Therefore, this control measure <u>has not</u> been adopted for use.</p>

	<p>Given the safety risks the use of DP is considered critical during resupply activities, and as such the implementation of shutdown zones to reduce sound emission risk to Pygmy Blue Whales is not considered a practicable mitigation measure.</p> <p>Note: Transiting vessels are covered by the other controls.</p>	
<p>Adaptive management— Vessels undertaking resupply or MODU mooring installation/removal within the OA (Pre-start-up visual observations)</p>	<p>As described above, shutting down the DP system on a vessel during resupply activities is not considered a practicable mitigation measure.</p> <p>The following adaptative measures will be implemented before MODU anchor installation/removal activities commence and before the resupply vessel moves alongside the MODU and commences resupply:</p> <ul style="list-style-type: none"> <li>• pre start-up visual observations: <ul style="list-style-type: none"> <li>– during daylight hours visual observations by the bridge-watch for the presence of whales will be undertaken prior to commencement of anchor installation or resupply activities</li> <li>– activities can only commence if no whale has been observed within the field-of-view of the bridge-watch crew</li> </ul> </li> </ul> <p>Marine fauna observations have been extended to the field-of-view of the bridge-watch in recognition that the predicted ensonified area for behavioural disturbance to Pygmy Blue Whales extends beyond the prescribed EPBC Act caution and no approach zones.</p>	<p>No additional personnel costs. However, the detection of whales may lead to increased activity duration and overall costs due to delayed start-ups or deviations from the activity.</p> <p>However, the benefit of reducing impacts to whales is considered to outweigh the costs from not implementing this control. Therefore, control measure <u>has</u> been adopted for use.</p>
<p>Adaptive Management— Dedicated Marine Fauna Observers (MFOs)</p>	<p>The use of Dedicated MFOs may increase the visual detection of cetaceans present within proximity to the MODU or vessels. Being able to better locate cetaceans may assist in reducing the risk of behavioural disturbance to cetaceans.</p> <p>However, while the use of Dedicated MFOs may increase visual detection of cetaceans, the use of Dedicated MFOs during the DS-1 exploration drilling is considered to be of limited environmental benefit given there are no additional control measures for the MODU (e.g. no acoustic reduction control to reduce minimum power generation requirements on a MODU) during</p>	<p>Costs for engaging a MFO are expected to be in the order of ~\$800-1,000/day. For an ~50-day campaign, this would result in up to \$100,000 in personnel costs (allowing for two MFOs on the MODU/vessel).</p> <p>Given the negligible environmental benefit, this financial cost is considered grossly disproportionate and as such this control <u>has not been</u> adopted for use.</p>

	<p>routine drilling operations and limited control measures (e.g. divert or delay operations as described above) for vessels. As such there is no reduction in environmental risk realised from having Dedicated MFOs onboard the MODU or vessels during the drilling campaign.</p>	
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	<p>Due to the nature of the petroleum activity and the prediction of localised and temporary behaviour disturbance, and the overlap with known biologically important areas for some fauna, the likelihood of exposing receptors resulting in the identified consequence was considered Unlikely (4).</p>	
<b>Risk level</b>	<p>Low (8)</p>	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	<p>The impacts and risks associated with this aspect are limited to localised, short-term behavioural changes. On the assumption that this potential impact occurs during a sensitive life stage (such as migration), CAPL would not expect these activities to affect migration, interbreeding, or foraging behaviours, nor impact on individuals or the wider population. As such, this aspect is not considered as having the potential to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Minor (5). Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	<p>Legislation and other requirements considered relevant for this aspect include:</p> <ul style="list-style-type: none"> <li>• EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</li> <li>• <i>Conservation Management Plan for the Blue Whale 2015–2025</i> (Ref. 59)</li> <li>• <i>Conservation Advice Balaenoptera borealis Sei Whale</i> (Ref. 58)</li> <li>• <i>Conservation Advice Balaenoptera physalus Fin Whale</i> (Ref. 57).</li> </ul>	
	<b>Requirement</b>	<b>Demonstration</b>
	<p><i>EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans</i></p> <p>Caution and no approach zones for interacting with cetaceans from vessels.</p> <p>Vertical and horizontal distances for helicopter operations.</p>	<p>Requirements of Regulation 8.05 and 8.06 for vessels, and 8.07 for aircraft, interacting with cetaceans has been incorporated into the <b>EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</b> control measure.</p>
	<p><i>Conservation Management Plan for the Blue Whale 2015–2025</i></p> <p>Management action A.2.3: Anthropogenic noise in BIAs will be managed such that any blue whale continues to utilise the area without injury, and is not displaced from a foraging area.</p>	<p>The DS-1 exploration drilling activity is not considered to be inconsistent with the <i>Conservation Management Plan for the Blue Whale</i>.</p> <p>The Sound EMBA does not intersect with designated Foraging Areas for the Pygmy Blue Whale. The nearest foraging BIA occurs ~129 km southwest of the Sound EMBA, offshore from North West Cape; and as such is not exposed to underwater sound emissions resulting from the DS-1 exploration drilling activity.</p>



		<p>A recent study has indicated areas of probable foraging along the NWS based on proxy indicators (Ref. 201), and there is overlap with the Sound EMBA. In accordance with regulatory guidance (Ref. 126), activities occurring outside designated Foraging Areas must adopt adaptive management approaches should indicators of whale foraging be evident. Adaptive management control measures have been considered and adopted for use within this risk assessment.</p> <p>TTS and PTS from accumulated SEL<sub>24h</sub> exposures to continuous sounds from the MODU, vessels or helicopters is not credible and thus is not predicted to occur. Therefore, continued use of the BIA without injury is expected.</p>
	<p><i>Conservation Advice Balaenoptera borealis Sei Whale</i> No specific conservation action identified.</p>	N/A.
	<p><i>Conservation Advice Balaenoptera physalus Fin Whale</i> No specific conservation action identified.</p>	N/A.
<b>Internal context</b>	No CAPL management processes or procedures were deemed relevant for this aspect.	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding underwater sound emissions arising from the activity.	
<b>Defined acceptable level</b>	<p>These impacts and risks are inherently acceptable as they are considered lower-order impacts and risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>However, in alignment with Section 5.6.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:</p>	
	<b>Plan</b>	<b>Objective</b>
	<p><i>Conservation Management Plan for the Blue Whale 2015–2025.</i></p>	<p>Recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p>Interim objective 4 Anthropogenic threats are demonstrably minimised.</p>
	<p>Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:</p> <ul style="list-style-type: none"> <li>impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species</li> <li>no auditory injury (TTS or PTS) to Pygmy Blue Whales within a BIA resulting from underwater sound from the petroleum activity</li> </ul>	

	<ul style="list-style-type: none"> <li>no displacement of Pygmy Blue Whales from foraging areas resulting from underwater sound from the petroleum activity.</li> </ul> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
Environmental performance outcome	Environmental performance standard	Measurement criteria
<p>No injury to marine fauna from underwater sound emissions associated with the petroleum activity within the OA.</p> <p>No displacement of Pygmy Blue Whales from foraging areas from underwater sound emissions within the OA associated with the petroleum activity.</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>Vessels under transit or on standby within the OA</b></p> <p>Vessels under transit or on standby within the OA, will implement the following caution and no approach zones for cetaceans:</p> <ul style="list-style-type: none"> <li>caution zone (300 m either side of whales and 150 m either side of dolphins)– vessels must operate at ≤6 knots within this zone, maximum of three vessels within zone, and vessels should not enter if a calf is present</li> <li>no approach zone (300 m to the front and rear of whales and 100 m either side; 300 m for whale calves; 150 m to front and rear of dolphins and 50 m either side)–vessels should not enter this zone, and should not wait in front of the direction of travel or an animal or pod, or follow directly behind.</li> </ul>	<p>Induction materials include relevant marine fauna caution and no approach zone requirements.</p> <p>Training records confirm personnel involved in offshore vessel activities have completed the induction.</p> <p>Vessel records show if marine fauna interaction occurred within caution or approach zones, and what mitigation (e.g. divert or slow vessel) measure was implemented.</p>
	<p><b>Adaptive management—Vessels under transit or on standby within the OA (during predicted peak migration period for Pygmy Blue Whales)</b></p> <p>If the petroleum activity occurs during the predicted peak migration periods for Pygmy Blue Whales (i.e. May–June (northern) and November–December (southern); Table 4-13), then vessels under transit or on standby within the OA will implement:</p> <ul style="list-style-type: none"> <li>an extended caution zone of 700 m (or to the field-of-view of the bridge-watch if this is &lt;700 m).</li> </ul>	<p>Induction materials include relevant marine fauna extended caution zone requirements.</p> <p>Training records confirm personnel involved in offshore vessel activities have completed the induction.</p> <p>Vessel marine fauna sighting records show if marine fauna interaction occurred within the extended caution zone, and what mitigation (e.g. divert or slow vessel) measure was implemented.</p>
	<p><b>Adaptive Management— Vessels under transit or on standby within the OA (potential Pygmy Blue Whale foraging)</b></p> <p>If the petroleum activity occurs during the predicted peak migration periods for Pygmy Blue Whales (i.e. May–June (northern) and November–December (southern); Table 4-13), then vessels under transit or on standby within the OA will implement:</p> <ul style="list-style-type: none"> <li>if the bridge-watch crew on vessels under transit or on standby within the OA detects a Pygmy Blue Whale</li> </ul>	<p>Records demonstrate that if a Pygmy Blue Whale was observed and observations indicate potential foraging behaviour, a mitigation option or manoeuvre was implemented.</p>

	<p>within the extended caution zone and observations indicate potential foraging behaviour (e.g. decreased speed and directionality), the vessel will implement a mitigation option (e.g. slow or divert vessel) if considered operationally safe and viable to do so.</p>	
	<p><b>Helicopters under transit within the OA</b> Helicopters under transit within the OA will implement the following:</p> <ul style="list-style-type: none"> <li>• not operate at a height lower than 1,650 feet or within a horizontal radius of 500 m for a cetacean</li> <li>• not approach a cetacean from head on.</li> </ul>	<p>Records show if marine fauna interaction occurred, and what mitigation (e.g. divert) measure was implemented.</p>
	<p><b>Adaptive Management —Vessels undertaking resupply or MODU mooring installation/removal within the OA (Pre-start-up visual observations)</b> The following adaptative measure will be implemented before a vessel commences MODU anchor installation/removal activities, and before the resupply vessel comes alongside the MODU and commences resupply activities:</p> <ul style="list-style-type: none"> <li>• pre start-up visual observations: <ul style="list-style-type: none"> <li>– during daylight hours visual observations by the bridge-watch for the presence of whales will be undertaken for 30 minutes prior to commencement of anchor installation or resupply activities</li> <li>– activities can only commence if no whale has been observed within the field-of-view of the bridge-watch crew.</li> </ul> </li> </ul>	<p>Records demonstrate before MODU anchor installation/removal or resupply activities commence pre start-up visual observations were undertaken.</p>
	<p><b>Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	<p>Relevant persons consultation records.</p>
	<p><b>Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)</b> If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	<p>As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.</p>

## 7.7 Invasive marine pests

Source			
<p>Activities identified as having the potential to result in the introduction of an invasive marine pest (IMP) are:</p> <ul style="list-style-type: none"> <li>• MODU— planned discharged of ballast water or presence of biofouling on the MODU within the OA during exploration drilling activity</li> <li>• field support— planned discharged of ballast water or presence of biofouling on the support vessels within the OA during the exploration drilling activity.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
N/A	–	<p>An introduction of an IMP has the potential to result in:</p> <ul style="list-style-type: none"> <li>• displacement of, or compete with, native species</li> <li>• changes to cultural heritage values.</li> </ul>	<p>2</p> <p>6</p>
Consequence evaluation			
<p><b>Displacement of, or compete with, native species</b></p> <p>The MODU and support vessels will be present within the OA during the exploration drilling activity, which are estimated to take ~50 days to complete. The OA consists of an area of ~78.5 km<sup>2</sup>.</p> <p>IMPs are considered to have little or no natural competition or predators, thus potentially outcompeting native species for food or space, preying on native species, or changing the nature of the environment. It is estimated that Australia has &gt;250 established marine pests, and that approximately one in six introduced marine species becomes a pest (Ref. 133).</p> <p>IMPs primarily occur in shallow waters with high levels of slow-moving or stationary shipping traffic (such as ports). The probability of successful IMP settlement and recruitment decreases in well-mixed, deep ocean waters away from coastal habitats. IMP colonisation also requires a suitable habitat in which to establish itself, such as rocky and hard substrates or subsea infrastructure. The Australian Government Bureau of Resource Sciences (BRS) established that the relative risk of an IMP becoming established around Australia decreases with distance from the coast. Modelling conducted by BRS (Ref. 134) estimates: 40% chance of colonisation at 3 nm, 30% chance at 12 nm, and 20% chance at 24 nm.</p> <p>The OA is located in deeper waters between ~940 m to ~1,020 m, and as such low light levels are expected at the seabed. The OA is also located &gt;95 km (&gt;51 nm) from the closest coast (Barrow Island), and &gt;140 km (&gt;75 nm) from the mainland coast and large ports.</p> <p>The benthic habitat within the OA is expected to predominantly be soft substrate (Section 4.3.1). The values and sensitivities within the OA with the potential to be impacted by seabed disturbance includes the following KEF:</p> <ul style="list-style-type: none"> <li>• continental slope demersal fish communities.</li> </ul> <p>Bacteria and fauna present on the continental slope are the basis of the food web for demersal fish and higher-order consumers in this KEF system (Ref. 72). The habitat type within the OA (i.e. soft sediment, with sparse epibenthic communities) is widespread through the region. Given the type of habitat present within the OA, and its location in deep, well-mixed offshore waters, which is not expected to facilitate the introduction and establishment of IMPs.</p> <p>Once established, some IMPs can be difficult to eradicate and therefore there is the potential for a long-term change in habitat structure (Ref. 135). Highly disturbed shallow water and coastal marine environments (such as marinas) have been found to be more susceptible to colonisation than open-water environments, where the number of dilutions and the degree of dispersal is high (Ref. 136, Ref. 137, Ref. 138, Ref. 139). Though invasive species are identified as being of concern to the habitats under the <i>North-west Marine Bioregional Plan</i> (Ref. 72), the marine nature of the habitats within the OA are considered of less concern as the establishment would be difficult due to the water depths, lack of hard substrates, and the presence of soft sediment communities.</p>			

If an IMP was introduced, and if it did colonise an area, there is the potential for that colony to spread outside the OA resulting in a widespread long-term impact. As such, CAPL has ranked the consequence associated this impact as Severe (2).

**Changes to cultural heritage values**

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was the ocean (Table 4-14). The consequence evaluations to related receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14).

Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from an unplanned introduction and establishment of an IMP within the OA is anticipated. The consequence evaluation to benthic habitat is provided above; where if an IMP was introduced and was successful in colonising the area, was assessed as a wide-spread long-term impact. However, as described in the above evaluation the benthic habitats present within the OA and the distance from mainland coasts and ports, the OA is not likely to be suitable for IMP establishment. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

**ALARP decision context justification**

Offshore vessel operations, and subsequent planned discharges, are commonplace and well-practised locally, nationally, and internationally.

The causes resulting in an introduction of an IMP from a planned release of ballast water or the presence biofouling are well understood by the industry and CAPL. The control measures to manage the risks associated with the introduction of an IMP are well defined via legislative requirements that are considered standard industry practice. These control measures are well understood and implemented by the petroleum industry and CAPL. Specifically, CAPL has worked in the region for over 10 years, thus has a demonstrated understanding of industry requirements and their operational implementation in these areas.

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

The risk of introducing an IMP is considered a lower-order risk in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

**Good practice control measures**

Control measure	Description
Quarantine procedure	<p>CAPL’s <i>Quarantine Procedure Marine Vessels</i> (Ref. 44) provides information about quarantine compliance to CAPL, contractors, and others associated with marine vessels. The procedure also ensures that the requirements of various legislative or relevant guidelines are met, including:</p> <ul style="list-style-type: none"> <li>• ballast water management in line with the Australian Ballast Water Management Requirements (Ref. 5)</li> <li>• undertaking biofouling risk assessments in line with the with the <i>National Biofouling Management Guidance for the Petroleum Production and Exploration Industry</i> (Ref. 8) and DPIRD Vessel Check system</li> </ul>

	<ul style="list-style-type: none"> <li>requirements for biofouling management plans and/or biofouling record books, in accordance with the <i>Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (Biofouling Guidelines)</i> MPEC.207(62) 2011 (Ref. 7) and Australian Ballast Water Management Requirements (Ref. 5).</li> </ul> <p>As described in Section 8.3.3.2, all vessels operating in title areas must comply with applicable Australian biofouling and ballast water requirements to prevent the introduction and spread of marine pests. Regardless of the origin of the vessel or where it will be operating, all vessels must be free from marine pests when mobilised and the contractor must demonstrate the vessel meets low risk rating for biofouling.</p> <p>The quarantine procedure requires that all vessels complete and submit to CAPL a <i>Quarantine Questionnaire – Marine Vessels</i>, of which Section 3 addresses ballast water and Section 4 addresses biofouling, including that all relevant biofouling information (e.g. Biofouling Management Plan, Biofouling Record Book, evidence of last vessel clean to remove biofouling, antifouling certificates, etc.) is provided to enable suitable risk assessments to be completed prior to vessel mobilisation to a title area. Once CAPL are satisfied that the vessel meets marine quarantine requirements, CAPL will issue authorisation to mobilise via the <i>Quarantine Certificate - Vessel Mobilisation</i>.</p>	
Ballast water management	<p>The <i>Australian Ballast Water Management Requirements</i> (Ref. 5) describes the management requirements for ballast water exchange, including:</p> <ul style="list-style-type: none"> <li>non-discharge of 'high-risk' ballast water in Australian ports or waters</li> <li>full ballast exchange outside Australian territorial seas</li> <li>documentation of all ballast exchange activities.</li> </ul>	
Anti-fouling certificate	<p>The <i>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006</i> (Cth) enacts Marine Order 98 (Marine pollution – anti-fouling systems). This marine order describes the conditions for when an antifouling certificate is required.</p>	
MARS	<p>Under the <i>Biosecurity Act 2015</i> (Cth), pre-arrival information must be reported through MARS before a vessel arrives in Australian waters.</p> <p>In accordance with the Australian Biofouling Management Requirements (Ref. 5), from 15 June 2022, all operators of vessels intending to enter Australian territorial waters must also provide information relating to biofouling management as part of the pre-arrival reporting via MARS.</p>	
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	<p>As activities are occurring in deeper Commonwealth waters (not within shallow coastal areas), and with the well-known and implemented IMP control measures in place, it is considered Rare (6) that an IMP would be</p>	



	introduced resulting in impacts to the ecological functions of benthic habitats within or in close proximity to the OA.	
<b>Risk level</b>	Low (7)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	<p>The potential risk associated with this aspect is a widespread long-term impact to benthic communities, which are expected to comprise soft sediment communities. The introduction of an IMP to these communities has the potential to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Severe (2).</p> <p>Therefore, further evaluation against the remaining Principles of ESD is required.</p> <p>There is little uncertainty associated with this aspect as the activities and cause pathways are well known and the activities are well regulated and managed. As such, there is limited scientific uncertainty associated with this aspect; consequently, the precautionary principle has not been applied.</p>	
<b>Relevant environmental legislation and other requirements</b>	Legislation and other requirements considered relevant for this aspect include:	
	<ul style="list-style-type: none"> <li>• <i>Biosecurity Act 2015 (Cth)</i></li> <li>• <i>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 (Cth)</i> (enacted by Marine Order 98 [Marine pollution – anti-fouling systems])</li> <li>• <i>Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (Biofouling Guidelines)</i> (Ref. 8)</li> <li>• <i>Australian Ballast Water Management Requirements</i> (Ref. 5)</li> <li>• <i>Australian Biofouling Management Requirements</i> (Ref. 6)</li> <li>• <i>National Biofouling Management Guidance for the Petroleum Production and Exploration Industry</i> (Ref. 7).</li> </ul>	
	<b>Requirements</b>	<b>Demonstration</b>
	<i>Biosecurity Act 2015 (Cth)</i> Pre-arrival reporting through MARS.	Requirement for pre-arrival reporting has been incorporated into the <b>MARS</b> control measure.
	<i>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 (Cth)</i> Gives effect to Marine Order 98.	Anti-fouling certifications (as per Division 2) have been incorporated into the <b>anti-fouling certificate</b> control measure.
	<i>Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species (Biofouling Guidelines)</i> A biofouling management plan and record book to be available and maintained.	Proactive management of biofouling (e.g. use of biofouling management plan) has been incorporated into the <b>quarantine procedure</b> control measure.
	<i>Australian Ballast Water Management Requirements</i> Best practice guidance for ballast water management within Australian seas, including legislative obligations under <i>Biosecurity Act 2015 (Cth)</i> .	Requirement for ballast water exchange has been incorporated into the <b>ballast water management</b> control measure. Proactive management of ballast water (e.g. use of ballast water management plan) has been incorporated into the <b>quarantine procedure</b> control measure.
<i>Australian Biofouling Management Requirements</i> Best practice guidance for biofouling management within	Requirement for pre-arrival reporting has been incorporated into the <b>MARS</b> control measure.	

	<p>Australian seas, including legislative obligations under <i>Biosecurity Act 2015 (Cth)</i>.</p> <p><i>National Biofouling Management Guidance for the Petroleum Production and Exploration Industry</i> Undertake a biofouling risk assessment.</p>	<p>Proactive management of biofouling (e.g. use of biofouling management plan) has been incorporated into the <b>quarantine procedure</b> control measure.</p> <p>Biofouling risk assessments for vessels have been incorporated into the <b>quarantine procedure</b> control measure.</p>
<b>Internal context</b>	<p>The following CAPL management processes or procedure were deemed relevant for this aspect:</p> <ul style="list-style-type: none"> <li><i>Quarantine Procedure Marine Vessels</i> (Ref. 44).</li> </ul> <p>Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>	
<b>External context</b>	<p>During relevant persons consultation, no objections or claims were raised regarding IMP arising from the activity.</p>	
<b>Defined acceptable level</b>	<p>These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
<p>No introduction and establishment of invasive marine pests from MODU and vessel activities within the OA associated with the petroleum activity.</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>Quarantine procedure</b> All MODUs and marine vessels undertaking activities within the OA must meet the relevant requirements of the <i>Quarantine Procedure Marine Vessels</i>, including:</p> <ul style="list-style-type: none"> <li><i>Quarantine Questionnaire – Marine Vessels</i> has been completed and submitted to CAPL</li> <li>biofouling risk assessments are completed</li> <li>biofouling management plans and/or biofouling record books are available.</li> </ul>	<p><i>The Quarantine Certificate - Vessel Mobilisation</i> issued by CAPL confirms that relevant vessels meet requirements of the <i>Quarantine Procedure Marine Vessels</i>.</p>
	<p><b>Ballast water management</b> International vessels will be required to comply with the key <i>Australian Ballast Water Management Requirements</i>, which are:</p> <ul style="list-style-type: none"> <li>non-discharge of 'high-risk' ballast water in Australian ports or waters</li> <li>full ballast exchange outside Australian territorial seas</li> <li>documentation of all ballast exchange activities.</li> </ul>	<p>For international vessels, records show compliance with the Australian Ballast Water Management Requirements.</p>
	<p><b>Antifouling certificate</b> Vessels greater than 400 GT with an antifoul coating are to maintain up-to-date</p>	<p>Inspection reports confirm that international antifouling</p>



	international antifouling coating certification in accordance with <i>Protection of the Sea (Harmful Anti-fouling Systems) Act 2006 (Cth)</i> and/or the International Convention on the Control of Harmful Anti-fouling Systems on Ships.	coating certifications are up to date.
	<b>MARS</b> Vessels entering into the Australian territorial sea from outside Australian territory will complete pre-arrival reporting (unless Excepted under Biosecurity Determination 2016), in accordance with the <i>Biosecurity Act 2015 (Cth)</i> .	Records confirm that international vessels completed pre-arrival reporting (or can demonstrate meeting conditions for an exception).
	<b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.	Relevant persons consultation records.
	<b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo a MoC evaluation.	As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.

## 7.8 Planned discharges—facility and vessel operations

Source			
<p>Activities identified as having the potential to result in planned facility and vessel related discharges are:</p> <ul style="list-style-type: none"> <li>• MODU—general MODU operations within the OA during the exploration drilling activity</li> <li>• field support—general vessel operations within the OA during the exploration drilling activity.</li> </ul> <p>Discharges may include sewage, greywater, food wastes, cooling water, deck wash-water, or oily bilge water.</p>			
Potential impacts and risks			
Impacts	C	Risks	C
Planned discharge from vessel operations may result in: <ul style="list-style-type: none"> <li>• localised and temporary reduction in water quality.</li> </ul>	6	A change in ambient water quality has the potential to result in: <ul style="list-style-type: none"> <li>• changes to predator-prey dynamics</li> <li>• changes to cultural heritage values.</li> </ul>	6  6
Consequence evaluation			
<p><b>Localised and temporary reduction in water quality</b></p> <p>The MODU and support vessels will be present within the OA during the exploration drilling activity, which are estimated to take ~50 days to complete. The OA consists of an area of ~78.5 km<sup>2</sup>, in water depths between ~940 m to ~1,020 m.</p>			

Open marine waters are typically influenced by regional wind and large-scale ocean current patterns resulting in the rapid mixing of surface and near-surface waters—where MODU and vessel discharges occur (Ref. 12). Therefore, nutrients from sewage, or other similar, discharges will not accumulate or lead to eutrophication due to the highly dispersive environment (Ref. 12). This outcome was verified by sewage discharge monitoring for another offshore project (Ref. 140), which determined that a 10 m<sup>3</sup> sewage discharge reduced to ~1% of its original concentration within 50 m of the discharge location. In addition, monitoring at distances 50 m, 100 m, and 200 m downstream, and at five different water depths, confirmed that discharges were rapidly diluted and no elevations in water quality monitoring parameters (e.g. total nitrogen, total phosphorous, and selected metals) were recorded above background levels at any station. This modelling was based on volumes that are expected to be similar to those identified for this activity. Therefore, the extent of impacts is expected to be localised to the discharge location.

Monitoring of desalination brine of continuous wastewater discharges (including cooling water) undertaken by Woodside for its Torosa South-1 drilling program in the Scott Reef complex found that discharge water temperature decreases quickly as it mixes with the receiving waters, with the discharge water temperature being <1 °C above ambient within 100 m (horizontally) of the discharge point, and 10 m vertically (Ref. 140). This modelling was based on volumes that are expected to be similar to those identified for this activity. Therefore, the extent of impacts is expected to be localised to the discharge location.

A bilge system is designed to safely collect, contain and dispose of oily water so that discharge of hydrocarbons to the marine environment is minimised or avoided. Bilge water is processed via an oil-water separator before being discharged to sea. Discharge is intermittent and occurs at or near surface waters. As such, oily bilge discharges are expected to readily dilute and disperse under the action of waves and currents in surface waters. In addition, once exposed to air, any volatile components of the oil will readily evaporate.

Consequently, CAPL considers that the change in water quality from these standard discharges is limited to a localised area around the discharge point and quickly returns to ambient levels following completion of the discharge; therefore, any impacts are Incidental (6).

#### **Changes to predator-prey dynamics**

The overboard discharge of sewage and macerated food waste creates a localised and temporary food source for scavenging marine fauna or seabirds, whose numbers may temporarily increase as a result, thus increasing the food source for predatory species.

However, the rapid consumption of this food waste by scavenging fauna, and physical and microbial breakdown, ensures that the impacts of food waste discharges are insignificant and temporary and that all receptors that may potentially be in the water column are not impacted.

The values and sensitivities within the OA with the potential to be affected by changes in predator-prey dynamics include:

- continental slope demersal fish communities (KEF).

Effects on environmental receptors along the food chain—fish, reptiles, birds, and cetaceans—are not expected beyond the immediate vicinity of the discharge in open waters (Ref. 12).

Studies into the effects of nutrient enrichment from offshore sewage discharges indicate that the influence of nutrients in open marine areas is much less significant than that experienced in enclosed areas (Ref. 141) and suggest that zooplankton composition and distribution in areas associated with sewage dumping grounds are not affected. However, if any changes in phytoplankton or zooplankton abundance and composition occur, they are expected to be localised, typically returning to background conditions within tens to a few hundred metres of the discharge location (Ref. 142; Ref. 143; Ref. 144).

As described above, plankton communities are not affected by sewage discharges, but if they are, such effects would be highly localised (expected to return to background conditions within tens to a few hundred metres of the discharge location). Consequently, subsequent indirect impacts to other marine fauna are not expected, and thus are not considered further.

Although fish may be attracted to these discharges, any attraction and consequent change to predator-prey dynamics is expected to be limited to close to the release and thus is expected to result in localised impacts to species. Any increased predation is not expected to result in more than a limited environmental impact; therefore, the consequence is Incidental (6).

#### **Changes to cultural heritage values**

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. Specific tangible values of Sea Country identified through consultation was

the ocean and marine fauna (Table 4-14). The consequence evaluations to related receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from planned vessel discharges within the OA is anticipated. The consequence evaluation to marine fauna is provided above, and were assessed as having a limited environmental impact, and is not expected to affect the overall population of the species. Further, as described in the above evaluations, the source of planned discharges within the OA (i.e. MODU and vessels) is temporary and is not expected to affect the long-term environmental quality of the ocean. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from planned vessel discharges within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from planned vessel discharges within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

#### ALARP decision context justification

Offshore MODU and vessel operations, and subsequent planned discharges, are commonplace and well-practiced locally, nationally, and internationally. The control measures to manage the risk associated with these planned discharges are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.

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

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

#### Good practice control measures

Control measure	Description
MARPOL 73/78 sewage discharge	Marine Order 96 (Sewage) gives effect to MARPOL 73/78 Annex IV. MARPOL is the International Convention for the Prevention of Pollution from Ships is aimed at preventing both accidental pollution and pollution from routine operations.
MARPOL 73/78 food waste discharge	Marine Order 95 (Marine pollution prevention – garbage) gives effect to MARPOL 73/78 Annex V, which details the conditions in which macerated and unmacerated food waste can be discharged to the environment.
MARPOL 73/78 oily bilge discharge	Marine Order 91 (Marine pollution prevention – oil) gives effect to MARPOL 73/78 Annex I, which details the conditions by which oily bilge is authorized to be discharged to the environment.
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).  Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be

	present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	Given the nature and scale of this activity with standard control measures in place, it is considered Rare (6) that these discharges would result in any impact to the ecological function of the values and sensitivities present within the OA.	
<b>Risk level</b>	Very low (10)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	The potential impacts and risks associated with this aspect are limited to a short-term direct reduction in water quality in a localised area, which is not considered as having the potential to affect biological diversity and ecological integrity. The consequence associated with this aspect is Incidental (6). Therefore, no further evaluation against the Principles of ESD is required.	
<b>Relevant environmental legislation and other requirements</b>	Legislation and other requirements considered relevant to this aspect include:	
	<ul style="list-style-type: none"> <li>• Marine Order 91</li> <li>• Marine Order 95</li> <li>• Marine Order 96</li> <li>• MARPOL 73/78 Annex I, IV and V.</li> </ul> CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.	
	<b>Requirement</b>	<b>Demonstration</b>
	<i>Marine Order 96</i> Gives effect to Annex IV of MARPOL 73/78.	Requirements for offshore discharge of sewage have been incorporated into the <b>MARPOL 73/78 sewage discharge</b> control measure.
<i>Marine Order 95</i> Gives effect to Annex V of MARPOL 73/78.	Requirements for offshore discharge of food have been incorporated into the <b>MARPOL 73/78 food waste discharge</b> control measure.	
<i>Marine Order 91</i> Gives effect to Annex I of MARPOL 73/78.	Requirements for offshore discharge of oily bilge water from vessels have been incorporated into the <b>MARPOL 73/78 oily bilge water discharge</b> control measure.	
<b>Internal context</b>	This CAPL management process or procedure was deemed relevant for this aspect: <ul style="list-style-type: none"> <li>• Marine Standard <i>Non Tankers: Corporate OE Standard</i> (Ref. 39).</li> </ul> Control measures related to the above management process have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding these discharges arising from the activity.	

<p><b>Defined acceptable level</b></p>	<p>These impacts and risks are inherently acceptable as they are considered lower order impacts and risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<p><b>Environmental performance outcome</b></p>	<p><b>Environmental performance standard</b></p>	<p><b>Measurement criteria</b></p>
<p>Planned discharges from MODU and vessel operations within the OA during the petroleum activity will meet MARPOL requirements.</p>	<p><b>MARPOL 73/78 sewage discharge</b> Offshore discharge of sewage from MODU and vessels will be in accordance with these MARPOL 73/78 Annex IV requirements:</p> <ul style="list-style-type: none"> <li>• an IMO approved comminution and disinfection system to discharge (greater than 3 nm from the nearest land); or</li> <li>• an IMO approved Sewage Treatment Plant at any location; or</li> <li>• untreated sewage discharged <math>\geq 12</math> nm from the nearest land while the vessel is proceeding at no less than 4 knots.</li> </ul>	<p>Records show sewage is discharged in accordance with MARPOL 73/78 Annex IV, including current International Sewage Pollution Prevention (ISPP) Certificate (for marine vessels &gt;400 T or certified to carry more than 15 persons).</p>
	<p><b>MARPOL 73/78 food waste discharge</b> Offshore discharge of food waste will be in accordance with these MARPOL 73/78 Annex V requirements:</p> <ul style="list-style-type: none"> <li>• vessel waste <ul style="list-style-type: none"> <li>– macerated to no greater than 25 mm and when the marine vessel is at least 3 nm from the nearest land; or</li> <li>– unmacerated when the marine vessel is at least 12 nm from the nearest land.</li> </ul> </li> <li>• MODU waste <ul style="list-style-type: none"> <li>– macerated to no greater than 25 mm when anchored onsite.</li> </ul> </li> </ul>	<p>Records show food waste is discharged in accordance with MARPOL 73/78 Annex V.</p>
	<p><b>MARPOL 73/78 oily bilge water discharge</b> Oily bilge water will be discharged to marine environment only when the concentration is &lt;15 ppm in accordance with MARPOL 73/78, Annex I:</p> <ul style="list-style-type: none"> <li>• through an IMO approved on board oil-water separator</li> <li>• when the marine vessel is <i>en route</i>.</li> </ul>	<p>Records show oily bilge water is discharged in accordance with MARPOL 73/78 Annex I, including current International Oil Pollution Prevention (IOPP) Certificate.</p>
<p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	<p>Relevant persons consultation records.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p>	<p>As required, records show that the MoC process was undertaken in response to</p>

	<p>If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	<p>any new information on cultural values or features within the OA or EMBA.</p>
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## 7.9 Planned discharges—drill cuttings and fluids

Source			
<p>Activities identified as having the potential to result in planned drilling related discharges are:</p> <ul style="list-style-type: none"> <li>drilling—planned and contingency activities (various discharges including drilling fluids and cuttings, spacer fluids, wellbore clean-up fluids, and unused bulk product)</li> <li>well abandonment—metal swarf cuttings, and wellbore content (e.g. drill fluid, cement contaminated mud, water, barite, cement, and polymers).</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
<p>Planned drilling discharges may result in:</p> <ul style="list-style-type: none"> <li>localised and temporary change in water quality</li> <li>alteration/smothering of benthic habitat.</li> </ul>	<p>5</p> <p>4</p>	<p>A change in ambient water quality may result in:</p> <ul style="list-style-type: none"> <li>indirect impacts to fauna arising from chemical toxicity</li> </ul> <p>A change in ambient water quality or alteration to benthic habitat may result in:</p> <ul style="list-style-type: none"> <li>changes to cultural heritage values.</li> </ul>	<p>5</p> <p>6</p>
Consequence evaluation			
<p><b>Localised and temporary changes in water quality</b></p> <p>Drilling related discharges occur both at the seafloor (e.g. during drilling of the top-hole sections), and in surface waters once the riser is installed (Section 3.3; Table 3-2).</p> <p>Surface discharges will cause the largest (spatial) changes to water quality given influence by surface currents and wind speeds. Hinwood et al. (Ref. 145) details that when cuttings are discharged to the ocean from surface, the larger particles which represent ~90% of the mass of the cutting and associated mud solids, form a plume that settles quickly to seabed close to the release point. A similar finding was observed by Jones et al. (2021) over 95% of the cuttings were greater than 1 mm (and &gt;35% &gt;2 mm) and the settling time to the seabed was minutes to tens of minutes (Ref. 285). Neff (Ref. 146) states that in well-mixed oceans waters (as is the case within the OA), the drilling cuttings and fluid plume from a surface discharge is diluted by more than 100-fold within 10 m of the discharge point. Jones et al. (Ref. 285) conducted a study on drill cuttings and fluid discharges in the NWS region (near Rankin Bank) for a drilling program. The study used both modelling and ROV sampling and found total suspended solids (TSS) levels associated with drill cuttings and fluids. Maximum TSS levels were &lt;500 mg/L at 200 m, &lt;25 mg/L at 500 m and &lt;15 mg/L at the 1,000 m from the drilling location. However, these concentrations only remained for periods of minutes due to the intermittent nature of drilling discharges from the MODU. For context, during cyclones and storms TSS concentrations of tens or hundreds of mg/L over a few hours are common in tropical shallow-water reef environments (Ref. 285). On this basis, CAPL expects that changes to water quality will predominantly be limited to within hundreds of metres and up to ~1 km of the discharge source.</p> <p>The whole fluids and fluid components of the WBFs currently in use are ‘non-toxic’ or ‘almost non-toxic’ (Ref. 51). Similarly, many drilling fluid additives that are likely to be used, such as barite, bentonite, or guar gum, are listed as an “E” Category fluids under the Offshore Chemical Notification Scheme (OCNS) and considered to pose little or no risk to the environment (PLONOR). Given their inert nature, adverse impacts to water quality from additives to WBF are not predicted to occur.</p> <p>NADF use a non-aqueous base fluid, with water and chemical additives. The environmental effects of NADF are determined by the base fluid used; however the additives typically adsorb to particles in the cuttings (Ref. 154). NADF cuttings are hydrophobic and do not disperse or</p>			



dissolve in the water column (Ref. 154). As such, they are not expected to dissolve into the water column.

Most of the metals detected in drilling muds are primarily trace impurities in barite, bentonite clay, or the sedimentary rocks (drill cuttings) in the formations penetrated by the drill bit (Ref. 206). A study investigating barite solubility and the release of trace metal compounds to the marine environment found that during one week of exposure of barite in seawater, <1% of the mercury, lead and copper, and 15% of cadmium dissolved from the barite (Ref. 257). However, barite has very low concentrations of these components to begin with (Ref. 283) and it is referred to as practically inert from a toxicological perspective (Ref. 257). Considering the low concentrations of heavy metals within stock barite and combined with the low proportion of barite within a drilling fluid, the discharge of drilling fluids is not expected to have a significant adverse impact on water quality via the dissolution of metals.

Given the mixing potential for these discharges influenced by oceanic currents, impacts to water quality will be limited in duration and water quality is expected to rapidly recover following cessation of the discharges. Given the potential for limited environmental impact (i.e. within close proximity to the discharge point), CAPL has ranked this consequence as Minor (5).

#### **Alteration/smothering of benthic habitat**

Metal cuttings (swarf) will be generated from well abandonment activities. They are generated at the seafloor, and will remain in-situ at the seabed directly adjacent to the wellhead. Given the volumes of swarf that are generated from this activity (<0.01 m<sup>3</sup>), the focus of impacts to seabed will focus on the discharges of drilling cuttings and associated fluids.

The main environmental disturbance from discharging drilling cuttings and fluids is associated with the smothering and burial of sessile benthic and epibenthic fauna (Ref. 145). Neff (Ref. 147) suggests that synthetic-based mud-coated cuttings tend to clump and settle rapidly as large particles over a small area near the discharge point and tend not to disperse rapidly, indicating that when drilling with synthetic-based muds, extent of dispersion is expected to decrease, but thickness of cuttings piles is expected to increase.

Many studies have shown that the effects on seabed fauna and flora from the discharge of drilling cuttings with WBFs are subtle, although the presence of drilling fluids in the seabed close to the drilling location (<500 m) can usually be detected chemically (Ref. 148, Ref. 149, Ref. 150, Ref. 151). Monitoring and modelling undertaken by Jones et al. (Ref. 285) of a drilling campaign on the NWS, indicated that an area up to ~50 m from the drilling site showed a build-up of WBF cuttings and muds. Beyond this distance, the build-up decreased and gradually thinned to a veneer of fine sediments. Overseas studies (Ref. 152, Ref. 153) compared pre and post-drilling ROV surveys and documented physical smothering effects from WBF cuttings within 100 m of the well. Outside the area of smothering, fine sediment was visible on the seafloor up to at least 250 m from the well. Similarly, Gates and Jones (Ref. 204) compared pre and post-drilling ROV transects, and identified that cuttings were visible extending over 100 m from the well 76 days after drilling completion, reducing to ~60 m from the well by three years after. Density of benthic megafauna within this disturbance area was lower than pre-drill transects (Ref. 204). On this basis, CAPL conservatively expects that these discharges have the potential to alter or smother benthic habitat conservatively within 50-500 m of the release location.

The benthic habitat within the OA is expected to predominantly be soft substrate (Section 4.3.1). The values and sensitivities within the OA with the potential to be impacted by seabed disturbance includes the following KEF:

- continental slope demersal fish communities.

Bacteria and fauna present on the continental slope are the basis of the food web for demersal fish and higher-order consumers in this KEF system (Ref. 72). Although physical habitat modification is considered a pressure of potential for this KEF, this modification has been associated with fishing activities (Ref. 72). The habitat type within the OA (i.e. soft sediment, typically unvegetated, and with low benthic invertebrate habitation) is widespread through the region.

Neff (Ref. 147) found that recolonisation of synthetic-based, mud-cuttings piles in cold-water marine environments began within one to two years of ceasing discharges once the hydrocarbon component of the cutting piles biodegraded. Ecological recovery of benthic communities usually begins shortly after drilling activities are complete and is often well advanced within a year (Ref. 158). Additional studies indicate that benthic infauna and epifauna recover relatively quickly, with substantial recovery in deepwater benthic communities within three to ten years (Ref.153).

Shell Malaysia compared seabed conditions one month and one year after discharge of drill cuttings from shallow and deep water wells drilled using synthetic-based muds (Ref. 205). The synthetic based muds were either paraffin (e.g. Saraline 185V) or olefin based. Samples collected post drilling using paraffins as the synthetic base fluid showed limited areal coverage,

predominately within 150 m of discharge and at depths <6 cm (Ref. 205). The farther station at 250 m showed approximately 50% of the surface concentration at 150 m and *de minimus* deposition below 4 cm (Ref. 205).

Jones et al. (Ref. 152, Ref. 153) considered habitat recovery following deposition of WBF and cuttings. After three years, there was significant removal of cuttings particularly in the areas with relatively low initial deposition (Ref. 155). The area impacted by complete cuttings cover had reduced from 90 m to 40 m from the drilling location, and faunal density within 100 m of the well had increased considerably and was no longer significantly different from conditions further away. As soft sediment benthic communities are known to recover over a longer period of time (Ref. 153), the potential impacts associated with this program are considered to be localised long-term change of habitat and thus the consequence is Moderate (4).

#### **Indirect impacts to fauna arising from chemical toxicity**

The whole fluids and fluid components of the WBFs currently in use are 'non-toxic' or 'almost non-toxic' (Ref. 51). Similarly, many drilling fluid additives that are likely to be used, such as barite, bentonite, or guar gum, are listed as an "E" Category fluids under the Offshore Chemical Notification Scheme (OCNS) and considered to pose little or no risk to the environment (PLONOR).

Barium has been frequently used as a tracer of drilling fluid discharges (Ref. 255). IOGP (Ref. 154) summarised several field studies of cuttings and associated WBFs from top-hole drilling—they found that cuttings could be detected visually or as elevated barium concentrations in benthic sediments within 10–150 m of the discharge, with a greater spread down-current. Jones et al. (Ref. 285) detected elevated sediment barium concentrations of up to 3 g/kg at 50 m, decreasing with increasing distance away from the wells to 1.2 g/kg and 0.75 g/kg at 100 m and 200 m, respectively. Other studies (e.g. Ref. 255) indicate barium sediment concentrations may be slightly elevated (tens of mg/kg) up to 3,000 m from drilling locations before decreasing to background levels. There are no sediment quality guidelines for barium, however, the drilling additive barite has a low solubility in seawater (Ref. 256). Barite has been referred to as practically inert from a toxicological perspective (Ref. 257).

Barite and bentonite may contain some heavy metal concentrations. Most of the metals detected in drilling muds are present primarily as trace impurities in barite, bentonite clay, or the sedimentary rocks (drill cuttings) in the formations penetrated by the drill bit (Ref. 206). The metals of environmental concern (because of their potential toxicity and persistence) that may be present in some drilling mud barites include cadmium, chromium, copper, mercury, lead, and zinc. These metals are present in barite primarily as inorganic, insoluble mineralised sulphide salts (Ref. 206), and have limited environmental mobility and low bioavailability (Ref. 206). The *Environmental, Health, and Safety Guidelines Offshore Oil and Gas Development* (Ref. 207) set stock barite limits of 1 mg/kg and 3 mg/kg for mercury and cadmium, respectively. These values are representative of the total heavy metal concentrations in barite (both soluble and insoluble). A study investigating barite solubility and the release of trace metal compounds to the marine environment found that during one week of exposure of barite in seawater, <1% of the mercury, lead and copper, and 15% of cadmium dissolved from the barite (Ref. 257).

Given the low concentrations of heavy metals, including mercury and cadmium in stock barite and due to the low solubility of barite and metal sulphides in seawater, it is expected that environmental consequences associated with the presence of trace heavy metals in barite will be negligible.

Therefore, while trace levels of heavy metals may be released to the marine environment, and consequently have the potential to become bioavailable to, and bioaccumulate within, benthic invertebrates, the impact is considered to be limited given the limited concentrations and volumes of metals discharged.

Therefore, as WBFs are inherently less toxic, NADF was used for the remainder of this evaluation. NADF cuttings are hydrophobic and do not disperse or dissolve in the water column (Ref. 154); and as such, they are not expected to dissolve into the water column. Neff (Ref. 146) states that in well-mixed oceans waters (as is the case within the OA), the drilling cuttings and fluid plume is diluted by more than 100-fold within 10 m of the discharge, following dilution, concentrations would be well below acute impact levels. Conservatively, CAPL expects that changes to water quality, and subsequently the potential to cause acute and chronic impacts to marine fauna, is limited to within hundreds of metres of the discharge source.

The values and sensitivities with the potential to be exposed to chemical toxicity from cuttings with adhered drilling fluids include:

- continental slope demersal fish communities (KEF)
- Pygmy Blue Whale (migration BIA).



Marine fauna most sensitive to changes in water quality within 200 m of the discharge are species that are sedentary within the discharge plume and thus exposed for a prolonged period of time. Marine fauna found in the water column, such as fish, marine mammals, and marine reptiles, are expected to actively avoid discharge plumes and associated turbidity and toxicity within the water column and no site attached species are expected to occur given the absence of suitable habitat in these water depths.

On review, the *Conservation Management Plan for the Blue Whale* (Ref. 59) does not list water quality as a key threat to the species. The relevant BIAs do not suggest sedentary behaviour to occur within the OA. Consequently, only transient individuals would have the potential to be exposed to these discharges.

Based on the nature of receptors, extent of exposure and duration of the activity, these discharges are expected to result in localised, short-term impacts to a small number of individuals and thus CAPL has ranked the consequence as Minor (5).

#### **Changes to cultural heritage values**

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

Given known sea level history, the OA (which occurs in water depths >940 m), would not have been emergent land during the extended history of First Nations occupation of Australia. At the time of writing, CAPL understands through consultation with the relevant First Nations people and/or representative bodies that there are no known artefacts or specific sites of cultural value associated with the seabed within the OA. As such, it is anticipated that tangible heritage features would not be significantly adversely affected from planned subsea discharges within the OA.

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. Specific tangible values of Sea Country identified through consultation was the ocean and marine fauna (Table 4-14). The consequence evaluations to related receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from drill cuttings and fluids discharges within the OA is anticipated. The consequence evaluation to marine fauna is provided above, and were assessed as having a localised, short-term environmental impact, and is not expected to affect the overall population of the species. The consequence evaluation to benthic habitat is provided above, and it was assessed as localised long-term change. However, as described in the above evaluation the benthic habitats present within the OA are predominantly soft substrate. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from planned discharges within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

#### **ALARP decision context justification**

Offshore drilling operations, and the subsequent planned drilling discharges, are a well understood and practised activity within the industry. The control measures to manage the impacts and risks associated with these planned discharges are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.

Given the intermittent nature of the discharges, rapid dilution, absence of sensitive features, and transient nature of marine fauna in this area, the potential impact is expected to be Moderate based on impacts to benthic habitats supporting the KEF within the OA. Although there is the potential for a moderate impact, CAPLs knowledge of benthic habitat throughout the OA indicate this habitat is expected to be limited to soft sediment communities.

<p>During relevant persons consultation, no objections or claims were raised regarding planned discharges from drilling operations arising from the activity.</p> <p>The impacts and risks associated with these planned discharges are considered lower-order impacts and risks in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.</p>		
<b>Good practice control measures</b>		
<b>Control Measure</b>	<b>Description</b>	
Hazardous materials selection process	As part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment, as per CAPL's <i>Hazardous Materials Management Procedure</i> (Ref. 40)	
Wells fluid field guidelines offshore	<p>Discharges will be managed as per CAPL's <i>Wells Fluid Field Guidelines Offshore 2020</i> (Ref. 155), including:</p> <ul style="list-style-type: none"> <li>• no whole NADF will be discharged to the environment</li> <li>• maintain a &lt;10% w/w synthetic based fluid on dry cuttings averaged over the combined well sections drilled with NADF</li> <li>• NADF will not be used to drill top holes</li> <li>• ensure that NADF tank wash discharges have &lt;1% v/v residual synthetic based oil.</li> </ul> <p>These guidelines provide a guide to fluids management procedures, and ensure best practices are documented and applied across operations</p>	
Stock barite management	<p>Table 1 of the <i>Environmental, Health, and Safety Guidelines Offshore Oil and Gas Development</i> (Ref. 207) provides the following limits for barite:</p> <ul style="list-style-type: none"> <li>• mercury: maximum 1 mg/kg dry weight in stock barite</li> <li>• cadmium: maximum 3 mg/kg dry weight in stock barite</li> </ul> <p>The Environmental, Health, and Safety Guidelines are considered reference documents containing general and industry specific examples of food international industry practice.</p> <p>CAPL has adopted the recommended stock barite mercury limit as a control measure to address reducing releases of mercury to the environment as also required by the Minamata Convention.</p>	
Solids control equipment	The industry-standard cuttings treatment technology comprises a combination of shale shakers, cuttings dryers, and centrifuges. This arrangement reduces the overall volume of synthetic base oil adhered drilling fluids discharged on drill cuttings consistently to < 6.9% w/w and addresses the <i>Minamata Convention</i> requirement to control releases of drill cuttings containing mercury.	
Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPL's understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control Measure</b>	<b>Benefit</b>	<b>Cost</b>
Submerged cuttings outlet	Setting the cuttings discharge outlet below the water line will reduce the	Costs associated with implementing this control measure are not considered grossly disproportionate

	dispersal distance of cuttings and drilling fluids.	to the environmental benefit of reducing the dispersal distance of cuttings and drilling fluids. Therefore, the control <u>has been</u> adopted.
Additional solids control equipment - thermal desorption	Thermal desorption can result in very dry solids with residual synthetic base fluid on cuttings reduced to less than 1% w/w. This is the most viable equipment in reaching this level of performance, and thus is the most viable option in reducing the volume of drilling fluids adhered to cuttings and potential toxicity effects. However, this method also reduces cuttings particle sizes, resulting in increasing the plume extent and potential turbidity impacts.	This technology is not currently used in Australia and may result in operational inefficiencies. Modification to existing MODUs would be either impracticable due to MODU design or result in high costs. This technology is also energy intensive often requiring 1 to 1.5 Megawatts of additional power, which may not be available on most MODUs. Further assessment of deck space and loading associated engineering, and modification would also be required.  The costs and additional risks of implementing this option are considered to outweigh the small environmental benefit gained. Therefore, the control has <u>not been</u> adopted.
Contain and transfer cuttings to shore for treatment	Containing and transferring cuttings to shore will reduce impacts and risks to benthic communities; however, this control measure is considered to provide a small environmental benefit, given the extent of impact from drilling cuttings discharges (conservatively estimated as 500 m from the release area). There are limited values and sensitivities in the OA with the potential to be exposed, therefore, recovery is expected over time.	This option has high costs associated with the 'skip and ship' of all cuttings, requiring additional load-outs, dedicated vessels and docking time, and increases in emissions associated with the logistics chain.  This control measure may also result in significant port congestion associated with time delays from transferring cuttings from the vessel to trucks for transport to the disposal location increasing timing and additional HSE risks.  The costs and additional risks of implementing this option are considered to outweigh the small environmental benefit gained. Therefore, the control has <u>not been</u> adopted.
No overboard discharge of unused bulk product (barite) at end of drilling campaign	Unused products (such as barite) may be discharged in bulk at the end of the activity if they cannot be taken back to shore or passed onto the next operator.  Passing unused bulk product to the next operator is not always an option (e.g. where bulk barite does not meet the next operators acceptance criteria or there is no contract for the MODU at the end of the campaign).  Transport and transfers of bulk fluids introduce costly technical requirements and additional HSE risks.  Barite may contain some trace levels of heavy metals, including mercury. However these metals are present primarily as inorganic, insoluble	Given the HSE risks introduced from needing to transfer and transport onshore, and the limited environmental benefit gained from restricting overboard discharge of unused bulk product at the end of a campaign, the cost is considered grossly disproportionate and as such this control <u>has not been</u> adopted for use.

	<p>sulphide minerals and have limited environmental mobility and low bioavailability (Ref. 206).</p> <p>While restricting overboard discharge would reduce the overall volume of discharge to the marine environment, with controls in place that limit the mercury concentrations in stock barite to <math>\leq 1</math> mg/kg dry weight, the low solubility and inert behaviour of barite in seawater, and the predominantly bare soft substrate habitats, the implementation of the no overboard discharge on unused bulk product management control is considered to be of limited environmental benefit and would not result in a reduction of residual risk of toxicity effects to benthic habitats or marine fauna.</p>							
<b>Likelihood and risk level summary</b>								
<b>Likelihood</b>	Due to the extent of potential water quality impacts, lack of sedentary sensitivities, and limited values and sensitivities within the OA, CAPL consider the likelihood of limited impacts to pelagic fauna occurring is Seldom (3).							
<b>Risk level</b>	Low (7)							
<b>Determination of acceptability</b>								
<b>Principles of ESD</b>	<p>The impacts and risks associated with these discharges are not considered as having the potential to affect biological diversity and ecological integrity. The consequence associated with this aspect is Moderate (4) and subsequently the potential for serious or irreversible environmental damage is not expected.</p> <p>Therefore, no further evaluation against the Principles of ESD is required.</p>							
<b>Relevant environmental legislation and other requirements</b>	<p>Legislation and other requirements considered relevant to this aspect include:</p> <ul style="list-style-type: none"> <li><i>Conservation Management Plan for the Blue Whale (2015-2025)</i> (Ref. 59)</li> </ul> <p>CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.</p>							
<b>Internal context</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #D9D9D9;">Requirement</th> <th style="background-color: #D9D9D9;">Demonstration</th> </tr> </thead> <tbody> <tr> <td><i>Conservation Management Plan for the Blue Whale 2015–2025</i> No specific action identified.</td> <td>N/A</td> </tr> <tr> <td><i>Minamata Convention</i> Controlling, and where feasible, reducing releases of mercury or mercury compounds to land and water.</td> <td>Requirement for controlling and reducing releases of mercury has been incorporated into the <b>stock barite management</b> and <b>solids control equipment</b> control measures.</td> </tr> </tbody> </table>		Requirement	Demonstration	<i>Conservation Management Plan for the Blue Whale 2015–2025</i> No specific action identified.	N/A	<i>Minamata Convention</i> Controlling, and where feasible, reducing releases of mercury or mercury compounds to land and water.	Requirement for controlling and reducing releases of mercury has been incorporated into the <b>stock barite management</b> and <b>solids control equipment</b> control measures.
Requirement	Demonstration							
<i>Conservation Management Plan for the Blue Whale 2015–2025</i> No specific action identified.	N/A							
<i>Minamata Convention</i> Controlling, and where feasible, reducing releases of mercury or mercury compounds to land and water.	Requirement for controlling and reducing releases of mercury has been incorporated into the <b>stock barite management</b> and <b>solids control equipment</b> control measures.							
	<p>The following CAPL management processes or procedures were deemed relevant for this aspect:</p> <ul style="list-style-type: none"> <li><i>Hazardous Materials Management Procedure</i> (Ref. 40).</li> <li><i>Chevron Australia Wells Fluid Field Guidelines Offshore 2020</i> (Ref. 155).</li> </ul> <p>Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers</p>							

	that impact and risk management is consistent with company policy, culture, and standards.	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding planned discharges from drilling operations arising from the activity.	
<b>Defined acceptable level</b>	<p>These impacts and risks are inherently acceptable as they are considered lower order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>However, in alignment with Section 5.6.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:</p>	
	<b>Plan</b>	<b>Objective</b>
	<i>Conservation Management Plan for the Blue Whale 2015–2025</i>	<p><u>Recovery objective</u>: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p>
	<p>Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:</p> <ul style="list-style-type: none"> <li>impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species.</li> </ul> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
No impacts to benthic habitats or marine fauna outside the OA from planned discharges during the petroleum activity.	<p><b>Hazardous materials selection process</b></p> <p>Fluids planned for discharge are subject to the hazardous materials selection process as per the CAPL <i>Hazardous Materials Management Procedure</i>.</p>	Hazardous materials selection process assessment records (or similar).
No adverse change to First Nations cultural heritage values from the petroleum activity.	<p><b>Wells fluid field guidelines offshore</b></p> <p>Drilling fluids management procedures are implemented in accordance with the CAPL <i>Wells Fluid Field Guidelines Offshore 2020</i>, including:</p> <ul style="list-style-type: none"> <li>no whole NADF will be discharged to the environment</li> <li>maintain a &lt;10% w/w synthetic base fluid on dry cuttings averaged over the combined well sections drilled with NADF</li> <li>NADF will not be used to drill top holes</li> <li>ensure that NADF tank wash discharges have &lt;1% v/v residual synthetic based oil.</li> </ul>	Records show that drilling fluid management procedures were implemented.

	<p><b>Stock barite management</b> Mercury and cadmium concentrations in stock barite will be limited to:</p> <ul style="list-style-type: none"> <li>mercury: maximum 1 mg/kg dry weight in stock barite</li> <li>cadmium: maximum 3 mg/kg dry weight in stock barite.</li> </ul>	<p>Records confirm that stock barite meets the maximum mercury and cadmium concentration specifications.</p>
	<p><b>Solids control equipment</b> Volumes of drill fluids discharged will be minimised through the use of solids control equipment.</p>	<p>Records confirm solids control equipment is used and discharge volumes are tracked.</p>
	<p><b>Submerged cuttings outlet</b> Cuttings discharge outlet will be below the water line.</p>	<p>Records confirm the cuttings discharge point is set below the water line.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	<p>Relevant persons consultation records.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	<p>As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.</p>

## 7.10 Planned discharges—cement

Source			
<p>Activities identified as having the potential to result in planned cement discharges are:</p> <ul style="list-style-type: none"> <li>drilling—cementing operations</li> <li>well abandonment—cement cuttings, contaminated cement discharge.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
<p>Planned cement discharges may result in:</p> <ul style="list-style-type: none"> <li>localised and temporary change in water quality</li> <li>alteration/smothering of benthic habitat.</li> </ul>	<p>5</p> <p>4</p>	<p>A change in ambient water quality or alteration to benthic habitat may result in:</p> <ul style="list-style-type: none"> <li>change to cultural heritage values</li> </ul>	<p>6</p>
Consequence evaluation			
<p><b>Localised and temporary reduction in water quality</b> Cement related discharges occur both at the seafloor (e.g. during drilling of the top-hole sections), and at the surface once the riser is installed (Section 3.3; Table 3-2). Cement discharges have the</p>			



potential to result in a localised and temporary reduction in water quality from an increase of suspended material in the water column.

Surface discharges will cause the largest (spatial) changes to water quality given influence by surface currents and wind speeds.

Modelling of cement discharges for another offshore project (Ref. 116) was used as it provides an appropriate (but conservative) comparison of the potential extent of exposure from this activity (cement discharge of ~78 m<sup>3</sup>/hour). Two hours after the start of discharge, plume concentrations were determined to be between 5 and 50 mg/L with the horizontal and vertical extents of the plume ~150 m and 10 m, respectively. Five hours after ceasing the discharge, modelling indicates that the plume will have dispersed to concentrations <5 mg/L (Ref. 116). On this basis, CAPL expects that changes to water quality will be limited conservatively to within hundreds of metres of the discharge source.

Given the mixing potential for these discharges influenced by oceanic currents, and impacts to water quality will be limited in duration with water quality expected to rapidly recover following cessation of the discharges. Given the potential for limited environmental impact, CAPL has ranked this consequence as Minor (5).

#### **Alteration/smothering of benthic habitat**

Cement related discharges occur both at the seafloor (e.g. during drilling of the top-hole sections), and at the surface once the riser is installed (Section 3.3; Table 3-2). Cement discharges have the potential to smother the receiving benthic habitat.

The majority of these discharges occur during drilling activities and are associated with cementing of the conductor and surface casing strings. The potential impacts of smothering from a surface release are expected to be significantly less, due to small volumes, intermittent nature of these discharges, and high potential for dispersal by ocean currents. This is supported by comparative modelling completed previously for similar discharges (Ref. 116) which indicates that less than 0.1% of the cement solids from discharged cement slurry would be deposited on the seabed within 1.5 km of the point of discharge. Consequently, seabed release of cement is the focus of this assessment.

Cement discharged at the seabed is not expected to disperse as it is designed to set in a marine environment and will therefore set in-situ, limiting the impact to the area directly around the well. BP modelled a 200 T subsurface cement discharge (Ref. 116) and determined that impacts would be limited to a radius of approximately ~10–20 m (depending on height) from the well, resulting in the potential for disturbance of 0.002 km<sup>2</sup>.

Although a KEF was identified within the OA, associated with the Continental Slope Demersal Fish Communities, benthic habitat within the OA is expected to comprise soft sediment infauna communities that are widespread and homogenous in the region (Section 4.3.1).

Once discharged cement hardens, the area directly adjacent to the well (10–20 m) will be altered, resulting in the permanent disturbance of seabed habitat within this area (Ref. 116). This impact on soft sediment communities is not expected to affect the diversity or ecosystem function in this area, however, is considered a long term, localised impact thus has been assigned a Moderate (4) consequence.

#### **Changes to cultural heritage values**

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

Given known sea level history, the OA (which occurs in water depths >940 m), would not have been emergent land during the extended history of First Nations occupation of Australia. At the time of writing, CAPL understands through consultation with the relevant First Nations people and/or representative bodies that there are no known artefacts or specific sites of cultural value associated with the seabed within the OA. As such, it is anticipated that tangible First Nations heritage features would not be significantly adversely affected from cement discharges within the OA.

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was the ocean (Table 4-14). The consequence evaluations to related receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural

heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from cement discharges within the OA is anticipated. The consequence evaluation to benthic habitat is provided above, and it was assessed as localised long-term change. However, as described in the above evaluation the benthic habitats present within the OA are predominantly soft substrate. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from cement discharges within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

**ALARP decision context justification**

Offshore drilling operations, and the subsequent planned discharges, are a well understood and practised activity within the industry. The control measures to manage the impacts and risks associated with these planned discharges are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.

During relevant persons consultation, no objections or claims were raised regarding planned discharges from subsea operations arising from the activity.

The impacts associated with these discharges are lower-order impacts in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

**Good practice control measures**

Control measure	Source
Hazardous materials selection process	As part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment, as per CAPL’s <i>Hazardous Materials Management Procedure</i> (Ref. 40).
Drilling and cementing procedures	It is standard industry practice for drilling and cementing procedures to be developed prior to activities commencing. These procedures describe specific well locations, design, and fluid volumes. Specifically, the quantity of cement to be used for each cementing operation will be calculated, and the volumes mixed will not significantly (>30%) exceed the volumes identified in the cementing procedure.  Managing excess cement incurs engineering effort and has associated costs. Therefore, reducing cement quantities to ALARP reduces material load-out costs and load-back of unused cement.
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).  Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPL’s understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.

**Additional control measures and cost benefit analysis**

Control measure	Benefit	Cost
N/A	N/A	N/A



Likelihood and risk level summary		
<b>Likelihood</b>	Due to the localised nature of cement discharges within the OA, and with the control measures in place, the likelihood of impacts to cultural heritage values from air emissions is Rare (6).	
<b>Risk level</b>	Very low (10)	
Determination of acceptability		
<b>Principles of ESD</b>	<p>The potential impacts associated with this aspect is limited to localised disturbance of benthic communities. Given the benthic habitat expected to be present in this area, this impact is not considered to have the potential to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Moderate (4) and subsequently the potential for serious or irreversible environmental damage is not expected.</p> <p>Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	No legislation or other requirements were considered relevant to this aspect.	
<b>Internal context</b>	<p>The following CAPL management processes or procedure were deemed relevant for this aspect:</p> <ul style="list-style-type: none"> <li><i>Hazardous Materials Management Procedure</i> (Ref. 40).</li> </ul> <p>Control measures related to the above management procedure have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding planned discharges from subsea operations arising from the activity.	
<b>Defined acceptable level</b>	<p>These impacts are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
No impacts to benthic habitats outside of the OA from planned discharges during the petroleum activity.	<b>Hazardous materials selection process</b> Fluids planned for discharge are subject to the hazardous materials selection process as per the CAPL <i>Hazardous Materials Management Procedure</i> .	Hazardous materials selection process assessment records (or similar).
	<b>Drilling and cementing procedures</b> Detailed drilling and cementing procedures will be developed prior to activities commencing.	Records show that drilling and cementing procedures were developed.
	<b>Drilling and cementing procedures</b> Detailed drilling and cementing procedures will implemented, including:	Records show that drilling and cementing procedures were implemented.

	<ul style="list-style-type: none"> <li>quantity of cement mixed for each operation will not significantly (&gt;30%) vary from the volume calculated.</li> </ul>	
No adverse change to First Nations cultural heritage values from the petroleum activity.	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	Relevant persons consultation records.
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.

### 7.11 Planned discharges—BOP fluids

Source			
Activities identified as having the potential to result in planned BOP fluid discharges are:			
<ul style="list-style-type: none"> <li>drilling—pressure and function testing of the BOP.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
Planned subsea BOP fluid discharges may result in:		A change in ambient water quality may result in:	
<ul style="list-style-type: none"> <li>localised and temporary change in water quality.</li> </ul>	6	<ul style="list-style-type: none"> <li>changes to cultural heritage values.</li> </ul>	6
Consequence evaluation			
<p>BOP fluid discharges occur at the seafloor during regular function and pressure testing (Section 3.3.4; Table 3-2). BOP fluid discharges are intermittent, non-continuous, and of short duration, and as such frequency of exposure is limited. These fluids have positive buoyancy, upon release the plume will dilute and disperse.</p> <p>As detailed in Section 3.3.4 the BOP control system discharges water-based hydraulic control fluids into the sea upon operation. A full function test, which closes and opens all rams and annulars, discharges approximately 2,500 L of diluted control fluid weekly. The control fluid is a water-soluble product and is diluted to approximately 1–3% with potable water. The control fluid is fully biodegradable and expected to readily disperse after discharge from the BOP to the marine environment. The discharges occur within the OA at the well or near the drill centre, which is located in a water depth of depth of ~958 m.</p> <p>Modelling undertaken for another offshore drilling project indicates that a release of BOP fluids during function testing is expected to reach a dilution of 3000 times within a maximum displacement plume of 98 m (Ref. 116). Based on this information, it is expected concentrations of BOP control fluid would be approximately 10 ppm within 100 m of the BOP. Using a conservative ocean current speed of 0.1 m/s [noting that currents in the region can be up to 0.25 m/s (Ref. 156, Ref. 157)], fluids would be expected to travel 100 m (and thus reach concentrations of 10 ppm) in ~16 minutes.</p>			

On the expectation that a subsurface release of BOP fluids will result in changes to water quality within 100 m of the release location and recover rapidly within minutes of release, this discharge is expected to result in a limited impacts to water quality, thus have been ranked as an Incidental (6) consequence.

**Changes to cultural heritage values**

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was the ocean (Table 4-14). The consequence evaluations to related receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from BOP fluid discharges within the OA is anticipated. The consequence evaluation to a change in water quality is provided above, and it was assessed as limited and short term impact. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from BUP fluids discharges within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

**ALARP decision context justification**

Offshore drilling operations, and the subsequent planned discharges, are a well understood and practised activity within the industry. The control measures to manage the impacts and risks associated with these planned discharges are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL.

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

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

**Good practice control measures**

Control measure	Description
Hazardous materials selection process	As part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment, as per CAPL’s <i>Hazardous Materials Management Procedure</i> (Ref. 40).
Critical equipment maintained.	Critical equipment will be identified (e.g. BOP) and maintained in accordance with manufacturers specifications. Regular maintenance ensures the integrity of critical equipment is maintained, which ensures optimal performance and reduces the risk of failure.
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).

	Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	Due to the localised and temporary nature of BUP fluids discharges within the OA, and with the control measures in place, the likelihood of impacts to cultural heritage values from air emissions is Rare (6).	
<b>Risk level</b>	Very low (10)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	The potential impacts associated with this aspect is limited to a short-term direct reduction in water quality in a localised area, which is not considered as having the potential to affect biological diversity and ecological integrity. The consequence associated with this aspect is Incidental (6). Therefore, no further evaluation against the Principles of ESD is required.	
<b>Relevant environmental legislation and other requirements</b>	No legislation or other requirements were considered relevant to this aspect.	
<b>Internal context</b>	The following CAPL management processes or procedure were deemed relevant for this aspect: <ul style="list-style-type: none"> <li><i>Hazardous Materials Management Procedure</i> (Ref. 40)</li> </ul> Control measures related to the above management procedure have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding these discharges arising from the activity.	
<b>Defined acceptable level</b>	These impacts are inherently acceptable as they are considered lower-order impacts in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
Reduce the risk of impacts to sensitive environmental receptors within the OA from planned discharges during the petroleum activity.	<b>Hazardous materials selection process</b> Fluids planned for discharge are subject to the hazardous materials selection process as per the CAPL <i>Hazardous Materials Management Procedure</i> .	Hazardous materials selection process assessment records (or similar).
	<b>Equipment maintenance</b> Critical equipment will be maintained in accordance with manufacturers specifications.	Records confirm the BOP is maintained in accordance with manufacturer specifications.

No adverse change to First Nations cultural heritage values from the petroleum activity.	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	Relevant persons consultation records.
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.

## 7.12 Unplanned release—waste

Source			
<p>Activities identified as having the potential to result in the unplanned release of waste are:</p> <ul style="list-style-type: none"> <li>• MODU—general MODU operations within the OA during the exploration drilling activity</li> <li>• field support—general vessel operations within the OA during the exploration drilling activity.</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
N/A	–	<p>Unplanned release of waste to the environment may result in:</p> <ul style="list-style-type: none"> <li>• marine pollution resulting in entanglement or injury of marine fauna</li> <li>• changes to cultural heritage values.</li> </ul>	<p>6</p> <p>6</p>
Consequence evaluation			
<p><b>Marine pollution resulting in injury and entanglement of marine fauna</b></p> <p>Waste accidentally released to the marine environment may occur within the OA. If hazardous or non-hazardous waste is lost overboard, the extent of exposure to the environment is limited.</p> <p>Marine fauna most at risk from marine pollution include marine reptiles and seabirds, through ingestion or entanglement (Ref. 158; Ref. 159). Ingestion or entanglement has the potential to limit feeding or foraging behaviours and thus can result in marine fauna injury or death. In 2003, “[i]njury and fatality to vertebrate marine life caused by ingestion of, or entanglement in, harmful marine debris” was listed as a key threatening process under the EPBC Act (Ref. 158). However, the national Threat Abatement Plan (Ref. 158) identifies that harmful marine debris includes “land-sourced garbage, fishing gear from recreational and commercial fishing abandoned or lost to the sea, and vessel-sourced, solid, non-biodegradable floating materials disposed of or lost at sea”. This type of waste is not associated with the activities described under this EP.</p> <p>Given the restricted exposures and the limited quantity of waste with the potential to cause marine pollution that is expected to be generated from petroleum activities, it is expected that any impacts from marine pollution would result in limited impacts to individuals. Thus, CAPL ranked this consequence as Incidental (6).</p>			
<p><b>Changes to cultural heritage values</b></p> <p>There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).</p>			

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was marine fauna (e.g. whales, turtles). The consequence evaluations to these receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from an unplanned release of waste within the OA is anticipated. The consequence evaluation for marine fauna is provided above; if an interaction (e.g. entanglement) did occur, any impact would be to individuals, and is not expected to affect the overall population of the species. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from an unplanned release of waste within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from an unplanned release of waste within the OA is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

#### ALARP decision context justification

Offshore commercial vessel operations, and the subsequent management of waste, are commonplace and well-practiced activities within the industry. The control measures to manage the risk associated with the unplanned release of waste are well defined via legislative requirements that are considered standard industry practice. There is a good understanding of the release pathways, and the control measures required to manage these events are well understood and implemented by the petroleum industry and CAPL.

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

An unplanned release of waste is considered lower-order impacts in accordance with Table 5-3. As such, CAPL applied ALARP Decision Context A for this aspect.

#### Good practice control measures

Control measure	Description
Marine Order 95 (Marine pollution prevention – garbage)	MARPOL 73/78 is the International Convention for the Prevention of Pollution from Ships and is aimed at preventing both accidental pollution, and pollution from routine operations. Specifically, MARPOL 73/78 Annex V requires that a garbage management plan and garbage record book is in place and implemented, and describes various requirements that are to be applied when managing waste offshore.  Marine Order 95 (Marine pollution prevention – garbage) gives effect to MARPOL 73/78 Annex V.
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).  Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.



Additional control measures and cost benefit analysis		
Control measure	Benefit	Cost
N/A	N/A	N/A
Likelihood and risk level summary		
<b>Likelihood</b>	Marine pollution arising from mismanaged waste offshore has occurred previously in the industry but is not expected to occur during these activities, given the control measures in place. As such, the likelihood of incidental consequences to values and sensitivities from an unplanned release of waste is considered Remote (5).	
<b>Risk level</b>	Very low (10)	
Determination of acceptability		
<b>Principles of ESD</b>	<p>The potential risk associated with this aspect is limited to individuals and consequently is not expected to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Incidental (6).</p> <p>Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	Legislation and other requirements considered relevant to this aspect include:	
	<ul style="list-style-type: none"> <li>• Marine Order 95</li> <li>• MARPOL 73/78</li> <li>• <i>Threat Abatement Plan for the impacts of Marine Debris on Vertebrate Wildlife of Australia's Coasts and Ocean</i> (Ref. 158)</li> <li>• <i>Wildlife Conservation Plan for Migratory Shorebirds</i> (Ref. 108)</li> <li>• <i>Wildlife Conservation Plan for Seabirds</i> (Ref. 220)</li> <li>• <i>Conservation Management Plan for the Blue Whale 2015–2025</i> (Ref. 59).</li> </ul>	
	Requirement	Demonstration
	<i>Marine Order 95</i> Gives effect to Annex V of MARPOL 73/78.	Requirements for the prevention of pollution from garbage have been incorporated into the <b>Marine Order 95 (Marine pollution prevention – garbage)</b> control measure.
	<i>Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans</i> No specific action identified.	N/A.
	<i>Wildlife Conservation Plan for Migratory Shorebird</i> No specific action identified.	N/A.
	<i>Wildlife Conservation Plan for Seabird</i> No specific action identified.	N/A.
<i>Conservation Management Plan for the Blue Whale</i> No specific management action identified.	N/A.	
<b>Internal context</b>	No CAPL management processes or procedures were deemed relevant for this aspect.	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding waste management arising from the activity.	

<b>Defined acceptable level</b>	<p>These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>However, in alignment with Section 5.6.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:</p>	
	<b>Plan</b>	<b>Objective</b>
	<i>Conservation Management Plan for the Blue Whale 2015–2025</i>	<p><u>Recovery objective</u>: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p>
	<i>Wildlife Conservation Plan for Migratory Shorebirds</i>	<u>Objective 3</u> : Anthropogenic threats to migratory shorebirds in Australia are minimised or, where possible, eliminated.
	<i>Wildlife Conservation Plan for Seabirds</i>	<u>Objective 2</u> : Seabirds and their habitats are identified, protected and managed in Australia.
	<p>Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:</p> <ul style="list-style-type: none"> <li>impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species.</li> </ul> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
No unplanned release of waste to the environment during the petroleum activity.	<p><b>Marine Order 95 (Marine pollution prevention – garbage)</b></p> <p>Marine vessels &gt;100 T (or certified to carry &gt;15 persons) will have a Garbage Management Plan on board, in accordance with MARPOL 73/78 Annex V.</p>	OVIS report / ABU Marine OE Inspection Checklist verifies that a Garbage Management Plan is on board marine vessels >100 T or certified to carry >15 persons.
No injury or mortality to marine fauna from an unplanned release of waste within the OA associated with the petroleum activity.	<p><b>Marine Order 95 (Marine pollution prevention – garbage)</b></p> <p>Marine vessels &gt;400 T (or certified to carry &gt;15 persons) will have a Garbage Record Book on board, in accordance with MARPOL 73/78 Annex V.</p>	Current and completed Garbage Record Book (for marine vessels >400 T or certified to carry >15 persons).
No adverse change to First Nations cultural heritage values from the petroleum activity.	<p><b>Marine Order 95 (Marine pollution prevention – garbage)</b></p> <p>For waste that is incinerated on board a marine vessel, the incinerator is to be IMO-approved and the waste incinerated is to be recorded in accordance with MARPOL 73/78 Annex V.</p>	<p>Current IAPP Certificate (for marine vessels &gt;400 T or certified to carry &gt;15 persons).</p> <p>Current and completed Garbage Record Book (for marine vessels &gt;400 T or certified to carry &gt;15 persons).</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective</p>	Relevant persons consultation records.



	engagement plan and/or consultation protocol.	
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.

### 7.13 Unplanned release—minor loss of containment

Source			
<p>Exploration drilling operations and supporting vessel operations includes handling, using, and transferring hazardous materials, and has the potential to result in a minor loss of containment (LOC) event. Based on the activities described in this EP, the following potential LOC scenarios were identified:</p> <ul style="list-style-type: none"> <li>• using, handling, and transferring hazardous materials and chemicals on board (&lt;1 m<sup>3</sup>)<sup>1</sup></li> <li>• transferring hazardous materials between MODU and support vessels (50 m<sup>3</sup>)<sup>2</sup></li> <li>• hydraulic line failure from equipment (&lt;1 m<sup>3</sup>)</li> <li>• emergency disconnect (~180 m<sup>3</sup> NADF).</li> </ul> <p><sup>1</sup> A range of hydrocarbons and other hazardous chemicals/materials are expected to be present on vessels and/or MODU; however, the maximum credible volume associated with a single-point failure was estimated to be ~1 m<sup>3</sup> based on the loss of an entire intermediate bulk container due to rupture while handling.</p> <p><sup>2</sup> AMSA (Ref. 160) suggests the maximum credible spill volume from a refuelling incident with continuous supervision is approximately the transfer rate × 15 minutes. Assuming failure of dry-break couplings and an assumed 200 m<sup>3</sup>/h transfer rate (based on previous operations), this equates to an instantaneous spill volume of ~50 m<sup>3</sup>. Assuming the same equipment is used to complete bulk transfers of any bulk liquid (such as NADF), a similar volume (50 m<sup>3</sup>) could be expected for an accidental release of drilling fluid during transfer. This is considered conservative because transfer rates are typically slower than the peak transfer rates (described above).</p>			
Potential impacts and risks			
Impacts	C	Risks	C
N/A	–	<p>Unplanned release of hazardous material to the environment may result in:</p> <ul style="list-style-type: none"> <li>• indirect impacts to fauna arising from chemical toxicity</li> <li>• changes to cultural heritage values.</li> </ul>	<p>5</p> <p>6</p>
Consequence evaluation			
<p><b>Indirect impacts to fauna arising from chemical toxicity</b></p> <p>Upon release, a loss of 50 m<sup>3</sup> of a hazardous product would be expected to change the water quality of both surface and pelagic waters.</p> <p>The environmental impacts associated with a surface release of 50 m<sup>3</sup> of MDO or other hazardous materials (e.g. NADF) are expected to be much less than those associated with a loss of hydrocarbons from a vessel collision (Section 7.14), and thus are not evaluated further here.</p> <p>The values and sensitivities with the potential to be exposed to decreased water quality from an unplanned LOC release within the OA include:</p> <ul style="list-style-type: none"> <li>• Pygmy Blue Whale (migration BIA)</li> <li>• Wedge-tailed Shearwater (breeding BIA)</li> <li>• continental slope demersal fish communities (KEF)</li> </ul>			

- commercial fisheries.

Based on the nature of these unplanned releases, which are non-continuous and expected to occur in a location where no specific sedentary behaviours for values and sensitivities have been identified, the extent and severity of any potential impact is expected to be limited.

Given the nature of unplanned releases covered under this EP and the transient nature of identified values and sensitivities, fauna would need to pass directly through the plume almost immediately upon release to be impacted.

Any potential impact from such an event is expected to be short term and limited to a small number of individuals, thus the consequence level was determined as Minor (5).

**Changes to cultural heritage values**

There are no World, National, or Commonwealth heritage listed places or sites within the OA (Section 4.6).

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was marine fauna (e.g. whales; Table 4-14). The consequence evaluations to these receptors are provided above.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

No impact pathway to a change in access to Country from an unplanned minor LoC within the OA is anticipated. The consequence evaluation to marine fauna is provided above, and was assessed as having localised and limited environmental impacts that are not expected to affect the overall population of the species. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected from an unplanned minor LOC within the OA.

Given the offshore location of the OA (~95 km from Barrow Island, and ~145 km from the mainland; Figure 2-1) and duration of the exploration drilling activity (~50 days), a significant adverse change to cultural heritage values attributed to the offshore marine area from an unplanned minor LoC event is not predicted to occur. As such, CAPL has ranked the consequence for cultural heritage values as Incidental (6).

**ALARP decision context justification**

Offshore exploration drilling operations are commonplace and well-practiced industry activities. The control measures to manage the risk associated with LOC scenarios from these activities are well defined via legislative requirements that are considered standard industry practice. There is a good understanding of potential spill sources, and the control measures required to manage these are well understood and implemented by the petroleum industry and CAPL.

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

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

**Good practice control measures**

Control measure	Description
Marine Standard	<p>The Marine Standard (Ref. 39) ensures that various legislative requirements and CAPL standards are met. Specifically, pre-mobilisation inspections may include:</p> <ul style="list-style-type: none"> <li>• visual checks of accessible equipment and hydraulic hoses for defects</li> <li>• confirmation that dry-break couplings or similar automated stop devices are available for use on marine vessels that are refuelled at sea</li> <li>• secondary containment is available for hydrocarbons and chemicals stored on the deck of marine vessels</li> <li>• bunkering procedures are available.</li> </ul>

Wells fluid field guidelines offshore	Bulk transfers of NADF from vessels to MODU will be undertaken in accordance with CAPL's <i>Wells Fluid Field Guidelines Offshore 2020</i> (Ref. 155). These guidelines provide a guide to fluids management procedures, and ensure best practices are documented and applied across operations.	
Equipment maintenance	Critical equipment will be identified (e.g. slip joint packers, seals, dry break couplings) and maintained in accordance with manufacturers specifications. Regular maintenance ensures the integrity of critical equipment is maintained, which ensures optimal performance and reduces the risk of failure.	
Permit system	CAPL will implement a permit system to control the isolation of overboard drainage aboard the MODU where there is potential for unplanned release of hazardous materials.	
Ship Oil Pollution Emergency Plan (SOPEP) / Shipboard Marine Pollution Emergency Plan (SMPEP)	MARPOL 73/78 Annex I and Marine Order 91 (Marine pollution prevention – oil) requires that each vessel has an approved SOPEP in place. To prepare for a spill event, the SOPEP details: <ul style="list-style-type: none"> <li>• response equipment available to control a spill event</li> <li>• review cycle to ensure that the SOPEP is kept up to date</li> <li>• testing requirements, including the frequency and nature of these tests.</li> </ul> In the event of a spill, the SOPEP details: <ul style="list-style-type: none"> <li>• reporting requirements and a list of authorities to be contacted</li> <li>• activities to be undertaken to control the discharge of oil</li> <li>• procedures for coordinating with local officials.</li> </ul>	
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3). Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPL's understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	The likelihood that a LOC event results in a Minor (5) consequence was determined to be Remote (5). With the control measures in place, it was considered very unlikely that a large LOC event associated with this activity would occur, and even more unlikely that such an event would impact any of the identified values and sensitivities, which are known to be transient and unlikely to be present at the exact location of the LOC.	
<b>Risk level</b>	Very Low (9)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	The potential risk associated with this aspect would be short-term, apply to some individuals, and consequently is not expected to affect biological diversity and ecological integrity.	

	The consequence associated with this aspect is Minor (5). Therefore, no additional evaluation against the Principles of ESD is required.	
<b>Relevant environmental legislation and other requirements</b>	Legislation and other requirements considered relevant for this aspect include: <ul style="list-style-type: none"> <li>• Marine Order 91, Marine pollution prevention – oil</li> <li>• MARPOL 73/78.</li> </ul> CAPL considers that impact and risk management is consistent with these requirements, as demonstrated below.	
	<b>Requirement</b>	<b>Demonstration</b>
	<i>Marine Order 91</i> Gives effect to Annex I of MARPOL 73/78.	Requirements for a vessel to have a SOPEP have been incorporated into the <b>SOPEP</b> control measure.
<b>Internal context</b>	The following CAPL management processes or procedures were deemed relevant for this aspect: <ul style="list-style-type: none"> <li>• Marine Standard <i>Non Tankers: Corporate OE Standard</i> (Ref. 39)</li> <li>• <i>Chevron Australia Well Fluid Field Guidelines Offshore 2020</i> (Ref. 155).</li> </ul> Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding minor LOC managing arising from the activity.	
<b>Defined acceptable level</b>	These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.  CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.	
<b>Environmental performance outcome</b>	<b>Environmental performance standard</b>	<b>Measurement criteria</b>
No unplanned release of hydrocarbons or hazardous materials to the environment during the petroleum activity.  No adverse change to First Nations cultural heritage values from the petroleum activity.	<b>Marine Standard</b> Prior to commencement of the petroleum activity, the following will be undertaken during a pre-mobilisation vessel inspection, as per the Marine Standard: <ul style="list-style-type: none"> <li>• visual checks of accessible equipment and hydraulic hoses for defects</li> <li>• confirmation that dry-break couplings or similar automated stop devices are available for use on marine vessels that are refuelled at sea</li> <li>• confirmation that secondary containment is available for hydrocarbons and chemicals stored on the deck of marine vessels.</li> </ul>	OVIS report / ABU Marine OE Inspection Checklist confirms that equipment and hydraulic hoses are visually free of defects, dry-break couplings or similar are available for use, and, and secondary containment is available on the deck of the marine vessel.

	<p><b>Wells fluid field guidelines offshore</b> Bulk transfers of NADF are implemented in accordance with the CAPL <i>Wells Fluid Field Guidelines Offshore 2020</i>.</p>	Records confirm that bulk transfers of NADF were conducted in accordance with the <i>Chevron Australia Wells Fluid Field Guidelines Offshore 2020</i> .
	<p><b>Equipment maintenance</b> Critical equipment will be maintained in accordance with manufacturers specifications.</p>	Records confirm critical equipment is maintained in accordance with manufacturer specifications.
	<p><b>Permit system</b> Implement a permit system to control the isolation of overboard drainage aboard the MODU and vessels, where there is potential for unplanned discharge of hazardous materials.</p>	Where required, records confirm the implementation of a permit system
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	Relevant persons consultation records.
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.
Reduce the risk of impacts to the environment from the unplanned release of hydrocarbons or hazardous materials during the petroleum activity	<p><b>SOPEP</b> Marine vessels &gt;400 T will carry on board a SOPEP in accordance with MARPOL 73/78 Annex I – Prevention of Oil Pollution.</p>	OVIS report / ABU Marine OE Inspection Checklist confirms an approved SOPEP is on board marine vessels >400 T.
		Inspection records (or similar) show drills conducted in accordance with SOPEP.
		Inspection records (or similar) show spill kits available in accordance with SOPEP.
	<p><b>SOPEP</b> In the event of a vessel-based spill event, emergency response activities will be implemented in accordance with the vessel SOPEP (or equivalent).</p>	Records confirm that emergency response activities were implemented in accordance with the vessel SOPEP in the event of a vessel-based spill.

## 7.14 Unplanned release—vessel collision event

### 7.14.1 Credible scenario

A vessel collision event within the OA is considered a credible (but unlikely) unplanned event. A major marine spill because of vessel collision is only expected to occur under exceptional circumstances (e.g. loss of DP, navigational error, inclement weather conditions). Given the location, water depths, and lack of submerged features within the OA, grounding is not considered credible, and is not considered further.

Based upon the types of vessels typically used to support exploration drilling activities, size of largest fuel tanks and fuel type to be utilised for the activities in this EP, CAPL was able to identify the typical credible worst-case scenario (as per AMSA guidelines; Ref. 160) as being a surface release of 598 m<sup>3</sup>.

### 7.14.2 Spill modelling

CAPL commissioned RPS to conduct spill modelling to inform the risk assessment associated with a vessel collision event (Ref. 163). The spill modelling was completed for a release within the OA. (Table 7-8).

A three-dimensional oil spill model (SIMAP) was used to simulate the drift, spread, weathering and fate of the spilled oil (Ref. 163). Modelling was conducted using a stochastic approach, where multiple simulations (using the same spill parameters) were conducted, but under varying meteorological and oceanographic conditions.

Table 7-8 summarises the model settings; Table 7-9 summarises the hydrocarbon properties for MDO; and Table 7-10 describe the modelled environmental impact thresholds.

**Table 7-8: Vessel collision spill scenario model settings**

Parameter	Details
Release Location	DS-1 exploration well
Latitude	20°28'37.60" S
Longitude	114°25'3.70" E
Water Depth	~958 m
Oil type	MDO
Simulation spill type	Surface
Simulation spill volume	598 m <sup>3</sup>
Simulation spill duration	6 hours
Total simulation duration	40 days
Number of randomly selected spill simulation start times	100 per season (300 total)
Seasons modelled	Summer (September to the following March) Transitional (April and August) Winter (May to July)

**Table 7-9: Physical properties and boiling point ranges for MDO**

Characteristic	Value			
Density	890.0 kg/m <sup>3</sup> (at 25 °C)			
Dynamic viscosity	14 cP			
Pour point	-14 °C			
API gravity	24 API			
Classification	Group II, light persistent oil			
Boiling point	Volatile <180 °C	Semi-volatile 180–265 °C	Low volatility 265–380 °C	Residual >380 °C
	4.0%	32%	54%	10%

**Table 7-10: Hydrocarbon environmental thresholds**

Environmental threshold	Hydrocarbon Ecological EMBA ^	Hydrocarbon Social EMBA ^	Planning Area for Scientific Monitoring*	Justification
Surface ≥1 g/m <sup>2</sup> (low)		✓	✓	<p>In accordance with NOPSEMA’s oil spill modelling bulletin (Ref. 14), CAPL has set the ≥1 g/m<sup>2</sup> surface impact threshold for social, economic, and cultural receptors. This threshold is equivalent to ~1,000 L/km<sup>2</sup> or a layer thickness of ~1 µm.</p> <p>At this concentration, oil on the water surface is expected to be visible. The Bonn Agreement Oil Appearance Code (Ref. 164) describes a 0.3–5.0 µm thick oil layer as having a rainbow-coloured appearance. Due to this visibility, there is the potential to impact nature-based activities (such as tourism) via a reduction in aesthetics.</p> <p>In accordance with NOPSEMA’s oil spill modelling bulletin (Ref. 14), this low threshold for surface oil establishes the planning area for scientific monitoring.</p>
Surface ≥10 g/m <sup>2</sup> (moderate)	✓	✓		<p>In accordance with NOPSEMA’s oil spill modelling bulletin (Ref. 14), CAPL has set the ≥10 g/m<sup>2</sup> surface impact threshold for ecological receptors. This threshold is equivalent to ~10,000 L/km<sup>2</sup> or a layer thickness of ~10 µm. The Bonn Agreement Oil Appearance Code (Ref. 164) describes a 5–50 µm thick oil layer as having a metallic appearance.</p> <p>This threshold is considered by NOPSEMA to approximate the lower limit of harmful effects to birds and marine mammals (Ref. 14). This threshold is consistent with observations ranging from physical oiling to toxicity effects for marine fauna within literature, including French et al. (Ref. 165), French-McCay (Ref. 166), Engelhardt (Ref. 167), Clark (Ref. 168), Geraci and St. Aubin (Ref. 169) and Jenssen (Ref. 170).</p>
In-water (dissolved) ≥10 ppb (low)			✓	<p>In accordance with NOPSEMA’s oil spill modelling bulletin (Ref. 14), this low threshold for dissolved oil establishes the planning area for scientific monitoring based on potential for exceedances of water quality triggers.</p>



Environmental threshold	Hydrocarbon Ecological EMBA ^	Hydrocarbon Social EMBA ^	Planning Area for Scientific Monitoring*	Justification
In-water (dissolved) ≥50 ppb (moderate)	✓	✓		<p>Laboratory studies have shown that dissolved oil exert most of the toxic effects of oil on aquatic biota (e.g. Carls et al. [Ref. 171], Nordtug et al. [Ref. 172], Redman [Ref. 173]). Being soluble, the dissolved oil can be taken up by organisms directly from the water column by absorption through external surfaces and gills, as well as through the digestive tract.</p> <p>In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 14), CAPL has set the ≥50 ppb in-water (dissolved) impact threshold for sublethal ecological effects and for social, economic, and cultural receptors.</p> <p>This threshold is considered by NOPSEMA to approximate potential toxic effects, particularly sublethal effects to sensitive species (Ref. 14). This threshold is based on an instantaneous concentration, and therefore only requires the dissolved oil to be at this concentration for one-hour (based on minimum model time-step) to trigger this threshold.</p>
In-water (entrained) ≥10 ppb (low)			✓	<p>In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 14), this low threshold for entrained oil establishes the planning area for scientific monitoring based on potential for exceedances of water quality triggers.</p>
In-water (entrained) ≥100 ppb (high)	✓	✓		<p>Entrained oil are insoluble droplets suspended in the water column, and as such exposure pathways are direct contact with external tissue or direct oil consumption.</p> <p>In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 14), CAPL has set the ≥100 ppb in-water (entrained) impact threshold for sublethal ecological effects and for social, economic, and cultural receptors.</p> <p>This threshold is considered by NOPSEMA as appropriate for informing risk evaluation (Ref. 14). This threshold is based on an instantaneous concentration, and therefore only requires the entrained oil to be at this concentration for one-hour (based on minimum model time-step) to trigger this threshold.</p> <p>French-McCay (Ref. 174) identified that if total hydrocarbons in entrained oil droplets was to be evaluated as a risk, 100 ppb would be an extremely conservative sublethal threshold.</p>
Shoreline ≥10 g/m <sup>2</sup> (low)		✓		<p>In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 14), CAPL has set the ≥10 g/m<sup>2</sup> shoreline impact threshold for social, economic, and cultural receptors. This threshold is equivalent to ~10 mL/m<sup>2</sup> or ~2 teaspoons/m<sup>2</sup>.</p> <p>At this concentration, oil on the shoreline is expected to be visible. Due to this visibility, there is the potential to impact nature-based activities (such as tourism or recreational use) via a reduction in aesthetics.</p>
Shoreline	✓	✓		<p>In accordance with NOPSEMA's oil spill modelling bulletin (Ref. 14), CAPL has set the ≥100 g/m<sup>2</sup> shoreline impact</p>

Environmental threshold	Hydrocarbon Ecological EMBA <sup>^</sup>	Hydrocarbon Social EMBA <sup>^</sup>	Planning Area for Scientific Monitoring*	Justification
≥100 g/m <sup>2</sup> (moderate)				<p>threshold for ecological receptors. This threshold is equivalent to ~100 mL/m<sup>2</sup> or 20 teaspoons/m<sup>2</sup>.</p> <p>French et al. (Ref. 165) and French-McCay (Ref. 166) define shoreline oil accumulation at ≥100 g/m<sup>2</sup> as potentially harmful to wildlife (including invertebrates, birds, furbearing aquatic mammals and marine reptiles), based on studies for sub-lethal and lethal impacts.</p> <p>Impacts on vegetated habitats (such as saltmarsh and mangroves) have been observed at higher concentrations of shoreline oil. Observations by Lin and Mendelssohn (Ref. 175) demonstrated that loadings of &gt;1,000 g/m<sup>2</sup> of oil during the growing season would be required to impact marsh plants significantly. Similar thresholds have been found in studies assessing oil impacts on mangroves (e.g. Grant et al. [Ref. 176], Suprayogi and Murray [Ref. 177]).</p>

<sup>^</sup> Environmental thresholds used to define the Hydrocarbon EMBA's, and the presence of environmental values and sensitivities within this area have been identified in Section 4. These thresholds and the spatial extent of the Hydrocarbon EMBA's are used as part of the environmental impact and risk assessment presented below.

\* Environmental thresholds used to define the Planning Area for Scientific Monitoring, and the presence of environmental values and sensitivities within this area have been identified within the Operational and Scientific Monitoring Plan: Environmental Monitoring in the Event of an Oil Spill to Marine or Coastal Waters (Ref. 3).

#### 7.14.2.1 Weathering and fate

MDO is a light-persistent fuel oil used in the maritime industry. It has a density of 890.0 kg/m<sup>3</sup>, an API of 24, and a low pour point (-14 C) (Table 7-9). The low viscosity (14 cP) indicates that this oil will spread quickly when released and will form a thin film on the sea surface, increasing the evaporation rate.

Generally, about 40% of the MDO mass should evaporate within the first 12 hours (boiling point <180 °C); a further 32% should evaporate within the first 24 hours (boiling point 180°C–265 °C); and an additional 54% should evaporate over several days (boiling point 265°C–380 °C). Approximately 10% (by mass) of MDO will not evaporate at atmospheric temperatures, though will decay slowly over time.

While MDO will typically remain on the water surface (where it is subject to evaporation), it is noted that some of the heavy components have a strong tendency to physically entrain into the upper water column in the presence of moderate winds (i.e. >12 knots) and breaking waves but can re-float to the surface if these energies abate (Ref. 163).

#### 7.14.2.2 Modelling outputs

Stochastic modelling outputs from RPS (Ref. 163) are summarised in Table 7-11, having regard to the relevant values and sensitivities identified in Section 4.

For the 598 m<sup>3</sup> MDO release in the OA:

- the maximum distance from the release location to the  $\geq 1$  g/m<sup>2</sup> and  $\geq 10$  g/m<sup>2</sup> floating oil exposure thresholds was 74.0 km north-northeast (transitional) and 40.6 km east (summer), respectively.
- no shoreline accumulation was predicted during the transitional and winter seasonal conditions. The probability of accumulation on any shoreline at  $\geq 10$  g/m<sup>2</sup> during summer was 2%, while the minimum time before shoreline accumulation was 7.46 days and the maximum volume of oil ashore  $\geq 10$  g/m<sup>2</sup> threshold was 5.4 m<sup>3</sup>. No shoreline accumulation at  $\geq 1,000$  g/m<sup>2</sup> was predicted to occur.
- dissolved and entrained oil at  $\geq 50$  ppb and  $\geq 100$  ppb impact thresholds respectively, were predicted to occur. However, dissolved and entrained oil was predicted to remain in the surface layers, with no exposure at depths >10 m below the surface predicted to occur during any season.

**Table 7-11: Vessel collision event spill modelling EMBA receptor exposure summary**

Sensitivity	Name	Surface <sup>^</sup>		In-water (dissolved) <sup>^</sup>	In-water (entrained) <sup>^</sup>	Shoreline <sup>^</sup>	
		≥1 g/m <sup>2</sup>	≥10 g/m <sup>2</sup>	≥50 ppb	≥100 ppb	≥10 g/m <sup>2</sup>	≥100 g/m <sup>2</sup>
		(probability of exposure, minimum time to exposure)		(probability of exposure)	(probability of exposure)	(probability of exposure, minimum time to exposure, mean length of shoreline)	
AMP	Gascoyne	—	—	—	4-7%	—	—
State protected area	Pilbara Islands Group	—	—	—	—	1%, 7.46-21.4 days, 1-9.6 km	0-1%, 13.6 days, 0-1 km
KEF	Ancient coastline at 125 m depth contour	0-1%, 2.3 days	—	—	0-2%	—	—
	Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	—	—	—	1-2%	—	—
	Continental slope demersal fish communities	72-89%, 0.04 days	—	7-23%	70-86%	—	—
	Exmouth Plateau	—	—	—	4-5%	—	—
World Heritage Properties / National Heritage Places	The Ningaloo Coast <i>(inferred from Cape Range IBRA, Exmouth shoreline)</i>	—	—	—	—	1%, 19.7 days, 6.7 km	—

<sup>^</sup> Ranges in values shown are due to the different results between seasons.

### 7.14.3 Risk Assessment

Source			
<p>Activities identified as having the potential to result in a vessel collision event are:</p> <ul style="list-style-type: none"> <li>field support—vessels operations within the OA.</li> </ul> <p>A vessel collision event may occur as a result of a loss of DP, navigational error or floundering due to weather</p>			
Potential impacts and risks			
Impacts	C	Risks	C
N/A	-	<p>The potential environmental impacts associated with hydrocarbon exposures from a vessel collision event are:</p> <ul style="list-style-type: none"> <li>marine pollution resulting in sublethal or lethal effects to marine fauna</li> <li>smothering of subtidal and intertidal habitats</li> <li>indirect impacts to fisheries</li> <li>reduction in amenity resulting in impacts to tourism and recreation.</li> <li>changes to values and sensitivities of Australian Marine Parks</li> <li>changes to cultural heritage values.</li> </ul>	<p>4</p> <p>5</p> <p>6</p> <p>5</p> <p>5</p> <p>4</p>
Consequence evaluation			
<p><b>Marine pollution resulting in sublethal or lethal effects to marine fauna</b></p> <p><u>Marine mammals</u></p> <p>Marine mammals may be exposed to hydrocarbons from an oil spill at the water surface or within the water column. Marine mammals can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 162; Ref. 178).</p> <p>An avoidance response (i.e. avoiding spilled hydrocarbons) has been identified for several species of cetacean, suggesting that cetaceans have the ability to detect and avoid surface slicks (Ref. 167). However, detection seems to depend on oil thickness and colour (Ref. 260), and observations during large oil spill events (Deepwater Horizon [DWH] and the Mega Borg spills) have recorded whales and dolphins travelling through and feeding in oil slicks (Ref. 258, Ref. 259, Ref. 260).</p> <p>Direct contact with hydrocarbons may result in skin and eye irritation, burns to mucous membranes of eyes and mouth, and increased susceptibility to infection (Ref. 169). The effect of oil on cetacean skin is likely minor and temporary (Ref. 169) due to the skins effectiveness as a barrier. However it was observed that existing skin lesions, cuts, or abrasions could allow oil to be absorbed more readily into the bloodstream (Ref. 258). French-McCay (Ref. 166) identifies that a <math>\geq 10</math> g/m<sup>2</sup> oil thickness threshold has the potential to impart a lethal dose to the species; however, also estimates a probability of 0.1% mortality to cetaceans if they encounter these thresholds based on the proportion of the time spent at surface.</p> <p>Dugongs have smooth skin surfaces and therefore are less likely to be affected by oil adhering to their skin. If surfacing in a slick, the Dugongs may foul their sensory hairs (around their mouths) or their eyes; these could lead to inflammation/infections that then affect their ability to feed or breed (Ref. 244). Dugongs may also ingest oil (directly, or indirectly via oil-affected seagrass), and depending on the amount and type of oil, the effects could be short-term to long-term/chronic (e.g. organ damage). However, it is noted that reports on oil pollution damage to Dugongs are rare (Ref. 243).</p> <p>The physical impacts from ingested hydrocarbons with subsequent lethal or sublethal impacts are possible; however, the susceptibility of cetaceans varies with feeding habits. Baleen whales are not particularly susceptible to ingestion of oil in the water column as they feed by skimming the</p>			

surface (i.e. they are more susceptible to surface slicks). Toothed whales and dolphins may be susceptible to ingestion of dissolved and entrained oil as they gulp feed at depth. As highly mobile species, in general it is not expected that these animals will be constantly exposed to concentrations of hydrocarbons in the water column for continuous durations (e.g. >48–96 hours) that would lead to chronic effects.

Marine mammals are vulnerable if they inhale volatiles when they surface within a hydrocarbon slick. For the short period that they persist, vapours from the spill are a significant risk to mammal health, with the potential to damage mucous membranes of the airways and the eyes, which will reduce the health and potential survivability of an animal. Inhaled volatile hydrocarbons are transferred rapidly to the bloodstream and may also accumulate in tissues (Ref. 169).

As identified in Section 4.3.3.1, several marine mammal species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIAs intersect the Hydrocarbon Ecological EMBA:

- Humpback Whale (migration)
- Pygmy Blue Whale (migration, foraging).

As these species are considered most sensitive to surface and entrained exposures, deterministic analysis were utilised to understand the potential extent and duration of exposure.

The deterministic model for the largest swept area of floating oil indicates that surface hydrocarbons concentrations  $\geq 10$  g/m<sup>2</sup> are present for <3 days following the spill event, with a maximum area of coverage of ~11 km<sup>2</sup> occurring the same day the spill commenced. This deterministic scenario is considered most relevant for offshore waters and subsequent impacts to offshore BIA's in those regions. Using the Pygmy Blue Whale migration BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.1% of the entire BIA.

The deterministic model for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations  $\geq 100$  ppb are present for <10 days following the spill event, with a maximum area of coverage of ~110 km<sup>2</sup> occurring ~4 days after the spill commenced. This deterministic scenario is considered most relevant for offshore waters, and subsequent impacts to offshore BIA's in those regions. Using the Pygmy Blue Whale migration BIA as an example, modelling indicates that the extent of entrained exposures was predicted to be limited to <0.1% of the entire BIA.

Based on an assessment of the predicted magnitude and duration of surface and entrained oil, it is expected that only a small proportion of any marine mammal population would be exposed above the defined impact exposure thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

#### Reptiles

Marine reptiles may be exposed to hydrocarbons from an oil spill at the water surface or on the shoreline. Marine reptiles can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 179).

Marine turtles are vulnerable to the effects of oil at all life stages: eggs, hatchlings, juveniles, and adults. Several aspects of turtle biology and behaviour place them at risk, including a lack of avoidance behaviour, indiscriminate feeding in convergence zones, and large pre-dive inhalations (Ref. 180). Oil effects on turtles can include impacts to the skin, blood, digestive, and immune systems, and increased mortality due to oiling.

Shoreline hydrocarbons can impact turtles coming ashore at nesting beaches. Eggs may also be exposed during incubation, potentially resulting in increased egg mortality and detrimental effects on hatchlings. Hatchlings may be particularly vulnerable to toxicity and smothering as they emerge from the nests and make their way over the intertidal area to the water (Ref. 179).

As identified in Section 4.3.3.2, several reptile species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIAs intersect the Hydrocarbon Ecological EMBA:

- Flatback Turtle, Green Turtle, Hawksbill Turtle and Loggerhead Turtle (internesting buffer)
- Green Turtle and Loggerhead Turtle (nesting)

The deterministic model for the longest length of shoreline accumulation indicates that hydrocarbons concentrations  $\geq 100$  g/m<sup>2</sup> occurs at North of Muiron Island only. Shoreline accumulation would occur ~14 days after the spill commenced, with a maximum area of coverage of ~1 km and a duration of ~2 days. Therefore, as the extent and duration of exposure to shorelines and associated nesting areas is expected to be limited, the potential for environmental impacts would also be limited.

The deterministic model for the largest swept area of floating oil indicates that surface hydrocarbons concentrations  $\geq 10 \text{ g/m}^2$  are present for <3 days following the spill event, with a maximum area of coverage of  $\sim 11 \text{ km}^2$  occurring the same day the spill commenced. This deterministic scenario is considered most relevant for offshore waters and subsequent impacts to offshore BIA's. Using the Green Turtle internesting buffer BIA around North and South Muiron Island as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <1% of the entire BIA. This information indicates that if a vessel spill event occurred during the nesting season, it is not expected to impact entire local nesting populations.

The EPBC threatened Short-nosed Seasnake and Leaf-scaled Seasnake, and other EPBC marine listed seasnake species, may be present within the Hydrocarbon Ecological EMBA. Oil pollution has been identified as a pressure 'of potential concern' (Ref. 245) to seasnakes<sup>35</sup>. Sea snakes are susceptible to oil on the sea surface (Ref. 245; Ref. 246; Ref. 247). Being air breathers and obligate bottom feeders oil may be either inhaled or ingested (Ref. 245; Ref. 248). As described above, surface oil exposure above impact thresholds are predicted to be only be present for a short (<3 days) duration and over a relatively small (maximum  $\sim 11 \text{ km}^2$ ) area. Any exposure to benthic habitats is only predicted to occur within nearshore (<20 m water depth) areas. Using the shoreline exposure described above as indicative of oil presence in a nearshore environment, the duration and extent of exposure from a single spill event is predicted to be limited.

Based on an assessment of the predicted magnitude and duration of surface and shoreline exposure to oil, it is expected that only a small proportion of any marine reptiles population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Minor (5) and Moderate (4), respectively.

Fishes, including sharks and rays

Fish, including sharks and rays, may be exposed to hydrocarbons from an oil spill within the water column. Most fish do not break the sea surface, and therefore the risk from surface oil is not relevant; however, some shark species (including Whale Sharks) feed in surface waters, so there is also the potential for surface hydrocarbons to be ingested.

Potential effects include damage to the liver and lining of the stomach and intestine, and toxic effects on embryos (Ref. 181). Fish are most vulnerable to oil during embryonic, larval and juvenile life stages. However, very few studies have demonstrated increased mortality of fish as a result of oil spills (Ref. 182; Ref. 183; Ref. 184).

Demersal fish are not expected to be impacted given the presence of dissolved and entrained oil are predicted in the surface layers (<10 m water depth) only.

Pelagic free-swimming fish and sharks are not expected to suffer long-term damage from oil spill exposure because dissolved/entrained hydrocarbons are typically insufficient to cause harm (Ref. 185). Pelagic species are also generally highly mobile and as such are not expected to suffer extended exposure (e.g. >48–96 hours) at concentrations that would lead to chronic effects due to their patterns of movement. Near the sea surface, fish can detect and avoid contact with surface slicks meaning fish mortalities rarely occur in the event of a hydrocarbon spill in open waters (Ref. 186). Fish that have been exposed to dissolved hydrocarbons can eliminate the toxicants once placed in clean water; hence, individuals exposed to a spill would recover (Ref. 187). Marine fauna with gill-based respiratory systems, including Whale Sharks, are expected to have higher sensitivity to exposures of entrained oil.

As identified in Section 4.3.3.3, several fish species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIA intersects the Hydrocarbon Ecological EMBA:

- Whale Shark (foraging).

As these species are considered most sensitive to surface and entrained hydrocarbon exposures, deterministic analysis were utilised to understand the potential extent and duration of exposure.

The deterministic model for the largest swept area of floating oil indicates that surface hydrocarbons concentrations  $\geq 10 \text{ g/m}^2$  are present for <3 days following the spill event, with a maximum area of coverage of  $\sim 11 \text{ km}^2$  occurring the same day the spill commenced. This deterministic scenario is considered most relevant for offshore waters and subsequent impacts to offshore BIA's in those regions. Using the Whale Shark foraging BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to <0.1% of the entire BIA.

<sup>35</sup> The pressure analysis distinguished between oil pollution from shipping ('of less concern') and oil rigs ('of potential concern') (Ref. 245). Although the aspect source for this risk assessment is a spill from a vessel, the higher pressure concern has been adopted.



The deterministic model for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations  $\geq 100$  ppb are present for  $< 10$  days following the spill event, with a maximum area of coverage of  $\sim 110$  km<sup>2</sup> occurring  $\sim 4$  days after the spill commenced. This deterministic scenario is considered most relevant for offshore waters, and subsequent impacts to offshore BIA's in those regions. Using the Whale Shark foraging BIA as an example, modelling indicates that the extent of entrained exposures was predicted to be limited to  $< 0.1\%$  of the entire BIA

Based on an assessment of the predicted magnitude and duration of surface and entrained exposure to oil, it is expected that only a small proportion of any fish population would be exposed above the defined impact threshold. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

#### Seabirds and shorebirds

Birds may be exposed to hydrocarbons from an oil spill at the water surface (e.g. foraging, resting) or on the shoreline (e.g. roosting, nesting).

Birds that rest at the water's surface (e.g. shearwaters) or surface-plunging birds (e.g. terns, boobies) are particularly vulnerable to surface hydrocarbons (Ref. 168; Ref. 180). Damage to external tissues, including skin and eyes, can occur, along with internal tissue irritation in lungs and stomachs (Ref. 189). Acute and chronic toxic effects may result where the product is ingested as the bird attempts to preen its feathers (Ref. 188).

As identified in Section 4.3.3.4, several bird species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The Wedge-tailed Shearwater breeding BIA intersects the Hydrocarbon Ecological EMBA. As these species are most sensitive to surface and shoreline hydrocarbon exposures, deterministic analysis were utilised to understand the potential extent and duration of nearshore hydrocarbon exposures.

The deterministic model for the longest length of shoreline accumulation indicates that hydrocarbons concentrations  $\geq 100$  g/m<sup>2</sup> occurs at North of Muiron Island only. Shoreline accumulation would occur  $\sim 14$  days after the spill commenced, with a maximum area of coverage of  $\sim 1$  km and a duration of  $\sim 2$  days. This deterministic scenario is considered most relevant for nearshore waters and subsequent impacts to nearshore BIA's. Using the Wedge-tailed Shearwater breeding BIA surrounding the Pilbara coast as an example, modelling indicates that the extent of surface exposures was predicted to be limited to  $< 0.1\%$  of the entire BIA. This information indicates that if a vessel spill event occurred during the breeding season, it is not expected to impact entire local nesting populations.

The deterministic model for the largest swept area of floating oil indicates that surface hydrocarbons concentrations  $\geq 10$  g/m<sup>2</sup> are present for  $< 3$  days following the spill event, with a maximum area of coverage of  $\sim 11$  km<sup>2</sup> occurring the same day the spill commenced. This deterministic scenario is considered most relevant for offshore waters and subsequent impacts to offshore BIA's. Using the Wedge-tailed Shearwater breeding BIA surrounding the Pilbara coast as an example, modelling indicates that the extent of surface exposures was predicted to be limited to  $< 0.1\%$  of the entire BIA.

Based on an assessment of the predicted magnitude and duration of surface and shoreline oil, it is expected that only a small proportion of any bird population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

#### **Smothering of subtidal and intertidal habitats**

##### Coral

Direct contact of hydrocarbons to coral can cause smothering, resulting in a decline in metabolic rate, and may cause varying degrees of tissue decomposition and death. A range of impacts may also result from toxicity, including partial mortality of colonies, reduced growth rates, bleaching, and reduced photosynthesis (Ref. 190; Ref. 191).

As identified in Section 4.3.2, exposure to coastal habitats from the Hydrocarbon Ecological EMBA may occur. The Hydrocarbon Ecological EMBA interface with North Muiron Island.

The deterministic model for the longest length of shoreline accumulation indicates that hydrocarbons concentrations  $\geq 100$  g/m<sup>2</sup> occurs at North of Muiron Island only. Shoreline accumulation would occur  $\sim 14$  days after the spill commenced, with a maximum area of coverage of  $\sim 1$  km and a duration of  $\sim 2$  days. This deterministic scenario is considered most relevant for nearshore waters and subsequent impacts to nearshore corals or other intertidal habitats.

Therefore, as the extent and duration of exposure to nearshore environments is expected to be limited the potential for environmental impacts would also be limited.

Stochastic modelling did not predict floating oil concentrations  $\geq 10 \text{ g/m}^2$  in State Waters. Therefore, impacts from smothering within intertidal areas due to surface oil is not expected to occur and no further evaluation has been undertaken.

Based on an assessment of the predicted magnitude and duration of shoreline oil exposure, it is expected that only a small proportion of any coral habitat would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause smothering was ranked as Minor (5).

#### **Indirect impacts to fisheries**

As identified in Section 4.4.1, several commercial fisheries have management areas and recent fishing effort recorded within the Hydrocarbon EMBA. As identified in Section 4.4.2, some recreational fishing is expected to occur within the Hydrocarbon Ecological EMBA. Direct impacts commercially targeted fish species are expected to occur from in-water exposures.

Stochastic modelling predicted that dissolved and entrained oil above impact thresholds ( $\geq 50 \text{ ppb}$ ;  $\geq 100 \text{ ppb}$  respectively) was predicted to occur; however, was predicted to remain in the surface layers, with no exposure at depths  $> 10 \text{ m}$  below the surface predicted to occur during any season. As described above, very few studies have demonstrated increased mortality of fish as a result of oil spills. However, fish stocks may be especially vulnerable to oil spills close to the spawning grounds or egg and larval drift areas (Ref. 183; Ref. 261). Fish eggs and larvae are typically vulnerable to toxic oil compounds due to their small size, poorly developed membranes and detoxification systems as well as their position in the water column (Ref. 261). Despite potential mortality of eggs and larvae following a spill, subsequent depletion of adult wild fish stocks is rarely recorded (Ref. 243).

As identified in Section 4.4.1.1, the spawning grounds for the EPBC Act listed conservation dependent Southern Bluefin Tuna intersects with the Hydrocarbon Ecological EMBA. As such, the available deterministic analyses from the hydrocarbon spill modelling were utilised to understand the potential extent and duration of exposure to these spawning grounds.

The deterministic analysis for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations  $\geq 100 \text{ ppb}$  are present for  $< 10$  days following the spill event, with a maximum area of coverage of  $\sim 110 \text{ km}^2$  occurring  $\sim 4$  days after the spill commenced. Based on the spatial extent of the Southern Bluefin Tuna spawning ground ( $\sim 1,850,534 \text{ km}^2$ ), modelling indicates that the extent of entrained exposures was predicted to be limited to  $\sim 0.006\%$  of the entire spawning ground.

Although exposures above impact thresholds have the potential to affect the recruitment of targeted commercial and recreational fish species, any acute impacts are expected to be limited, given this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time. On this basis recruitment of targeted species is not expected to be impacted significantly given the extent of exposure to concentrations above impact thresholds are expected to be limited due to rapid dilution and dispersion upon release.

Spill events also have the potential to impact commercial fisheries through indirect impacts associated with tainting. Tainting is a change in the characteristic smell or flavour, and renders the catch unfit for human consumption or sale due to public perception. Tainting may not be a permanent condition but will persist if the organisms are continuously exposed; but when exposure is terminated, depuration will quickly occur (Ref. 192). Regardless of the small potential for tainting, customer perception that tainting has occurred may cause a larger impact than the direct impact itself. However, as this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time period, and the low persistence of the hydrocarbon in the environment, customer perceptions are not expected to be altered for a prolonged period.

Modelling predicts that inshore exposure would be limited, whilst offshore exposures are expected to dilute and disperse over a longer period of time. In both instances, it is expected that any impacts from this type of event would be short term in duration. Therefore, CAPL assesses the consequence to fisheries as Incidental (6).

#### **Reduction in amenity resulting in impacts to tourism and recreation**

Stochastic modelling predicts shoreline exposure  $\geq 10 \text{ g/m}^2$  (visible impact threshold) from a vessel spill event has the potential to occur along Muiron and Serrurier Islands and around the Point Cloates / Ningaloo Station area during summer months, depending on the environmental conditions at the time of the event. No shoreline contact was predicted to occur during other (winter, transitional) seasons.

Stochastic modelling did not predict surface exposure  $\geq 1 \text{ g/m}^2$  within State waters.

Deterministic model for longest length of oil ashore, predicts the maximum length of shoreline oil above the visible impact threshold ( $\geq 10 \text{ g/m}^2$ ) at any given time was  $\sim 9.6 \text{ km}$ , occurring  $\sim 6$  days after the spill commenced.

Shoreline loading can impact the visual amenity of coastal areas and limit beach access for users, impacting tourism and recreation activities. However, it is expected that any impacts from this type of event would be non-continuous, short term in duration and will result in a limited volume ashore.

On this basis, CAPL assesses the reduction in amenity resulting in impacts to tourism and recreation as Minor (5).

#### **Changes to values and sensitivities of marine protected areas**

Stochastic modelling predicts a low probability ( $< 7\%$ ) of entrained exposure  $\geq 100 \text{ ppb}$  within the Gascoyne Marine Park (Table 7-11). Modelling also predicted a low ( $\leq 1\%$ ) probability of shoreline exposure above impact threshold ( $\geq 10 \text{ g/m}^2$ ) within the Pilbara islands group. No interaction with seabed or surface exposure  $\geq 1 \text{ g/m}^2$  within any marine protected area was predicted to occur.

The natural values of these Marine Parks include species listed as threatened, migratory, marine, or cetacean under the EPBC Act, as well as any identified BIAs for regionally significant marine fauna. Social and economic values of the Marine Parks include fishing and tourism and recreation.

The consequence evaluations to marine fauna and commercial fisheries are provided above.

Given the expected behaviour and weathering of the oil, limited spatial and temporal exposure to marine fauna or commercial fish species above impact exposure thresholds, the potential impacts of a vessel spill event to the values and sensitivities of Marine Parks have been ranked as Minor (5).

#### **Changes to cultural heritage value**

As discussed in Section 4.6, there are heritage listed places or sites within the Hydrocarbon EMBA, including World and National heritage listed Ningaloo Coast (within both Hydrocarbon Ecological and Social EMBA), a First Nation Heritage site around Ningaloo Station and a Native Title Determination area around the Ningaloo Coast (both within the Hydrocarbon Social EMBA only).

Protected UCH sites have been identified within the Hydrocarbon EMBA; these sites are related to shipwrecks, with no other types (e.g. aircraft or other artefacts) identified (Section 4.6.2). Given known sea level history, parts of the Hydrocarbon EMBA (e.g. those  $< 125 \text{ m}$  water depth), would have been emergent land during the extended history of First Nations occupation of Australia. At the time of writing this EP, CAPL understands through consultation with the relevant First Nations people and/or representative bodies that there are no known artefacts or specific sites of cultural values associated with the seabed within the Hydrocarbon EMBA (Section 4.6.2 and Section 6). Stochastic modelling did not predict interaction with seabed in offshore waters. Therefore, no impacts to seabed-based UCH (e.g. shipwrecks or archaeology), including First Nations UCH, are expected.

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. It is understood that the term 'Country' refers to more than just a geographical area, and includes values, places, resources, stories, and cultural obligations associated with that geographical area (Ref. 138; Ref. 313). Specific tangible values of Sea Country identified through literature and/or consultation include:

- marine fauna (e.g. whales, dugongs, turtles)
- offshore islands and parts of the mainland coast (e.g. Ningaloo Coast)
- marine resources (e.g. fish).

The consequence evaluations to marine fauna (including fish) are provided above and were assessed as having a moderate environmental impact. Further, as described in the above evaluations, if an unplanned hydrocarbon (marine fuel) release did occur it is not expected to have an effect at population-levels.

BTAC identified that the Thalanyji people have a deep connection to a number of the Pilbara inshore islands (Table 4-14). Depending on the environmental conditions at the time of the spill event, of the named islands within the Hydrocarbon EMBA, some Pilbara islands (i.e. Muiron, South Muiron, North Muiron and Serrurier Islands) may be exposed to shoreline loading above the visible impact threshold ( $\geq 10 \text{ g/m}^2$ ) and the ecological impact threshold ( $\geq 100 \text{ g/m}^2$ ). The consequence evaluations to shoreline habitats and marine fauna are provided above and were assessed as having a moderate environmental impact.

Stochastic model predicted shoreline exposure  $\geq 10 \text{ g/m}^2$  from a vessel spill event around the Ningaloo Station area and some Pilbara islands (Table 7-11). Shoreline would be contacted  $\sim 19.7$  days and  $\sim 7.46$  days after the spill commenced and the maximum volume of oil was  $4.3 \text{ m}^3$  and  $4.6 \text{ m}^3$  at Ningaloo station area and Muiron Island, respectively. Shoreline exposure  $\geq 100 \text{ g/m}^2$  was predicted to occur at North Muiron Island only. Shoreline accumulation would occur  $\sim 14$  days after the spill commenced, with a maximum area of coverage of  $\sim 1 \text{ km}$  and a duration of  $\sim 2$  days. There is a low probability ( $\leq 1\%$ ) of shoreline contact during summer. No shoreline contact was predicted to occur during winter or transitional seasons.

Shoreline loading can impact the visual amenity of coastal areas and limit beach access for users. However, if shoreline contact occurs (highly unlikely), it is expected that any impacts from this type of event would be non-continuous short term in duration and will result in a limited volume ashore. As such, given the volume, type of oil (marine fuel) and predicted weathering, no prolonged impact pathway to a change in access to Country is anticipated.

Intangible cultural heritage refers to the “practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

Given the volume, type of oil (marine fuel) and predicted weathering, no prolonged impact pathway to a change in access to Country is anticipated. The consequence evaluations to marine fauna are provided above and were assessed as having a moderate environmental impact to a proportion of the population—if they are present within the area at the time of a spill. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected in the long-term from an unplanned hydrocarbon (marine fuel) release within the OA.

Given the expected behaviour and weathering of the oil, limited spatial and temporal exposure, only a relatively small area is expected to be exposed due to a single spill event. However, it is acknowledged that the sea and coast that may be exposed could represent important cultural values. Therefore, the potential impacts of oil to cultural heritage values was ranked as Moderate (4).

#### ALARP decision context justification

Support vessels commonly operate near each other during offshore surveys, and these activities are well-practised nationally and internationally.

The control measures to manage the risk associated with vessel collisions are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL. Specifically, CAPL has worked in the region for over 10 years, and has a demonstrated understanding of industry requirements and their operational implementation in these areas.

During relevant persons consultation, no objections or claims were raised regarding vessel collision scenarios arising from the activity.

The risks associated with a vessel collision are considered lower-order risks in accordance with Table 5-3. As such, CAPL would apply ALARP Decision Context A for this aspect.

#### Good practice control measures

Control measure	Description
Marine Standard	<p>Chevron’s Marine Standard (Ref. 39) ensures that various legislative requirements are met. These include:</p> <ul style="list-style-type: none"> <li>crew meet the minimum standards for safely operating a vessel, including watchkeeping requirements</li> <li>navigation, radar equipment, and lighting meet industry standards.</li> </ul> <p>These requirements will ensure that direct MODU and vessel radio contact is available to other marine users operating in this area to enable ease of communication in highlighting risks and safety exclusion zone.</p>
Maritime safety information	<p>Maritime safety information, such as AUSCOAST navigational warnings, are issued by the JRCC Australia, part of AMSA.</p>

	<p>Under the <i>Navigation Act 2012</i> (Cth), the AHO is also responsible for maintaining and disseminating navigational charts and publications, including providing safety-critical information to mariners (including any change to prohibited/restricted areas, obstructions to surface navigation, etc.) via the Notice to Mariners system. Notice to Mariners can be permanent or temporary notifications.</p> <p>Maritime safety information (radio-navigation warnings and/or Notice to Mariners) will be issued; thus, enabling other marine users to also safely plan their activities.</p>	
SOPEP / SMPEP	<p>MARPOL 73/78 Annex I and Marine Order 91 (Marine pollution prevention – oil) requires that each vessel has an approved SOPEP in place.</p> <p>To prepare for a spill event, the SOPEP details:</p> <ul style="list-style-type: none"> <li>• response equipment available to control a spill event</li> <li>• review cycle to ensure that the SOPEP is kept up to date</li> <li>• testing requirements, including the frequency and nature of these tests.</li> </ul> <p>In the event of a spill, the SOPEP details:</p> <ul style="list-style-type: none"> <li>• reporting requirements and a list of authorities to be contacted</li> <li>• activities to be undertaken to control the discharge of oil</li> <li>• procedures for coordinating with local officials.</li> </ul>	
OPEP	<p>Under the OPGGS(E)R, NOPSEMA require that the petroleum activity has an accepted OPEP in place before commencing the activity. If a vessel collision occurs, the OPEP will be implemented.</p> <p>CAPL has developed an OPEP (Ref. 2) to support all spill response activities across all its assets.</p>	
OSMP	<p>The OSMP details the arrangements and capability in place for operational and scientific monitoring.</p> <p>Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required).</p> <p>CAPL has developed an OSMP (Ref. 3) to support all spill monitoring activities across all its assets.</p>	
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPL's understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	Based on industry data, vessel collisions are considered rare, with only 3% of all marine incidents that occurred in Australian waters between 2005 and 2012 associated with a vessel collision event.	



	<p>As most vessel collisions involve the LOC of a forward tank, which are generally double-lined and smaller than other tanks, the loss of the maximum credible volumes used in this scenario is not expected.</p> <p>Considering the inherent low likelihood of a collision occurring, the safeguards in place, and enactment of the OPEP, the potential likelihood of causing the consequences described in this section is Remote (5).</p>										
<b>Risk level</b>	Low (8)										
<b>Determination of acceptability</b>											
<b>Principles of ESD</b>	<p>The potential risks associated with this aspect would be short term, apply to some individuals, and consequently is not expected to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Moderate (4).</p> <p>Therefore, no additional evaluation against the Principles of ESD is required.</p>										
<b>Relevant environmental legislation and other requirements</b>	<p>Legislation and other requirements considered relevant to this aspect include:</p> <ul style="list-style-type: none"> <li>• <i>Navigation Act 2012 (Cth)</i></li> <li>• Marine Order 91, Marine Pollution Prevention – oil</li> <li>• Marine Order 30, Prevention of collisions</li> <li>• <i>Conservation Management Plan for the Blue Whale 2015–2025</i> (Ref. 59)</li> <li>• <i>Conservation Advice Balaenoptera borealis Sei Whale</i> (Ref. 58)</li> <li>• <i>Conservation Advice Balaenoptera physalus Fin Whale</i> (Ref. 57)</li> <li>• <i>Recovery Plan for Marine Turtles in Australia</i> (Ref. 159)</li> <li>• <i>Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)</i> (Ref. 226)</li> <li>• <i>Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)</i> (Ref. 227)</li> <li>• <i>Conservation Management Plan for the Southern Right Whale</i> (Ref. 286)<sup>36</sup></li> <li>• <i>Conservation Advice Rhincodon typus Whale Shark</i> (Ref. 161)</li> <li>• <i>North-west Marine Parks Network Management Plan</i> (Ref. 189).</li> </ul> <table border="1"> <thead> <tr> <th>Requirement</th> <th>Demonstration</th> </tr> </thead> <tbody> <tr> <td><i>Navigation Act 2012 (Cth)</i> Notice to Mariners.</td> <td>Requirement to issue a Notice to Mariners has been incorporated into the <b>maritime safety information</b> control measure.</td> </tr> <tr> <td><i>Marine Order 30</i> Gives effect to the Prevention of Collisions Convention.</td> <td>Requirements for navigation, lights, and signals have been incorporated into the <b>Marine Standard</b> control measure.</td> </tr> <tr> <td><i>Navigation Act 2012 (Cth)</i> and <i>Protection of the Sea (Prevention of Pollution from Ships) Act</i> Marine Order 91 and Annex I of MARPOL 73/78.</td> <td>Requirements for a vessel to have a SOPEP have been incorporated into the <b>SOPEP</b> control measure</td> </tr> <tr> <td><i>Conservation Management Plan for the Blue Whale 2015–2025</i> No specific management action identified.</td> <td>N/A.</td> </tr> </tbody> </table>	Requirement	Demonstration	<i>Navigation Act 2012 (Cth)</i> Notice to Mariners.	Requirement to issue a Notice to Mariners has been incorporated into the <b>maritime safety information</b> control measure.	<i>Marine Order 30</i> Gives effect to the Prevention of Collisions Convention.	Requirements for navigation, lights, and signals have been incorporated into the <b>Marine Standard</b> control measure.	<i>Navigation Act 2012 (Cth)</i> and <i>Protection of the Sea (Prevention of Pollution from Ships) Act</i> Marine Order 91 and Annex I of MARPOL 73/78.	Requirements for a vessel to have a SOPEP have been incorporated into the <b>SOPEP</b> control measure	<i>Conservation Management Plan for the Blue Whale 2015–2025</i> No specific management action identified.	N/A.
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<i>Conservation Management Plan for the Blue Whale 2015–2025</i> No specific management action identified.	N/A.										

<sup>36</sup> A draft National Recovery Plan for the Southern Right Whale (Ref. 240) was release for comment in early-2023; a finalised version of this Recovery Plan is not yet available

	<p><i>Conservation Advice Balaenoptera borealis Sei Whale</i></p> <p>No specific conservation action identified.</p>	N/A.
	<p><i>Conservation Advice Balaenoptera physalus Fin Whale</i></p> <p>No specific conservation action identified.</p>	N/A.
	<p><i>Conservation Advice Rhincodon typus Whale Shark</i></p> <p>No specific conservation action identified.</p>	N/A.
	<p><i>Recovery Plan for Marine Turtles in Australia</i></p> <p><u>Management action A4.2:</u> Ensure spill risk strategies and response programs adequately include management for marine turtles and their habitats, particularly in reference to 'slow to recover habitats', e.g. nesting habitat, seagrass meadows or coral reefs.</p>	<p>Assessment of spill risk strategies is within scope of the OPEP (Ref. 2).</p> <p>Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 3).</p> <p>Therefore, the DS-1 exploration drilling is not considered to be inconsistent with the <i>Recovery Plan for Marine Turtles in Australia</i>.</p>
	<p><i>Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)</i></p> <p>No specific conservation action identified.</p>	N/A
	<p><i>Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)</i></p> <p>No specific conservation action identified.</p>	N/A
	<p><i>Conservation Management Plan for the Southern Right Whale 2011–2021</i></p> <p>No specific management action identified.</p>	N/A
	<p><i>North-west Marine Parks Network Management Plan</i></p> <p>The Plan requires that “[a]ctions required to respond to oil pollution incidents, including environmental monitoring and remediation, in connection with mining operations authorised under the OPGGS Act may be conducted in all zones. The Director should be notified in the event of an oil pollution incident that occurs within, or may impact upon, an Australian Marine Park and, so far as reasonably practicable, prior to a response action being taken within a marine park.”</p>	<p>The Gascoyne Marine Park is a multiple use zone (IUCN VI). The control measures identified for the management of an unplanned release provide for the response to, and environmental monitoring and remediation of, an oil pollution incident.</p> <p>Requirements to report oil pollution incidents that occur within, or may impact upon, an AMP is included in Section 8.4.2.</p> <p>Therefore, the DS-1 exploration drilling is not considered to be inconsistent with the <i>North-west Marine Parks Network Management Plan</i>.</p>
<b>Internal context</b>	The following CAPL management processes or procedures were deemed relevant for this aspect:	



	<ul style="list-style-type: none"> <li>• Marine Standard <i>Non Tankers: Corporate OE Standard</i> (Ref. 39)</li> <li>• OPEP (Ref. 2)</li> <li>• OSMP (Ref. 3).</li> </ul> <p>Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>										
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding a vessel collision event arising from the activity.										
<b>Defined acceptable level</b>	<p>These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>However, in alignment with Section 5.6.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:</p> <table border="1"> <thead> <tr> <th>Plan</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td><i>Conservation Management Plan for the Blue Whale 2015–2025</i></td> <td> <p><u>Recovery objective</u>: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p> </td> </tr> <tr> <td><i>Conservation Management Plan for the Southern Right Whale 2011–2021</i></td> <td> <p><u>Recovery objective</u>: Minimise anthropogenic threats to allow the conservation status of the southern right whale to improve so that it can be removed from the threatened species list under the EPBC Act.</p> <p><u>Interim objective 5</u> Anthropogenic threats are demonstrably minimised.</p> </td> </tr> <tr> <td><i>Recovery Plan for Marine Turtles in Australia</i></td> <td> <p><u>Recovery objective</u>: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 3</u>: Anthropogenic threats are demonstrably minimised.</p> </td> </tr> <tr> <td><i>North-west Marine Parks Network Management Plan 2018</i></td> <td>As per Section 4.5.1.</td> </tr> </tbody> </table> <p>Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:</p> <ul style="list-style-type: none"> <li>• impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species</li> <li>• no adverse change to the values of the Australian Marine Park.</li> </ul> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level. In particular that by managing the unplanned release, that the risk to marine fauna and/or values of the AMP are also subsequently managed.</p>	Plan	Objective	<i>Conservation Management Plan for the Blue Whale 2015–2025</i>	<p><u>Recovery objective</u>: Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p>	<i>Conservation Management Plan for the Southern Right Whale 2011–2021</i>	<p><u>Recovery objective</u>: Minimise anthropogenic threats to allow the conservation status of the southern right whale to improve so that it can be removed from the threatened species list under the EPBC Act.</p> <p><u>Interim objective 5</u> Anthropogenic threats are demonstrably minimised.</p>	<i>Recovery Plan for Marine Turtles in Australia</i>	<p><u>Recovery objective</u>: The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 3</u>: Anthropogenic threats are demonstrably minimised.</p>	<i>North-west Marine Parks Network Management Plan 2018</i>	As per Section 4.5.1.
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<i>North-west Marine Parks Network Management Plan 2018</i>	As per Section 4.5.1.										

Environmental performance outcome	Environmental performance standard	Measurement criteria
<p>No unplanned release of hydrocarbons or hazardous materials to the environment during the petroleum activity.</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>Marine Standard</b> MODU and vessels will meet the crew competency, navigation equipment, and radar requirements of the Marine Standard.</p>	<p>Records indicate that MODU and vessels meet the crew competency, navigation equipment, and radar requirements of the Marine Standard.</p>
	<p><b>Maritime safety information</b> Notify relevant agency of activities, vessel movements, and requested safety exclusion zone, to enable them to generate radio-navigation warnings and/or Notice to Mariners prior to commencing offshore activities.</p>	<p>Record of lodgement of notification to relevant agency.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	<p>Relevant persons consultation records.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	<p>As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.</p>
<p>Reduce the risk of impacts to the environment from the unplanned release of hydrocarbons or hazardous materials during the petroleum activity.</p>	<p><b>SOPEP</b> Marine vessels &gt;400 T will carry on board a SOPEP in accordance with MARPOL 73/78 Annex I – Prevention of Oil Pollution.</p>	<p>OVIS report / ABU Marine OE Inspection Checklist confirms an approved SOPEP is on board marine vessels &gt;400 T.</p>
	<p><b>SOPEP</b> In the event of a vessel-based spill event, emergency response activities will be implemented in accordance with the vessel SOPEP (or equivalent).</p>	<p>Records show drills conducted in accordance with SOPEP.</p> <p>Records confirm that emergency response activities were implemented in accordance with the vessel SOPEP in the event of a vessel-based spill.</p>
	<p><b>OPEP</b> In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, response activities are implemented in accordance with the <i>ABU Consolidated OPEP</i>.</p>	<p>Records confirm the OPEP has been activated and response activities implemented.</p>

	<p><b>OPEP</b> CAPL will maintain the following minimum preparedness capability for the duration of the petroleum activity:</p> <ul style="list-style-type: none"> <li>number and type of response packages as identified in Table 7-15 (vessel collision event).</li> </ul>	<p>Records confirm that CAPL has arrangements in place prior to the petroleum activity commencing to access the minimum number and type of responses packages.</p>
	<p><b>OPEP—OSRO Capability Arrangements</b> CAPL shall maintain service agreements with oil spill response organisations (as per Section 8.3.8.7.3) that have capabilities to support a response to an oil spill event for the duration of the petroleum activity.</p>	<p>Records confirm that service agreements are in place prior to, and for the duration of, the petroleum activity.</p>
	<p><b>OPEP—Mutual Aid Capability Arrangements</b> CAPL shall maintain membership to mutual aid frameworks (as per Section 8.3.8.7.4) that have capabilities to support a response to an oil spill event for the duration of the petroleum activity.</p>	<p>Records confirm that memberships to mutual aid frameworks agreements are in place prior to, and for the duration of, the petroleum activity.</p>
<p><b>OPEP</b> Refer to the <i>ABU Consolidated OPEP</i> for environmental performance outcomes, standards and measurement criteria related to emergency management, emergency preparedness, and each response tactic.</p>		
	<p><b>OSMP</b> In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, the OSMP will be activated, and:</p> <ul style="list-style-type: none"> <li>the components of the operational monitoring program are initiated<sup>37</sup> once the specific initiation criteria are met</li> <li>the components of the scientific monitoring program are initiated once the specific initiation criteria are met</li> <li>operational and scientific monitoring components are continued until respective termination criteria are met.</li> </ul>	<p>Records confirm the OSMP has been activated.</p> <p>Records confirm that once initial criteria have been met, operational monitoring programs were initiated.</p> <p>Records confirm that once initial criteria have been met, scientific monitoring programs were initiated.</p> <p>Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased.</p>
	<p><b>OSMP</b> Capability requirements are maintained in the <i>ABU OSMP Capability Register</i>, and updated every six months.</p>	<p>Internal personnel capability is documented every six months in the <i>ABU OSMP Capability Register</i>.</p> <p>External contractors self-assess their capability against the requirements and provide a Statement of Personnel Capability and Readiness every six months.</p>

<sup>37</sup> As per Section 2.1 of the OSMP, for this plan initiation means starting preparation for implementation.

	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>In the event of a spill occurring, CAPL will engage with relevant First Nations people and/or representative bodies</p>	<p>Relevant persons consultation records</p>
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**7.15 Unplanned release—well control event**

**7.15.1 Scenario**

Drilling of a subsea well introduces the potential for an unplanned release of gas and condensate. CAPL categorise well control into two categories:

- loss of well integrity—where integrity of the well has been compromised, but the well remains under control (which would prompt a Level 1 or Level 2 well control emergency response)
- loss of effective well control—where control of the well has been lost (which would require a Level 3 well control emergence response).

The WOMP (Ref. 4) identifies that well control events are a feasible risk during well construction, suspension, or abandonment activities and have the potential to occur by:

- dropped objects onto the well envelope (potential damage to wellhead)
- mechanical failure (including failure of wellhead components or cement plugs)
- corrosion (corrosion leading to loss of casing integrity)
- loss of effective well control (including hydrocarbon influx or breach of well fluids to surface)
- loss of effective well control (unable to shear pipe in an emergency situation)
- loss of effective well control (loss of hydrostatic barrier)
- loss of station keeping (anchoring/mooring failure with potential damage to wellhead)
- operating error (such as incorrect operation of well control systems).

As detailed in the WOMP, risk controls (e.g. casing and formation integrity testing, well control system standards) are in place to mitigate well control events during well construction activities.

As detailed in the WOMP, primary and secondary barriers (e.g. hydrostatic volume and BOP) are in place to mitigate well integrity impacts during well suspension and abandonment activities.

Based upon the feasible risks identified during activities within scope of this EP (i.e. well construction, well suspension, well abandonment), a loss of effective well control (LOWC) was deemed to present the worst-case credible spill scenario and has been used as the basis for the following risk assessment.

**7.15.1.1 Loss of well control volume**

The *ABU Wells Worst Case Discharge Calculation and Relief Well Planning Standard Operational Procedure* (Ref. 278) describes the methodology for

estimating a worst case discharge (WCD) for a loss of effective well control event. The methodology aligns with the *Australian Offshore Titleholders Source Control Guideline* (Ref. 268) and the *Society of Petroleum Engineers (SPE) Technical Report – Calculation of Worst-Case Discharge* (Ref. 275).

As the exploration well is anticipated to have high gas flow rates, the WCD calculations consider internal resistance from turbulent (Non-Darcy) flow. The basis for the WCD calculation also includes the following well flow characteristics:

- open hole across all flow zones
- no mechanical obstruction in the hole (e.g. no pipe, tools, or debris to choke the flow)
- no sand bridging of the wellbore, hydrates, or washouts
- zero mechanical skin or geometric skin
- no BOP attached with full WCD fluid evacuation to mudline.

Based on the above WCD calculation method, a subsea release of 97 m<sup>3</sup>/day (614 bbl/day) of condensate was determined for the DS-1 exploration well.

#### 7.15.1.2 Loss of well control duration

Response time models (RTMs) for DS-1 exploration well indicate it is reasonable to expect that the DS-1 well could be killed, via drilling a relief well, within an approximate 13-week (90 days) period. Therefore, this 90 days was used as the duration for the worst case credible spill scenario. The RTMs take into account the preparation, assessment, and approval of the Safety Case revisions for the relief well rig and support vessels. A summary of the key tasks associated with drilling a relief well (and incorporated into the RTMs) are:

- incident reporting and notifications, and activation of Emergency Management Team (EMT)
- source and contract a relief well rig, rig suspends operations, prepare and mobilisation to site
- preparation, assessment, and approval of Safety Case revisions for the relief well rig and support vessels
  - timing for the assessment and approval of the Safety Case revisions and WOMP is based on undertaking this concurrently with the relief well rig suspending operations, preparing, and mobilising to site
  - preference would be for a relief well rig that has a NOPSEMA-accepted Safety Case in place.
- transport equipment and materials ready for deployment
- position, drill well, intersect, and dynamically kill DS-1 well.

The RTM is based on a rig being available on the NWS, and activated by the APPEA MoU (refer to Section 8.3.8.7 for oil spill response resourcing arrangements). Further details on the RTM are provided in the *Source Control Emergency Response Plan (SCERP)* (Ref. 195). The SCERP (see Section 8.3.8.1.1) has been specifically developed to align with relevant industry guidance and standards, including the Australian Energy Producers (AEP) *Australian Offshore Titleholders Source Control Guideline* (Ref. 268), IOGP's *Source Control Emergency Response Planning Guide for Subsea Wells*

(Ref. 276) and NOPSEMA’s *Source control planning and procedures Information Paper* (Ref. 277).

### 7.15.1.3 Hydrocarbon type

As described in Section 3.1.4, CAPL identified the most appropriate analogue as Isoceles-1, a previous dry gas exploration well located ~4 km to the east of DS-1. A partial assay report for the Isoceles-1 condensate was to inform the condensate characteristics used in the modelling. Gorgon condensate was selected from the SIMAP database and used to inform the condensate characteristics used in the modelling.

### 7.15.2 Spill modelling

CAPL commissioned RPS to conduct spill modelling to inform the risk assessment associated with loss of effective well control event at the DS-1 exploration well (Ref. 193).

The spill modelling was undertaken using a higher discharge rate (~105 m<sup>3</sup>/day) in comparison to the WCD (~97 m<sup>3</sup>/day) estimated for the DS-1 well; therefore the modelling is considered appropriate and conservative for use in the subsequent risk assessment. Two models were used as part of the spill modelling: OILMAP-DEEP was used to simulate the nearfield multiphase plume rise dynamics from the subsea release, and a three-dimensional oil spill model (SIMAP) was used to simulate the drift, spread, weathering and fate of the spilled oil. Modelling was conducted using a stochastic approach, where multiple simulations (using the same spill parameters) were conducted, but under varying meteorological and oceanographic conditions (Ref. 193).

Table 7-12 summarises the model settings; Table 7-13 summarises the hydrocarbon properties for condensate; and Table 7-10 (in Section 7.14) describe the environmental impact thresholds.

**Table 7-12 Well control event spill scenario model settings**

Parameter	Details
Release Location	DS-1 exploration well
Latitude	20°28'37.60" S
Longitude	114°25'3.70" E
Water Depth	~958 m
Oil type	Condensate
Simulation spill type	Subsea
Simulation spill volume	9,428 m <sup>3</sup>
Simulation spill duration	90 days
Total simulation duration	104 days
Number of randomly selected spill simulation start times	100 per season (300 total)
Seasons modelled	Summer (September to the following March) Transitional (April and August) Winter (May to July)

**Table 7-13 Physical properties and boiling point ranges for condensate**

Characteristic	Value			
Density	847.8 kg/m <sup>3</sup> (at 15 °C)			
Dynamic viscosity	2.8 cP (at 20 °C)			
Pour point	-9 °C			
API gravity	35.3 API			
Classification	Group II, light persistent oil			
Boiling point	Volatile <180 °C	Semi-volatile 180–265 °C	Low volatility 265–380 °C	Residual >380 °C
% total	33.3%	28.5%	32.3%	5.9%
% aromatics	10.3%	4.0%	9.9%	–

### 7.15.2.1 Weathering and fate

Gorgon condensate is light persistent oil, with a density of 847.8 kg/m<sup>3</sup>, an API of 35.3, and a low pour point (–9 °C) (Table 7-13). The low viscosity (2.8 cP) indicates that this oil will spread quickly when released and will form a thin film on the sea surface, increasing the evaporation rate.

Gorgon condensate is a mixture of volatile and persistent hydrocarbons with high proportions of volatile and semi-volatile components. In favourable conditions, ~33.3% of the Gorgon condensate mass should evaporate within the first 12 hours (boiling point <180 °C); a further ~28.5% should evaporate within the first 24 hours (boiling point 180°C–265 °C); and an additional ~32.3% should evaporate over several days (boiling point 265°C–380 °C). Approximately 5.9% of the oil mass is shown to be persistent.

The whole oil has no asphaltene content, indicating no propensity for the mixture to take up water to form water-in-oil emulsion over the weathering cycle (Ref. 193).

Soluble, aromatic, hydrocarbons contribute approximately 24.2% by mass of the whole oil (Ref. 193). Approximately 10.3% by mass is highly soluble and highly volatile, and ~4.0% by mass has semi-volatility. These compounds dissolve more slowly but tend to persist in soluble form for longer. Discharge onto the water surface will favour the process of evaporation over dissolution under calm sea conditions, but increased entrainment of oil and dissolution of soluble compounds can be expected under breaking wave conditions (Ref. 193).

### 7.15.2.2 Modelling outputs

Stochastic modelling outputs from RPS (Ref. 193) are summarised in Table 7-14 having regard to the relevant values and sensitivities within the EMBA as identified in Section 4.

For the 9,428 m<sup>3</sup> subsea release of condensate at DS-1:

- The maximum distance from the release location to the ≥1 g/m<sup>2</sup> surface impact thresholds was ~13 km north-northeast (winter) and ~1.2 km east-northeast (summer), respectively. No surface exposure above the ≥10 g/m<sup>2</sup> threshold was predicted to occur during any season.
- no shoreline accumulation was predicted during the transitional and winter seasonal conditions. The probability of accumulation on any shoreline at



$\geq 10$  g/m<sup>2</sup> during summer was 6%, while the minimum time before shoreline accumulation was 12.38 days and the maximum volume of oil ashore  $\geq 10$  g/m<sup>2</sup> threshold was 5.5 m<sup>3</sup>. No shoreline accumulation at  $\geq 100$  g/m<sup>2</sup> or  $\geq 1,000$  g/m<sup>2</sup> was predicted to occur. Dissolved and entrained oil at  $\geq 50$  ppb and  $\geq 100$  ppb impact thresholds respectively, was predicted to occur; however, dissolved and entrained oil was predicted to remain in the surface layer with no exposure at depths  $> 10$  m below the surface predicted to occur during any season.

**Table 7-14: LOWC spill modelling EMBA receptor exposure summary**

Sensitivity	Name	Surface <sup>^</sup>		In-water (dissolved) <sup>^</sup>	In-water (entrained) <sup>^</sup>	Shoreline <sup>^</sup>	
		≥1 g/m <sup>2</sup>	≥10 g/m <sup>2</sup>	≥50 ppb	≥100 ppb	≥10 g/m <sup>2</sup>	≥100 g/m <sup>2</sup>
		(probability of exposure, minimum time to exposure)		(probability of exposure)	(probability of exposure)	(probability of exposure, minimum time to exposure, mean length of shoreline)	
AMP	Gascoyne	—	—	1%	—	—	—
State protected area	Pilbara Islands Group	—	—	—	—	6%, 12.4-15.4 days, 3 km	—
KEF	Ancient coastline at 125 m depth contour	—	—	0-1%	—	—	—
	Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	—	—	0-1%	—	—	—
	Continental Slope Demersal Fish Communities	100%, 0.21-0.25 days	—	4-5%	94-99%	—	—
	Exmouth Plateau	—	—	1%	—	—	—
World Heritage Properties / National Heritage Places	The Ningaloo Coast <i>(inferred from Cape Range IBRA, Exmouth shoreline)</i>	—	—	—	—	5%, 30.4 days, 1.7 km	—
Commonwealth Heritage Properties	Ningaloo Marine Area – Commonwealth Waters <i>(inferred from Ningaloo IMCRA)</i>	—	—	—	—	—	—

<sup>^</sup> Ranges in values shown are due to the different results between seasons.

### 7.15.3 Risk assessment

Source			
Activities identified as having the potential to result in a loss of effective well control event are: <ul style="list-style-type: none"> <li>drilling—unplanned hydrocarbon influx, breach of well fluids, or loss of hydrostatic barrier</li> </ul>			
Potential impacts and risks			
Impacts	C	Risks	C
NA	–	The potential environmental impacts associated with hydrocarbon exposures from a LOWC are: <ul style="list-style-type: none"> <li>marine pollution resulting in sublethal or lethal effects to marine fauna</li> <li>indirect impacts to fisheries</li> <li>reduction in amenity resulting in impacts to tourism and recreation.</li> <li>changes to values and sensitivities of Australian Marine Parks</li> <li>changes to cultural heritage values.</li> </ul>	5  6  5  5  4
Consequence evaluation			
<p><b>Marine pollution resulting in sublethal or lethal effects to marine fauna</b></p> <p><u>Marine mammals</u></p> <p>Marine mammals may be exposed to hydrocarbons from an oil spill at the water surface or within the water column. Marine mammals can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 162; Ref. 178).</p> <p>Instances of an avoidance response (i.e. avoiding spilled hydrocarbons) have been identified for several species of cetacean, suggesting that cetaceans may have the ability to detect and avoid surface slicks (Ref. 167). However, detection seems to depend on oil thickness and colour (Ref. 260). Observations during oil spill events (DWH and the Mega Borg oil spills) have recorded whales and dolphins travelling through and feeding in oil slicks (Ref. 258, Ref. 259, Ref. 260).</p> <p>Direct contact with hydrocarbons may result in skin and eye irritation, burns to mucous membranes of eyes and mouth, and increased susceptibility to infection (Ref. 169). The effect of oil on cetacean skin is likely minor and temporary (Ref. 169) due to the skins effectiveness as a barrier. However it was observed that existing skin lesions, cuts, or abrasions could allow oil to be absorbed more readily into the bloodstream (Ref. 258). French-McCay (Ref. 166) identifies that a <math>\geq 10 \text{ g/m}^2</math> oil thickness threshold has the potential to impart a lethal dose to the species; however, also estimates a probability of 0.1% mortality to cetaceans if they encounter these thresholds based on the proportion of the time spent at surface.</p> <p>Dugongs have smooth skin surfaces and therefore are less likely to be affected by oil adhering to their skin. If surfacing in a slick, the Dugongs may foul their sensory hairs (around their mouths) or their eyes; these could lead to inflammation/infections that then affect their ability to feed or breed (Ref. 244). Dugongs may also ingest oil (directly, or indirectly via oil-affected seagrass), and depending on the amount and type of oil, the effects could be short-term to long-term/chronic (e.g. organ damage). However, it is noted that reports on oil pollution damage to Dugongs is rare (Ref. 243).</p> <p>The physical impacts from ingested hydrocarbons with subsequent lethal or sublethal impacts are possible; however, the susceptibility of cetaceans varies with feeding habits. Baleen whales are not particularly susceptible to ingestion of oil in the water column as they feed by skimming the surface (i.e. they are more susceptible to surface slicks). Toothed whales and dolphins may be susceptible to ingestion of dissolved and entrained oil as they gulp feed at depth. As highly mobile species, in general it is not expected that these animals will be constantly exposed to concentrations of hydrocarbons in the water column for continuous durations (e.g. &gt;48–96 hours) that would lead to chronic effects.</p> <p>Studies have shown little impact on Bottlenose Dolphins after hydraulic and mineral oil immersion and ingestion, although there was evidence of temporary skin damage in dolphins and a Sperm Whale from contact with various oil products including crude oil (Ref. 169; Ref. 167).</p>			

During the DWH spill, Bottlenose Dolphins were observed with oil adhered to the skin, resulting in skin lesions from prolonged exposure (Ref. 259). After the DWH spill, adverse health effects, including lung and adrenal disease, reproductive failure, mortality, and poor body condition were also identified in Bottlenose Dolphins (Ref. 258). However, given the nature of crude oil from the DWH spill, adherence to the skin by condensate may be considered less likely based on the hydrocarbon properties.

Marine mammals are vulnerable if they inhale volatiles when they surface within a hydrocarbon slick. For the short period that they persist, vapours from the spill are a significant risk to mammal health, with the potential to damage mucous membranes of the airways and the eyes, which will reduce the health and potential survivability of an animal. Inhaled volatile hydrocarbons are transferred rapidly to the bloodstream and may also accumulate in tissues (Ref. 169).

As identified in Section 4.3.3.1, several marine mammal species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIAs intersect the Hydrocarbon Ecological EMBA:

- Humpback Whale (migration)
- Pygmy Blue Whale (migration, foraging).

As these species are considered most sensitive to surface and entrained exposures, deterministic analysis were utilised to understand the potential extent and duration of exposure.

Stochastic modelling predicted no surface hydrocarbons concentrations  $\geq 10 \text{ g/m}^2$ ; therefore, impact to offshore species from surface exposure is not predicted to occur and no further evaluation has been undertaken.

The deterministic model for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations  $\geq 100 \text{ ppb}$  are present for several days following the spill event, with a maximum area of coverage of  $\sim 20 \text{ km}^2$  occurring  $\sim 20$  days after the spill commenced. This deterministic scenario is considered most relevant for offshore waters, and subsequent impacts to offshore BIA's in those regions. Using the Pygmy Blue Whale migration BIA as an example, modelling indicates that the extent of entrained exposures was predicted to be limited to  $< 0.1\%$  of the entire BIA.

Based on an assessment of the predicted magnitude and duration of surface and entrained oil, it is expected that only a small proportion of any marine mammal population would be exposed above the defined impact exposure thresholds. Therefore, the potential of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

#### Reptiles

Marine reptiles may be exposed to hydrocarbons from an oil spill at the water surface or on the shoreline. Marine reptiles can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 179).

Marine turtles are vulnerable to the effects of oil at all life stages: eggs, hatchlings, juveniles, and adults. Several aspects of turtle biology and behaviour place them at risk, including a lack of avoidance behaviour, indiscriminate feeding in convergence zones, and large pre-dive inhalations (Ref. 180). Oil effects on turtles can include impacts to the skin, blood, digestive, and immune systems, and increased mortality due to oiling.

Shoreline hydrocarbons can impact turtles coming ashore at nesting beaches. Eggs may also be exposed during incubation, potentially resulting in increased egg mortality and detrimental effects on hatchlings. Hatchlings may be particularly vulnerable to toxicity and smothering as they emerge from the nests and make their way over the intertidal area to the water (Ref. 179).

As identified in Section 4.3.3.2, several reptile species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIAs intersect the Hydrocarbon Ecological EMBA:

- Flatback Turtle, Green Turtle, Hawksbill Turtle and Loggerhead Turtle (internesting buffer)
- Green Turtle and Loggerhead Turtle (nesting).

The EPBC threatened Short-nosed Seasnake and Leaf-scaled Seasnake, and other EPBC marine listed seasnake species, may be present within the Hydrocarbon Ecological EMBA. Oil pollution has been identified as a pressure 'of potential concern' (Ref. 245) to seasnakes. Sea snakes are susceptible to oil on the sea surface (Ref. 245; Ref. 246; Ref. 247). Being air breathers and obligate bottom feeders oil may be either inhaled or ingested (Ref. 245; Ref. 248).

Stochastic modelling predicted no shoreline accumulation above the  $\geq 100 \text{ g/m}^2$  or surface hydrocarbons concentrations  $\geq 10 \text{ g/m}^2$  impact threshold; therefore, impacts to marine reptiles from LOWC is not predicted to occur and no further evaluation has been undertaken.

Fishes, including sharks and rays

Fish, including sharks and rays, may be exposed to hydrocarbons from an oil spill within the water column. Most fish do not break the sea surface, and therefore the risk from surface oil is not relevant; however, some shark species (including Whale Sharks) feed in surface waters, so there is also the potential for surface hydrocarbons to be ingested.

Potential effects include damage to the liver and lining of the stomach and intestine, and toxic effects on embryos (Ref. 181). Fish are most vulnerable to oil during embryonic, larval and juvenile life stages. However, very few studies have demonstrated increased mortality of fish as a result of oil spills (Ref. 182; Ref. 183; Ref. 184).

Demersal fish are not expected to be impacted given the presence of dissolved and entrained oil are predicted in the surface layers (<10 m water depth) only.

Pelagic free-swimming fish and sharks are not expected to suffer long-term damage from oil spill exposure because dissolved/entrained hydrocarbons are typically insufficient to cause harm (Ref. 185). Pelagic species are also generally highly mobile and as such are not expected to suffer extended exposure (e.g. >48–96 hours) at concentrations that would lead to chronic effects due to their patterns of movement. Near the sea surface, fish can detect and avoid contact with surface slicks meaning fish mortalities rarely occur in the event of a hydrocarbon spill in open waters (Ref. 186). Fish that have been exposed to dissolved hydrocarbons can eliminate the toxicants once placed in clean water; hence, individuals exposed to a spill would recover (Ref. 187). Marine fauna with gill-based respiratory systems, including Whale Sharks, are expected to have higher sensitivity to exposures of entrained oil.

As identified in Section 4.3.3.3, several fish species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIAs intersect the Hydrocarbon Ecological EMBA:

- Whale Shark (foraging).

As these species are considered most sensitive to surface and entrained hydrocarbon exposures, deterministic analyses were utilised to understand the potential extent and duration of exposure.

Stochastic modelling predicted no surface hydrocarbons concentrations  $\geq 10$  g/m<sup>2</sup>; therefore, impact to offshore species from surface exposure is not predicted to occur and no further evaluation has been undertaken.

The deterministic model for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations  $\geq 100$  ppb are present for several days following the spill event, with a maximum area of coverage of  $\sim 20$  km<sup>2</sup> occurring  $\sim 20$  days after the spill commenced. This deterministic scenario is considered most relevant for offshore waters, and subsequent impacts to offshore BIA's in those regions. Using the Whale Shark foraging BIA as an example, modelling indicates that the extent of entrained exposures was predicted to be limited to  $\sim 0.1\%$  of the entire BIA.

Based on an assessment of the predicted magnitude and duration of entrained exposure to oil, it is expected that only a small proportion of any fish population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

Seabirds and shorebirds

Birds may be exposed to hydrocarbons from an oil spill at the water surface (e.g. foraging, resting) or on the shoreline (e.g. roosting, nesting).

Birds that rest at the water's surface (e.g. shearwaters) or surface-plunging birds (e.g. terns, boobies) are particularly vulnerable to surface hydrocarbons (Ref. 168; Ref. 180). Damage to external tissues, including skin and eyes, can occur, along with internal tissue irritation in lungs and stomachs (Ref. 189). Acute and chronic toxic effects may result where the product is ingested as the bird attempts to preen its feathers (Ref. 188).

As identified in Section 4.3.3.4, several bird species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The Wedge-tailed Shearwater breeding BIA intersect the Hydrocarbon Ecological EMBA.

Stochastic modelling predicted no shoreline accumulation above the  $\geq 100$  g/m<sup>2</sup> or surface hydrocarbons concentrations  $\geq 10$  g/m<sup>2</sup> impact threshold would occur; therefore, impacts to seabirds or shorebirds from LOWC is not predicted to occur and no further evaluation has been undertaken.

**Indirect impacts to fisheries**

As identified in Section 4.4.1, several commercial fisheries have management areas and recent fishing effort recorded within the Hydrocarbon Ecological EMBA. As identified in Section 4.4.2,

some recreational fishing is expected to occur within the Hydrocarbon Ecological EMBA. Direct impacts commercially targeted fish species are expected to occur from in-water exposures.

Stochastic modelling predicted that dissolved and entrained oil above impact thresholds ( $\geq 50$  ppb;  $\geq 100$  ppb respectively) was predicted to occur; however, was predicted to remain in the surface layers, with no exposure at depths  $>10$  m below the surface predicted to occur during any season. As described above, very few studies have demonstrated increased mortality of fish as a result of oil spills. However, fish stocks may be especially vulnerable to oil spills close to the spawning grounds or egg and larval drift areas (Ref. 183; Ref. 261). Fish eggs and larvae are typically vulnerable to toxic oil compounds due to their small size, poorly developed membranes and detoxification systems as well as their position in the water column (Ref. 261).

As identified in Section 4.4.1.1, the spawning grounds for the EPBC Act listed conservation dependent Southern Bluefin Tuna intersects with the Hydrocarbon Ecological EMBA. As such, the available deterministic analyses from the hydrocarbon spill modelling were utilised to understand the potential extent and duration of exposure to these spawning grounds. The deterministic analysis for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations  $\geq 100$  ppb are present for several days following the spill event, with a maximum area of coverage of  $\sim 20$  km<sup>2</sup> occurring  $\sim 20$  days after the spill commenced. Based on the spatial extent of the Southern Bluefin Tuna spawning ground ( $\sim 1,850,534$  km<sup>2</sup>), modelling indicates that the extent of entrained exposures was predicted to be limited to  $\sim 0.001\%$  of the entire spawning ground.

Although exposures above impact thresholds have the potential to affect the recruitment of targeted commercial and recreational fish species, any acute impacts are expected to be limited, given this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time. On this basis, recruitment of targeted species is not expected to be impacted significantly given the extent of exposure to concentrations above impact thresholds are expected to be limited due to rapid dilution and dispersion upon release.

Following the DWH oil spill in the northern Gulf of Mexico, studies found that concentrations of crude oil measured in Gulf spawning habitats could cause cardiac-related deformities in commercially important species including bluefin and yellowfin tuna (Ref. 262). Initial research has shown that subtle perturbations of the embryonic heartbeat can produce permanent changes in heart shape that negatively affect swimming performance and other behaviours critical for fish survival (Ref. 262). However, a deterministic end-to-end ecosystem model that simulates DWH oil spill event suggests that fisheries closures and loss of larvae due to oil exposure have little impact on ecosystem biomass (Ref. 263). Impact equated to a 5.8% loss of the larval population in the year of the oiling (Ref. 263). Therefore, impacts to commercial fisheries are expected to be limited.

Spill events also have the potential to impact commercial fisheries through indirect impacts associated with tainting. Tainting is a change in the characteristic smell or flavour, and renders the catch unfit for human consumption or sale due to public perception. Tainting may not be a permanent condition but will persist if the organisms are continuously exposed; but when exposure is terminated, depuration will quickly occur (Ref. 192). Regardless of the small potential for tainting, customer perception that tainting has occurred may cause a larger impact than the direct impact itself. However, as this event is singular, non-continuous, and will result in a limited volume of hydrocarbon being released over a short time period, and the low persistence of the hydrocarbon in the environment, customer perceptions are not expected to be altered for a prolonged period.

Modelling predicts that inshore exposure would be limited, whilst offshore exposures are expected to dilute and disperse over a longer period of time. In both instances, it is expected that any impacts from this type of event would be short term in duration. Therefore, CAPL assesses the consequence to fisheries as Incidental (6).

#### **Reduction in amenity resulting in impacts to tourism and recreation**

Stochastic modelling predicts shoreline exposure  $\geq 10$  g/m<sup>2</sup> (visible impact threshold) from LOWC has the potential to occur along Pilbara Islands (Muiron and Serrurier Islands) and around the Point Cloates / Ningaloo Station area during summer months, depending on the environmental conditions at the time of the event. No shoreline contact was predicted to occur during other (winter, transitional) seasons.

Stochastic modelling did not predict surface exposure  $\geq 1$  g/m<sup>2</sup> within State waters.

Deterministic model for longest length of oil ashore, predicts the maximum length of shoreline oil above the visible impact threshold ( $\geq 10$  g/m<sup>2</sup>) at any given time was  $\sim 3$  km, occurring  $\sim 15.4$  days after the spill commenced. Shoreline loading can impact the visual amenity of coastal areas and limit beach access for users, impacting tourism and recreation activities. However, it is expected

that any impacts from this type of event would be non-continuous, short term in duration and will result in a limited volume ashore.

On this basis, CAPL assess the reduction in amenity resulting in impacts to tourism and recreation as Minor (5).

**Changes to values and sensitivities of Marine protected areas**

Stochastic modelling predicts a low probability (1%) of dissolved exposure  $\geq 50$  ppb within the Gascoyne Marine Park (Table 7-14). Modelling also predicted a low (6%) probability of shoreline exposure above impact threshold ( $\geq 10$  g/m<sup>2</sup>) within the Pilbara islands group. No interaction with seabed or surface exposure  $\geq 1$  g/m<sup>2</sup> within any marine protected area was predicted to occur. The natural values of these Marine Parks include species listed as threatened, migratory, marine, or cetacean under the EPBC Act, as well as any identified BIAs for regionally significant marine fauna. Social and economic values of the Marine Parks include fishing and tourism and recreation.

The consequence evaluations to marine fauna and commercial fisheries are provided above.

Given the expected behaviour and weathering of the oil, limited spatial and temporal exposure to marine fauna or commercial fish species above impact exposure thresholds, the potential impacts of a LOWC to the values and sensitivities of the Marine Parks have been ranked as Minor (5).

**Changes to cultural heritage value**

As discussed in Section 4.6, there are heritage listed places or sites within the Hydrocarbon EMBA, including World and National heritage Ningaloo Coast (within both Hydrocarbon Ecological and Social EMBA), a First Nation Heritage site around Ningaloo station and a Native Title Determination area around the Ningaloo Coast (both within the Hydrocarbon Social EMBA only).

Protected UCH sites have been identified within the Hydrocarbon EMBA; these sites are related to shipwrecks, with no other types (e.g. aircraft or other artefacts) identified (Section 4.6.2). Given known sea level history, parts of the Hydrocarbon EMBA (e.g. those <125 m water depth), would have been emergent land during the extended history of First Nations occupation of Australia. At the time of writing this EP, CAPL understands through consultation with the relevant First Nations groups that there are no known artefacts or specific sites of cultural values associated with the seabed within the Hydrocarbon EMBA (Section 4.6.2 and Section 6). Stochastic modelling did not predict interaction with seabed in offshore waters. Therefore, no impacts to seabed-based UCH (e.g. shipwrecks or archaeology), including First Nations UCH, are expected.

As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. It is understood that the term 'Country' refers to more than just a geographical area, and includes values, places, resources, stories, and cultural obligations associated with that geographical area (Ref. 138; Ref. 313). Specific tangible values of Sea Country identified through literature and/or consultation include:

- marine fauna (e.g. whales, dugongs, turtles)
- offshore islands (e.g. Barrow Island) and parts of the mainland coast (e.g. Ningaloo Coast)
- marine resources (e.g. fish).

The consequence evaluations to marine fauna (including fish) are provided above and were assessed as having a minor environmental impact. Further, as described in the above evaluations, if an unplanned hydrocarbon (gas and condensate) release did occur it is not expected to have an effect at population-levels.

BTAC identified that the Thalanyji people have a deep connection to a number of the Pilbara inshore islands (Table 4-14). Depending on the environmental conditions at the time of the spill event, of the named islands within the Hydrocarbon EMBA, some Pilbara islands (e.g. Muiron Islands, Serrurier Island) may be exposed to shoreline loading above the visible impact threshold ( $\geq 10$  g/m<sup>2</sup>) (Table 7-14). Shoreline would be contacted ~15.4 days after the spill commenced and the maximum volume of oil was and 1.5 m<sup>3</sup> at Pilbara Islands. There is a low probability ( $\leq 6\%$ ) of shoreline contact during summer; no shoreline contact was predicted to occur during winter or transitional seasons. No shoreline exposure  $\geq 100$  g/m<sup>2</sup> was predicted to occur. Shoreline loading can impact the visual amenity of coastal areas and limit beach access for users. However, if shoreline contact occurs (highly unlikely), it is expected that any impacts from this type of event would be non-continuous short term in duration and will result in a limited volume ashore. As such, given the volume, type of oil (condensate) and predicted weathering, no prolonged impact pathway to a change in access to Country is anticipated.

Intangible cultural heritage refers to the "practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognise as part of their cultural



heritage” (Ref. 270). Specific intangible values of Sea Country identified through consultation included Dreamtime stories and songlines (Table 4-14). In particular, representatives from MCH identified the existence of songlines that go through Barrow Island and offshore (Table 4-14). Note: for further description of songlines and associated access and connection to Country, refer to the description provided previously in Section 7.2.

Given the volume, type of oil (condensate) and predicted weathering, no prolonged impact pathway to a change in access to Country is anticipated. The consequence evaluations to marine fauna are provided above and were assessed as having a minor environmental impact to individuals—if they are present within the area at the time of a spill, and is not expected to affect the overall population of the species. As such, it is anticipated that intangible heritage values such as songlines and connection to Country would not be significantly adversely affected in the long-term from an unplanned hydrocarbon (gas and condensate) release within the OA. Given the expected behaviour and weathering of the oil, limited spatial and temporal exposure, only a relatively small area is expected to be exposed due to a single spill event. However, it is acknowledged that the sea and coast that may be exposed could represent important cultural values. Therefore, the potential impacts of oil to cultural heritage values was ranked as Moderate (4).

**ALARP decision context justification**

Exploration drilling activities offshore is a well-practised nationally and internationally activity. The control measures to manage the risk associated with a loss of effective well control event are well defined via legislative requirements that are considered standard industry practice. These are well understood and implemented by the petroleum industry and CAPL. Specifically, CAPL has worked in the region for over 10 years and has a demonstrated understanding of industry requirements and their operational implementation in these areas.

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

The risks associated with a LOWC event are considered lower-order risks in accordance with Table 5-3. As such, CAPL would apply ALARP Decision Context A for this aspect.

**Good practice control measures**

Control measure	Description
WOMP	Under the OPGGS (Resource Management and Administration) Regulations 2011, NOPSEMA require that the petroleum activity have an accepted WOMP in place before commencing the activity. The purpose of a WOMP is to ensure systems are in place to manage well integrity and well activities.
Wellsafe Standard Operational Procedure (Wellsafe SOP)	CAPL’s <i>Wellsafe Standard Operational Procedure</i> (Ref. 194) is an assurance program used to certify that specified requirements have been met; this provides assurance that well control can be maintained at all times. Specifically, Wellsafe requires: <ul style="list-style-type: none"> <li>• MODU certification</li> <li>• well design and plan certification</li> <li>• well execution certification</li> <li>• Business Unit WellSafe certification.</li> </ul>
Blowout preventor	For these exploration drilling activities, a BOP will be installed and tested in accordance with the WOMP (Ref. 4).
Equipment maintenance	Critical equipment will be identified (e.g. BOP) and maintained in accordance with manufacturers specifications. Regular maintenance ensures the integrity of critical equipment is maintained, which ensures optimal performance and reduces the risk of failure.
OPEP	Under the OPGGS(E)R, NOPSEMA require that the petroleum activity have an accepted OPEP in place before commencing the activity. Should a LOWC scenario occurs, the OPEP will be implemented. CAPL has developed an OPEP (Ref. 2) to support all spill response activities across all its assets.

<p>SCERP</p>	<p>Source control is part of the first actions taken to minimise the volume of hydrocarbon released and therefore reduce potential impacts and risks to the environment. Key source control options for this LOWC event include a capping stack (primary option) and relief well drilling (secondary option), covered in the SCERP (Ref. 195).</p> <p>Where applicable to the activities, the SCERP will address:</p> <ul style="list-style-type: none"> <li>• arrangements for the provision of equipment and supplies</li> <li>• arrangements for equipment and personnel monitoring and tracking</li> <li>• activation and mobilisation plans, including activation and expenditure authority and regulatory approval processes</li> <li>• logistics plans and providers</li> <li>• well kill and shut-in plans.</li> </ul> <p>Further information on the SCERP is provided in Section 8.3.8.1.1.</p>
<p>Relief Well Plan</p>	<p>The <i>ABU Worst Case Discharge Calculation and Relief Well Planning SOP</i> (Ref. 278) provides detailed guidance on the planning and engineering required when planning for relief wells in the event of a LOWC incident. Specific relief well plans are prepared for each well activity, and will include the following aspects in the design of the well:</p> <ul style="list-style-type: none"> <li>• blowout modelling and dynamic well kill analysis</li> <li>• selection of surface relief well location</li> <li>• wellbore ranging and survey uncertainty requirements</li> <li>• relief well trajectory planning</li> <li>• relief well casing design</li> <li>• equipment availability and contingency services contract arrangements</li> <li>• kill rate limitations.</li> </ul> <p>A Dino South-1 Relief Well Plan (Ref. 280) has been developed by CAPL. Further information on the relief well plan is provided in Section 8.3.8.1.2.</p>
<p>Relief Well Equipment List</p>	<p>As detailed in the <i>ABU Worst Case Discharge Calculation and Relief Well Planning SOP</i> (Ref. 278), ABU maintains an active Relief Well Equipment List to ensure equipment readiness, completeness and availability prior to well operations.</p> <p>Prior to exploration drilling commencing, the availability of suitable wellhead equipment and sufficient casing for the relief well will be confirmed through the Chevron inventory management system. This inventory check extends to any items that would normally be considered long-lead items (e.g. liner hanger systems if used in the well design).</p>
<p>Relief Well Rig Availability</p>	<p>CAPL tracks and assesses the availability and suitability of available relief well drilling rigs through the OSRL sea/response vessel tracking software.</p> <p>At the time of writing this EP, suitable drilling rigs are expected to be located on or within the vicinity of the North West Shelf for the duration of the exploration drilling campaign. The APPEA Memorandum of Understanding (MoU) Mutual Aid framework (see Section 8.3.8.7.4 for further description) is also in place to enable access to rigs contracted by other titleholders for relief well drilling.</p>
<p>OSMP</p>	<p>The OSMP details the arrangements and capability in place for operational and scientific monitoring.</p> <p>Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required).</p> <p>CAPL has developed an OSMP (Ref. 3) to support all spill monitoring activities across all its assets.</p>
<p>Relevant persons consultation—</p>	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6),</p>

Ongoing consultation (First Nations people and/or representative bodies)	<p>where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<b>Additional control measures and cost benefit analysis</b>		
<b>Control measure</b>	<b>Benefit</b>	<b>Cost</b>
N/A	N/A	N/A
<b>Likelihood and risk level summary</b>		
<b>Likelihood</b>	<p>The blowout frequencies data from the International Association of Oil &amp; Gas Producers (IOGP) (Ref. 196) was used to evaluate the likelihood of a LOWC scenario (blowout of an appraisal well), which was determined to be equivalent to <math>1.5 \times 10^{-4}</math> per drilled well.</p> <p>Due to the low probability of a LOWC event, and the control measures in place, the likelihood of the worst-case environmental consequence occurring as described above was assessed as Remote (5).</p>	
<b>Risk level</b>	Low (8)	
<b>Determination of acceptability</b>		
<b>Principles of ESD</b>	<p>The potential risks associated with this aspect would be short term, apply to some individuals, and consequently is not expected to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Minor (5). Therefore, no further evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	<p>Legislation and other requirements considered relevant for this aspect include:</p> <ul style="list-style-type: none"> <li>• <i>Conservation Management Plan for the Blue Whale 2015–2025</i> (Ref. 59)</li> <li>• <i>Conservation Advice Balaenoptera borealis Sei Whale</i> (Ref. 58)</li> <li>• <i>Conservation Advice Balaenoptera physalus Fin Whale</i> (Ref. 57)</li> <li>• <i>Recovery Plan for Marine Turtles in Australia</i> (Ref. 159)</li> <li>• <i>Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)</i> (Ref. 226)</li> <li>• <i>Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)</i> (Ref. 227)</li> <li>• <i>Conservation Management Plan for the Southern Right Whale</i> (Ref. 286)<sup>38</sup></li> <li>• <i>Conservation Advice Rhincodon typus Whale Shark</i> (Ref. 161)</li> <li>• <i>North-west Marine Parks Network Management Plan</i> (Ref. 189).</li> </ul>	
	<b>Requirement</b>	<b>Demonstration</b>
	<p><i>Conservation Management Plan for the Blue Whale 2015–2025</i></p> <p>No specific management action identified.</p>	N/A.

<sup>38</sup> A draft National Recovery Plan for the Southern Right Whale (Ref. 240) was release for comment in early-2023; a finalised version of this Recovery Plan is not yet available

	<p><i>Conservation Advice Balaenoptera borealis Sei Whale</i></p> <p>No specific conservation action identified.</p>	N/A.
	<p><i>Conservation Advice Balaenoptera physalus Fin Whale</i></p> <p>No specific conservation action identified.</p>	N/A.
	<p><i>Recovery Plan for Marine Turtles in Australia</i></p> <p><u>Management action A4.2:</u> Ensure spill risk strategies and response programs adequately include management for marine turtles and their habitats, particularly in reference to 'slow to recover habitats', e.g. nesting habitat, seagrass meadows or coral reefs.</p>	<p>Assessment of spill risk strategies is within scope of the OPEP (Ref. 2).</p> <p>Response and recovery of habitats and marine fauna is within the scope of the OSMP (Ref. 3).</p> <p>Therefore, the DS-1 exploration drilling is not considered to be inconsistent with the <i>Recovery Plan for Marine Turtles in Australia</i>.</p>
	<p><i>Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)</i></p> <p>No specific conservation action identified.</p>	N/A
	<p><i>Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)</i></p> <p>No specific conservation action identified.</p>	N/A
	<p><i>Conservation Management Plan for the Southern Right Whale 2011–2021</i></p> <p>No specific management action identified.</p>	N/A
	<p><i>Conservation Advice Rhincodon typus Whale Shark</i></p> <p>No specific conservation action identified.</p>	N/A
	<p><i>North-west Marine Parks Network Management Plan</i></p> <p>The Plan requires that “[a]ctions required to respond to oil pollution incidents, including environmental monitoring and remediation, in connection with mining operations authorised under the OPGGS Act may be conducted in all zones. The Director should be notified in the event of an oil pollution incident that occurs within, or may impact upon, an Australian Marine Park and, so far as reasonably practicable, prior to a response action being taken within a marine park.”</p>	<p>The Gascoyne Marine Park is a multiple use zone (IUCN VI). The control measures identified for the management of an unplanned release provide for the response to, and environmental monitoring and remediation of, an oil pollution incident.</p> <p>Requirements to report oil pollution incidents that occur within, or may impact upon, an AMP is included in Section 8.4.2.</p> <p>Therefore, the DS-1 exploration drilling is not considered to be inconsistent with the <i>North-west Marine Parks Network Management Plan</i>.</p>
<b>Internal context</b>	<p>The following CAPL management processes or procedures were deemed relevant for this aspect:</p> <ul style="list-style-type: none"> <li>• WOMP (Ref. 4)</li> </ul>	

	<ul style="list-style-type: none"> <li>• Wellsafe Standard Operational Procedure (Ref. 194)</li> <li>• OPEP (Ref. 2)</li> <li>• OSMP (Ref. 3)</li> <li>• SCERP (Ref. 195)</li> <li>• Relief Well Plan (Ref. 280).</li> </ul> <p>Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>										
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding well control events arising from the activity.										
<b>Defined acceptable level</b>	<p>These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential impacts and risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>However, in alignment with Section 5.6.2, where the aspect is listed as threat to a protected matter, or identified as a concern to a listed conservation value, CAPL will define an acceptable level of impact that aligns with the objectives of these documents. Objectives of the relevant documents are shown below:</p> <table border="1"> <thead> <tr> <th>Plan</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td><i>Conservation Management Plan for the Blue Whale 2015–2025</i></td> <td> <p><u>Recovery objective:</u> Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p> </td> </tr> <tr> <td><i>Conservation Management Plan for the Southern Right Whale 2011–2021</i></td> <td> <p><u>Recovery objective:</u> Minimise anthropogenic threats to allow the conservation status of the southern right whale to improve so that it can be removed from the threatened species list under the EPBC Act.</p> <p><u>Interim objective 5</u> Anthropogenic threats are demonstrably minimised.</p> </td> </tr> <tr> <td><i>Recovery Plan for Marine Turtles in Australia</i></td> <td> <p><u>Recovery objective:</u> The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 3:</u> Anthropogenic threats are demonstrably minimised.</p> </td> </tr> <tr> <td><i>North-west Marine Parks Network Management Plan 2018</i></td> <td>As per Section 4.5.1.</td> </tr> </tbody> </table> <p>Therefore, CAPL has defined the following acceptable level of impact such that it is not inconsistent with these documents:</p> <ul style="list-style-type: none"> <li>• impacts from the petroleum activity are managed such that it would not prevent the long-term recovery of protected species</li> <li>• no adverse change to the values of the Australian Marine Park.</li> </ul> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level. In particular that by managing the unplanned release, that the risk to marine fauna and/or values of the AMP are also subsequently managed.</p>	Plan	Objective	<i>Conservation Management Plan for the Blue Whale 2015–2025</i>	<p><u>Recovery objective:</u> Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p>	<i>Conservation Management Plan for the Southern Right Whale 2011–2021</i>	<p><u>Recovery objective:</u> Minimise anthropogenic threats to allow the conservation status of the southern right whale to improve so that it can be removed from the threatened species list under the EPBC Act.</p> <p><u>Interim objective 5</u> Anthropogenic threats are demonstrably minimised.</p>	<i>Recovery Plan for Marine Turtles in Australia</i>	<p><u>Recovery objective:</u> The long-term recovery objective for marine turtles is to minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 3:</u> Anthropogenic threats are demonstrably minimised.</p>	<i>North-west Marine Parks Network Management Plan 2018</i>	As per Section 4.5.1.
Plan	Objective										
<i>Conservation Management Plan for the Blue Whale 2015–2025</i>	<p><u>Recovery objective:</u> Minimise anthropogenic threats to allow for their conservation status to improve so that they can be removed from the EPBC Act threatened species list.</p> <p><u>Interim objective 4</u> Anthropogenic threats are demonstrably minimised.</p>										
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<i>North-west Marine Parks Network Management Plan 2018</i>	As per Section 4.5.1.										

Environmental performance outcome	Environmental performance standard	Measurement criteria
<p>No unplanned release of hydrocarbons or hazardous materials to the environment during the petroleum activity.</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>WOMP</b> A NOPSEMA-accepted WOMP will be in place prior to activities commencing.</p>	<p>Records confirm that a WOMP has been developed and accepted prior to activities commencing.</p>
	<p><b>WOMP</b> Risk controls are in place to mitigate well control events during well construction activities.</p>	<p>Records confirm that risk controls are implemented in accordance with the WOMP during well construction.</p>
	<p><b>WOMP</b> Primary and secondary barriers are in place to mitigate well integrity impacts during well suspension and abandonment activities.</p>	<p>Records confirm that primary and secondary barriers are in place in accordance with the WOMP during well suspension and abandonment.</p>
	<p><b>BOP</b> A blowout preventer will be installed, and tested during the drilling activities in accordance with the NOPSEMA-accepted WOMP.</p>	<p>Records confirm that a BOP was installed, and has been tested during the drilling activities in accordance with the NOPSEMA-accepted WOMP.</p>
	<p><b>Wellsafe SOP—Exploration well</b> The following certifications shall be in place prior to exploration drilling activities commencing in accordance with CAPL's <i>Wellsafe Standard Operational Procedure</i>:</p> <ul style="list-style-type: none"> <li>• MODU/rig certification</li> <li>• Exploration well design and plan certification</li> <li>• well execution certification</li> <li>• Business Unit WellSafe certification.</li> </ul>	<p>Records confirm that MODU certification, well design and plan certification were verified prior the commencement of activities.</p>
	<p><b>Equipment maintenance</b> Critical equipment will be maintained in accordance with manufacturers specifications.</p>	<p>Records confirm the BOP is maintained in accordance with manufacturer specifications.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> Ongoing consultation with First Nations people and/or representative bodies is undertaken as per the respective engagement plan and/or consultation protocol.</p>	<p>Relevant persons consultation records.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b> If new information on cultural values or features within the OA or EMBA is identified during ongoing consultation or relationship building, then any subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation.</p>	<p>As required, records show that the MoC process was undertaken in response to any new information on cultural values or features within the OA or EMBA.</p>



Reduce the risk of impacts to the environment from the unplanned release of hydrocarbons or hazardous materials during the petroleum activity.	<p><b>OPEP</b> In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, response activities are implemented in accordance with the <i>ABU Consolidated OPEP</i>.</p>	Records confirm the OPEP has been activated and response activities implemented.
	<p><b>OPEP</b> CAPL will maintain the following minimum preparedness capability for the duration of the petroleum activity:</p> <ul style="list-style-type: none"> <li>number and type of response packages for as identified in Table 7-16 (LOWC event).</li> </ul>	Records confirm that CAPL has arrangements in place prior to the petroleum activity commencing to access the minimum number and type of responses packages.
	<p><b>OPEP—OSRO Capability Arrangements</b> CAPL shall maintain service agreements with oil spill response organisations (as per Section 8.3.8.7.3) that have capabilities to support a response to an oil spill event for the duration of the petroleum activity.</p>	Records confirm that service agreements are in place prior to, and for the duration of, the petroleum activity.
	<p><b>OPEP—Mutual Aid Capability Arrangements</b> CAPL shall maintain membership to mutual aid frameworks (as per Section 8.3.8.7.4) that have capabilities to support a response to an oil spill event for the duration of the petroleum activity.</p>	Records confirm that memberships to mutual aid frameworks agreements are in place prior to, and for the duration of, the petroleum activity.
	<p><b>OPEP</b> Refer to the <i>ABU Consolidated OPEP</i> for environmental performance outcomes, standards and measurement criteria related to emergency management, emergency preparedness, and each response tactic.</p>	
	<p><b>SCERP</b> CAPL will develop an activity-specific SCERP to manage source control for exploration drilling prior to the petroleum activity commencing.</p>	Records confirm that an activity-specific SCERP was developed and in place prior to the petroleum activity commencing
	<p><b>SCERP</b> In the event of a loss of well control, source control response tactics are implemented in accordance with the exploration drilling SCERP.</p>	Records confirm the SCERP has been activated and source control activities implemented.
	<p><b>SCERP—Relief Well</b> A relief well will be drilled and the exploration well intersected and dynamically killed within 90 days of the LOWC event commencing.</p>	Incident Log (or equivalent records).
	<p><b>SCERP—Subsea Dispersant</b> Subsea dispersant injection (SSDI) occurs within 20 days following the authorisation from the EMT to implement use of SSDI and commence mobilisation.</p>	Incident Log (or equivalent records).



	<p><b>SCERP—Capping Stack</b> Well capping stack is deployed and well secured within 35 days following the the authorisation from the EMT to implement use of a capping stack and to commence mobilisation.</p>	<p>Incident Log (or equivalent records).</p>
	<p><b>SCERP—Relief Well Capability Arrangements</b> CAPL shall maintain service agreements or memberships with third-party well control specialists (as per Section 8.3.8.7.5) that have capabilities to support a response to a LOWC event for the duration of the petroleum activity.</p>	<p>Records confirm that service agreements or memberships are in place prior to, and for the duration of, the petroleum activity.</p>
	<p><b>Wellsafe SOP—Relief well</b> The following certifications shall be in place prior to relief well drilling activities commencing in accordance with CAPL's <i>Wellsafe Standard Operational Procedure</i>:</p> <ul style="list-style-type: none"> <li>• MODU/rig certification</li> <li>• relief well design and plan certification</li> <li>• well execution certification</li> <li>• Business Unit WellSafe certification.</li> </ul>	<p>Records confirm that MODU certification, relief well design and plan certifications were verified prior the commencement of the activity.</p>
	<p><b>Relief Well Plan</b> CAPL will develop an activity-specific Relief Well Plan prior to the petroleum activity commencing.</p>	<p>Records confirm that an activity-specific Relief Well Plan was developed and in place prior to the petroleum activity commencing.</p>
	<p><b>Relief Well Equipment List</b> CAPL will maintain a Relief Well Equipment List for the duration of the petroleum activity.</p>	<p>Records confirm that a Relief Well Equipment List is in place prior to, and for the duration of, the petroleum activity.</p>
	<p><b>Relief Well Equipment List</b> Availability of suitable equipment required for a relief well will be confirmed prior to the petroleum activity commencing.</p>	<p>Inventory management system confirms availability of relief well equipment.</p>
	<p><b>Relief Well Rig Availability</b> Availability of suitable relief well drilling rigs on or within the vicinity of the North West Shelf will be confirmed prior to the petroleum activity commencing.</p>	<p>Vessel tracking (or other equivalent) records confirm presence of relief well drilling rigs prior to the petroleum activity commencing.</p>
	<p><b>OSMP</b> In the event of a Level 2 (or above) oil spill to marine or coastal waters occurring, the OSMP will be activated, and:</p> <ul style="list-style-type: none"> <li>• the components of the operational monitoring program are initiated<sup>39</sup> once the specific initiation criteria are met</li> </ul>	<p>Records confirm the OSMP has been activated.</p> <p>Records confirm that once initial criteria have been met, operational monitoring programs were initiated.</p> <p>Records confirm that once initial criteria have been met, scientific monitoring programs were initiated.</p>

<sup>39</sup> As per Section 2.1 of the OSMP, for this plan initiation means starting preparation for implementation.

	<ul style="list-style-type: none"> <li>the components of the scientific monitoring program are initiated once the specific initiation criteria are met</li> <li>operational and scientific monitoring components are continued until respective termination criteria are met. .</li> </ul>	Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased.
	<p><b>OSMP</b> Capability requirements are maintained in the <i>ABU OSMP Capability Register</i>, and updated every six months.</p>	Internal personnel capability is documented every six months in the <i>ABU OSMP Capability Register</i> .  External contractors self-assess their capability against the requirements and provide a Statement of Personnel Capability and Readiness every six months.
	<p><b>OPEP, SCERP, and OSMP</b> ABU EMT exercises, including exercises to test source control response arrangements, will be conducted in accordance with Section 8.3.8.8.</p>	Exercise Records
	<p><b>Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)</b> In the event of a spill occurring, CAPL will engage with relevant First Nations people and/or representative bodies</p>	Relevant persons consultation records

## 7.16 Spill response

### 7.16.1 Response option selection

#### 7.16.1.1 Strategic NEBA

CAPL has developed a series of strategic Net Environmental Benefit Analysis (NEBA) (Ref. 197) using generalised scenarios that reflect the spill risks associated with all CAPL offshore WA operations. Hydrocarbons associated with spill events from all CAPL operations were grouped into oil types as defined by the International Tanker Owners Pollution Federation Ltd (ITOPF) classification system:

- group 1 – including Iago, Wheatstone, and Jansz condensate; Wheatstone trunkline fluids; and Wheatstone flowline fluids
- group 2 – including MDO, Gorgon condensate, Barrow Island crude and Gorgon/Jansz mixed trunkline fluids
- group 3 / 4 – including Heavy fuel oil and intermediate fuel oil (depending on blend).

These NEBAs were developed as a pre-spill planning tool for all CAPL EPs, to facilitate response option selection and support the development of the overall response strategies by identifying and comparing the potential effectiveness and impacts of oil spill response options (Ref. 198). After considering the benefits and drawbacks of each response option on the ecological, social, and economic receptors within the Hydrocarbon EMBA, the response options that were

determined to minimise the impacts to the environment and people were pre-selected.

#### **7.16.1.2 Protection prioritisation process**

CAPL has developed a Protection Prioritisation Process (PPP) (Ref. 199) to support decision making in the event of a significant spill event. The information within the PPP document is used to identify priorities for protection within the activity specific spill scenario(s) Hydrocarbon EMBA, such as that described in Section 4. The identification of priorities for protection assists in the identification of resources to be assessed within the strategic and operational NEBAs, as described above. The NEBA considers the protection priority values, the Hydrocarbon EMBA, and the various control measures, including their feasibility, likely success, environmental benefits, level of effectiveness and performance of response tactics. The output of the NEBA and the protection priorities identified will then guide the strategic direction of the response through informing decisions made around tactical planning and response option selection.

The PPP (Ref. 199) ranks receptors (natural or anthropogenic value or resource that is potentially sensitivity to marine oil pollution) using a 5-level scale (from Very Low (1) to Very High (5)) based on a number of factors, including their sensitivity and vulnerability to oil, their conservation status and the biological and socioeconomic importance of the receptor. The CAPL PPP (Ref. 199) aligns with WA DoT PPP (Ref. 200) and utilises the same shoreline cells to illustrate broad scale identification of sensitive areas.

Areas with high value receptors and at greatest risk of contact with oil (as indicated by stochastic modelling) are assigned a high protection priority and designated as priority planning areas. The process for identifying these areas (described in the PPP document [Ref. 199]) considers all High (4) and Very High (5) ranked shoreline cells where contact above the moderate exposure threshold (from stochastic modelling across all seasons) is predicted within 4 days (96 hours). As described in the PPP (Ref. 199), the 4-day contact timeframe is based on the expected time it would take CAPL to develop and implement a Tactical Response Guide (TRG) for an area predicted to be impacted. For contact outside this timeframe, it expected that CAPL will have reasonable time to develop and implement a TRG prior to oil contacting the resource.

No high value areas (DoT shoreline cells) identified for contact within this timeframe have been identified either in Table 7-12 for vessel collision event or in Table 7-14 for LOWC.

#### **7.16.2 Activity-specific response option selection**

To select the appropriate response options for this EP, hydrocarbons applicable to the worst credible scenarios specific to this activity are:

- group 2 – Gorgon condensate, MDO.

The Strategic NEBA determined that the recommended response options proposed to be used for the spill scenarios associated with this EP include:

- source control
- monitoring, evaluation, and surveillance (MES)
- shoreline protection and deflection (SPD)
- shoreline clean-up (SHC).

These response options are carried out alongside oiled wildlife and waste management response tactics. CAPL does not consider oiled wildlife and waste management as separate response options as they are implemented as support tactics for all spill events in a manner that is commensurate to the level of impact and risk of that event.

### **7.16.3 CAPL existing spill response capability assessment**

Based on the spill response arrangements that CAPL has in place across the business, the capability of these arrangements was determined. This process involved:

- identifying CAPL's existing response arrangements and the equipment and personnel available to CAPL under these arrangements
- defining the response package for each response option, and identifying the critical components for each response package (i.e. equipment or personnel that are limited in number and cannot be purchased or accessed readily)
- determining the number of critical components available to CAPL under existing arrangements
- identify the number of response packages available to CAPL under existing arrangements
- defining the volume of hydrocarbons that could be recovered or treated per response package.

The outcome of this evaluation is included in the OPEP (Ref. 2).

#### **7.16.3.1 CAPL project-specific capability requirement assessment**

To understand the spill response capability required for this activity, CAPL assessed the worst-case credible spill event and used modelling to understand the number of packages per response technique that may be required to respond to that event. The steps involved in this assessment were:

1. Review the Strategic NEBA (Ref. 197) and priority planning areas to understand the planned response to an event.
2. Predict the average surface hydrocarbon volume per day; and average volume of hydrocarbon accumulated onshore per shoreline per day (if relevant) to calculate the number of response packages required per response strategy.
3. Review the number of response packages available to determine if the capability exists.

#### **7.16.3.2 CAPL planned response vessel collision**

In accordance with the Strategic NEBA (Ref. 197), the response strategies proposed to be used for this spill scenario and response package calculations are described below. Offshore Containment and Recovery (CAR) would not be effective because of the hydrocarbon properties (Group 2).

##### **Implement MES response**

A MES response will commence for a vessel collision as soon as the spill is identified. This may range from very simplistic visual observation only, through to more involved monitoring and evaluating tactics. Appendix C of the OPEP (Ref. 2)

has documented the arrangements that CAPL have in place to implement all the required MES tactics; therefore, this technique is not discussed further.

### Implement SPD

Deterministic analysis for the largest volume of oil ashore indicates that ~3.4 m<sup>3</sup> may wash ashore within ~13.6 days after release. If shoreline contact >100 g/m<sup>2</sup> occurs (1% probability), it will only contact Muiron Island. The volume of oil ashore was used to support the planned response requirements—the volume of hydrocarbons that would need to be treated by an SPD response is directly correlated to the volume of oil that may wash ashore.

According to Appendix C of the OPEP (Ref. 2), each protection team is expected to recover 15.6 m<sup>3</sup> of hydrocarbon per day. Based on the assumption that 3.4 m<sup>3</sup> washes ashore on the 13<sup>th</sup> day, CAPL would need one SPD package available on day 13 to implement the SPD response. Confirmation that CAPL has the arrangements in place to implement the required number of packages is provided in Table 7-3.

### Implement SHC response

For a spill event such as this (a non-continuous release), deterministic analysis indicates shoreline accumulation (if it occurs) occurs rapidly. CAPL will implement strategies to protect prioritised values and sensitivities.

Deterministic modelling indicated that the maximum volume of oil ashore >100 g/m<sup>2</sup> was ~3.4 m<sup>3</sup> during summer. Deterministic analysis for the largest volume of oil ashore indicates that peak oil ashore would occur ~13.6 days after release.

The volume of oil ashore was used to support the planned response requirements—the volume of hydrocarbons that would need to be treated by an SHC response is directly correlated to the volume of oil that may wash ashore.

Based on the OPEP (Ref. 2), each SHC team is expected to recover 1.6 m<sup>3</sup> of hydrocarbon per day. If one clean-up team was mobilised on day 13 and used each day, all hydrocarbons can be recovered within 3 days. If required, these efforts could be ramped up as directed and informed by MES activities.

Confirmation that CAPL has the arrangements in place to implement the required number of packages is provided in Table 7-15.

**Table 7-15: Vessel collision response package deployment timeline**

Response Technique	Days Following Event							Weeks Following Event					
	1	2	3	4	5	6	7	2	3	4	5	6	
No. packages – planned MES	1	1	1	1	1	1	1	1	0	0	0	0	
Does CAPL have the required capability?	Y	Y	Y	Y	Y	Y	Y	Y					
No. packages – planned SHC								1	0	0	0	0	
Does CAPL have the required capability?								Y					

### 7.16.3.3 CAPL planned response LOWC

In accordance with the Strategic NEBA (Ref. 197), the response strategies proposed to be used for this spill scenario and response package calculations are described below.

Surface dispersant application is not considered feasible response options due to the nature of the hydrocarbon (Group 1), no spatial extent of predicted surface oil  $\geq 50$  g/m<sup>2</sup>, and window of opportunity (~1–2 days) for application. Similarly, offshore CAR are not considered feasible response options due to the nature of the hydrocarbon (Group 1).

Although modelling predicted shoreline contact from a LOWC may occur, no shoreline contact  $\geq 100$  g/m<sup>2</sup> (identified as the loading predicted area likely to require clean-up effort [Ref. 14]), is expected. Consequently, no shoreline responses are proposed.

#### Implement source control response

Source control is the primary response option for drilling-related emergency spill scenarios. In this event, source control tactics may include installation of a capping stack (primary option), drilling a relief well (secondary option), or use of subsea dispersant injection (SSDI). The time it takes to implement source control strategies is limited by the critical path components for equipment mobilisation (e.g. the capping stack, or MODU contracting, preparations and mobilisation), as identified in the SCERP (Ref. 195).

Based on the SCERP (Ref. 195), CAPL could have one Source Control – Relief Well package commence arrangements on day one, rig identification, contracting, planning, preparation and mobilisation within ~30 days, drill well, intersect, and dynamically kill well within ~90 days (assuming a mobilisation from NWS via APPEA MoU). Timing for the assessment and approval of the Safety Case revisions for the relief well rig and support vessels is based on undertaking these tasks concurrently with the relief well rig contracting, suspending operations, preparing and mobilising to site. Confirmation that CAPL has the arrangements in place to implement the required number of packages is provided in Table 7-16. Drilling of a relief well and deployment of a capping stack would occur concurrently to form the primary source control response options for the DS-1 exploration drilling; further details are contained in the SCERP (Ref. 195).

Based on the SCERP (Ref. 195), CAPL could have one Source Control – Well Capping package commence notifications and arrangements on day one, commence mobilisation on day three, and implementation within a further ~35 days (assuming a mobilisation from Singapore). The estimated 35 days to secure the well capping package includes the preparation, assessment, and approval of Safety Case revisions for vessels involved in the well capping. Confirmation that CAPL has the arrangements in place to implement the required number of packages is provided in Table 7-16.

Based on the SCERP (Ref. 195), CAPL could have one Source Control – SSDI package commence arrangements on day one, contracting, equipment deliveries, vessel preparation from day two, mobilise, and commence implementation within ~20 days (assuming a mobilisation from Singapore). Sourcing and mobilising a suitable local vessel with an approved Safety Case would be expected to further reduce this duration. Confirmation that CAPL has the arrangements in place to implement the required number of packages is provided in Table 7-16.

### **Implement MES response**

A MES response will commence for a well control event as soon as the spill is identified. This may range from very simplistic visual observation only, through to more involved monitoring and evaluating tactics. Appendix C of the OPEP (Ref. 2) has documented the arrangements that CAPL have in place to implement all the required MES tactics; therefore, this technique is not discussed further.



**Table 7-16: Well control event response package deployment timeline**

Response Technique	Days Following Event							Weeks Following Event												
	1	2	3	4	5	6	7	2	3	4	5	6	7	8	9	10	11	12	13	
No. packages – planned Source Control – Relief Well	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	<i>Planning and mobilisation</i>							<i>Implementation</i>												
Does CAPL have the required capability?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
No. packages – planned Source Control – Well Capping	1	1	1	1	1	1	1	1	1	1	1	1								
	<i>Planning and mobilisation</i>							<i>Implementation</i>												
Does CAPL have the required capability?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y								
No. packages – planned Source Control – SSDI	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	<i>Planning and mobilisation</i>							<i>Implementation</i>												
Does CAPL have the required capability?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
No. packages – planned MES	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Does CAPL have the required capability?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	

## 7.16.4 Spill response environmental risk assessment

### 7.16.4.1 Planned discharges – SSDI response

Conducting SSDI involves application of chemical dispersants, which triggers the environmental aspect of planned discharges.

SSDI aims to chemically disperse the released oil and reduce oil droplet size, which removes volatiles and disperses the hydrocarbons within the water column before they reach the surface. Preliminary screening of response options relevant to this EP (Section 7.16.1) determined that applying chemical dispersants subsurface is a potential option for a well control event.

Monitoring and evaluation of dispersant application effectiveness and ecological impacts continues throughout the response operation. The use of dispersants depends on the particular parameters of an incident resulting in an oil spill and the resources at risk of exposure.

Source			
In the event of a LOWC, chemical dispersant may be applied to support response objectives and minimise the potential environmental impacts and risks to ALARP.			
Potential Impacts and Risks			
Impacts	C	Risks	C
N/A	-	<p>The application of chemical dispersants has the potential to change ambient water quality resulting in:</p> <ul style="list-style-type: none"> <li>marine pollution resulting in sublethal or lethal effects to marine fauna.</li> <li>changes to cultural heritage values</li> </ul>	<p>5</p> <p>5</p>
Consequence Evaluation			
<p><b>Marine pollution resulting in sublethal or lethal effects to marine fauna</b></p> <p>The application of chemical dispersants (to respond to hydrocarbon release emergency event scenarios) will result in dispersant and hydrocarbons in the water column, potentially affecting marine fauna and habitats. Dispersant applied at the well (in response to a LOWC) can result in a dispersant/oil mix in the water column with a spatial extent similar to the entrained/dissolved exposure for the untreated LOWC scenario assessed in Section 7.15.</p> <p>Dispersant combined with dispersed oil in the water column can be acutely toxic to marine biota (Ref. 180). The source of impact from dispersants is primarily from the transfer of toxic oil from the water's surface to the water column, and a review of literature indicates that toxicity from exposure to chemically dispersed hydrocarbons relates more to the toxicity of the oil product and its increased bioavailability in the water column than to the toxicity of the dispersant itself (Ref. 181, Ref. 182). Therefore, this consequence assessment uses the information provided in Section 7.15.3 where appropriate.</p> <p>Research on the toxic effects of oil/dispersant mixture on fish and crustacean larvae found that the median lethal concentration for total petroleum hydrocarbons was ~4.0 mg/L (4000 ppb), compared to hydrocarbons treated with chemical dispersants where it ranged from ~22 mg/L to 62 mg/L. For dispersant exposures alone, the median lethal concentration ranged from 17 mg/L to 50 mg/L (Ref. 180). The differences in the relative toxicity among the tests indicated that most petroleum hydrocarbons in the chemically enhanced test are in less acutely toxic forms than the components that dominate the untreated tests (Ref. 180).</p> <p>As a result of the dispersant action, the increased toxicity of chemically dispersed oil can be attributed to the increase in PAH in the water column, large increase in droplets, and increasing the volumes of toxic oil components in the water column (due to being entrained from floating surface oil). Dispersant toxicity is less than the toxicity of dispersed oil (Ref. 180, Ref. 181, Ref. 182).</p>			

Dispersant application at the well, has the potential to increase in-water concentrations of hydrocarbons including soluble aromatic compounds. Although these elevated concentrations will generally be of short duration, impacts may occur on values and sensitivities in the water column. Values and sensitivities in the area that may be affected by the dispersant chemical in the water column include:

#### Marine mammals

Marine mammals may be exposed to dispersed oil within the water column. Marine mammals can be exposed to oil externally (e.g. swimming through surface slick) or internally (e.g. swallowing the oil, consuming oil-affected prey, or inhaling of volatile oil related compounds) (Ref. 162; Ref. 178). It has been observed that existing skin lesions, cuts, or abrasions could allow oil to be absorbed more readily into the bloodstream (Ref. 258).

The physical impacts from ingested hydrocarbons with subsequent lethal or sublethal impacts are possible; however, the susceptibility of cetaceans varies with feeding habits. Baleen whales are not particularly susceptible to ingestion of oil in the water column as they feed by skimming the surface (i.e. they are more susceptible to surface slicks). Toothed whales and dolphins may be susceptible to ingestion of dissolved and entrained oil as they gulp feed at depth. As highly mobile species, in general it is not expected that these animals will be constantly exposed to concentrations of hydrocarbons in the water column for continuous durations (e.g. >48–96 hours) that would lead to chronic effects.

As identified in Section 4.3.3.1, several marine mammal species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIAs intersect the Hydrocarbon Ecological EMBA:

- Humpback Whale (migration)
- Pygmy Blue Whale (migration, foraging).

Modelling analysis for entrained hydrocarbon exposure was utilised to understand the potential extent and duration of exposure for dispersed hydrocarbons.

Deterministic analysis for the largest area of entrained hydrocarbon were analysed. The deterministic analysis for the for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations  $\geq 100$  ppb peak at a maximum area of coverage of  $\sim 20$  km<sup>2</sup> occurring  $\sim 20$  days after the spill commenced. Using the Pygmy Blue Whale migration BIA as an example, modelling indicates that the extent of surface exposures was predicted to be limited to  $< 0.1\%$  of the entire BIA.

Based on an assessment of the predicted magnitude and duration, it is expected that only a small proportion of any marine mammal population would be exposed above the defined impact exposure thresholds. Therefore, the potential of dispersed oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.

#### Reptiles

Marine reptiles may be exposed to hydrocarbons from an oil spill at the water surface or on the shoreline. Therefore, no further assessment is required.

#### Fishes, including sharks and rays

Fish, including sharks and rays, may be exposed to hydrocarbons from an oil spill within the water column.

Potential effects include damage to the liver and lining of the stomach and intestine, and toxic effects on embryos (Ref. 181). Fish are most vulnerable to oil during embryonic, larval and juvenile life stages. However, very few studies have demonstrated increased mortality of fish as a result of oil spills (Ref. 182; Ref. 183; Ref. 184).

Demersal fish are not expected to be impacted given the presence of dissolved and entrained oil is predicted in the surface layers ( $< 10$  m water depth) only.

Pelagic free-swimming fish and sharks are not expected to suffer long-term damage from oil spill exposure because dissolved/entrained hydrocarbons are typically insufficient to cause harm (Ref. 185). Pelagic species are also generally highly mobile and as such are not expected to suffer extended exposure (e.g.  $> 48$ – $96$  hours) at concentrations that would lead to chronic effects due to their patterns of movement. Fish that have been exposed to dissolved hydrocarbons can eliminate the toxicants once placed in clean water; hence, individuals exposed to a spill would recover (Ref. 187). Marine fauna with gill-based respiratory systems, including Whale Sharks, are expected to have higher sensitivity to exposures of entrained oil.

As identified in Section 4.3.3.3, several fish species listed as threatened and/or migratory under the EPBC Act have the potential to occur within the Hydrocarbon Ecological EMBA. The following BIAs intersect the Hydrocarbon Ecological EMBA:

<ul style="list-style-type: none"> <li>Whale Shark (foraging).</li> </ul> <p>As fish species are sensitive to entrained hydrocarbon exposures, deterministic analysis for the largest area of entrained hydrocarbon were analysed. The deterministic analysis for the for the largest area of entrained hydrocarbon indicates that entrained hydrocarbons concentrations <math>\geq 100</math> ppb peak at a maximum area of coverage of <math>\sim 20</math> km<sup>2</sup> occurring <math>\sim 20</math> days after the spill commenced. Using the Whale Shark foraging BIA as an example, modelling indicates that the extent of entrained exposures was predicted to be limited to <math>\sim 0.1\%</math> of the entire BIA.</p> <p>Based on an assessment of the predicted magnitude and duration of both instantaneous and time-integrated entrained oil, it is expected that only a small proportion of any fish population would be exposed above the defined impact thresholds. Therefore, the potential impacts of oil to cause sublethal or lethal effects was ranked as Incidental (6) and Minor (5), respectively.</p>	
<p><b>Changes to cultural heritage values</b></p> <p>As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was marine fauna (Table 4-14).</p> <p>CAPL considers that indirect impacts to First Nations cultural values associated with marine fauna may occur due to SSDI. As such, CAPL has ranked the consequence for changes to cultural values as Minor (5), consistent with that for SSDI.</p>	
<p><b>ALARP Decision Context Justification</b></p> <p>Chemical dispersant has been applied successfully for several large well control events including Montara in 2009. As such, these practices are well understood by the petroleum industry and CAPL. Specifically, CAPL has worked in the region for over 10 years and has a demonstrated understanding of industry requirements and their operational implementation in these areas.</p> <p>The risks associated with this response are consider lower-order risks in accordance with Table 5-3. As such, CAPL considers ALARP Decision Context A should be applied for this aspect.</p>	
<p><b>Good practice control measure</b></p>	
<b>Control Measure</b>	<b>Description</b>
OPEP	<p>Under the OPGGS(E)R, NOPSEMA require that the petroleum activity have an accepted OPEP in place before commencing the activity. Should a LOWC scenario occurs, the OPEP will be implemented.</p> <p>CAPL has developed an OPEP (Ref. 2) to support all spill response activities across all its assets.</p> <p>Dispersants are suitable for either subsea injection or surface spraying but need approval in the country of use. The OPEP includes the use of AMSA Oil Spill Control Agents (OSCA) register. The OSCA register is considered acceptable for maritime use. Listing involves providing evidence that the OSCA is suitable for use in Australia. Once listed on the OSCA Register, the use of these products to assist in oil spill clean-up in Australian waters during a National Plan response is protected by an exemption under the EPBC Act.</p>
OSMP	<p>The OSMP details the arrangements and capability in place for operational and scientific monitoring.</p> <p>Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required).</p> <p>CAPL has developed an OSMP (Ref. 3) to support all spill monitoring activities across all its assets.</p> <p>Specifically, Operational Study 2 – Chemical Dispersant Efficacy Assessment provides information on the efficacy of the chemical dispersant applied to the spill oil.</p>
Relevant persons consultation— Ongoing consultation (First Nations people)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative</p>

and/or representative bodies)	<p>bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<b>Likelihood and Risk Level Summary</b>		
<b>Likelihood</b>	<p>Dispersant use is subject to the controls and application criteria as outlined in the SCERP (Ref. 195) and OPEP (Ref. 2) and thus may only be applied to spills distant from coastal receptors under appropriate environmental conditions. Where these criteria are met, and with the selection of a National Plan OSCA-registered dispersant, the likelihood of the described consequences occurring is Remote (5).</p>	
<b>Risk Level</b>	Very low (9)	
<b>Acceptability Summary</b>		
<b>Principles of ESD</b>	<p>The potential impact associated with this aspect is considered to have the potential to result in minor, localised, incidental damage to, or alteration of, habitats and ecological communities; however, this is not expected to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Minor (5).</p> <p>Therefore, no additional evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	<p>No legislation and other requirements relevant to this aspect were identified.</p>	
<b>Internal context</b>	<p>The following CAPL management processes or procedure were considered relevant for this aspect:</p> <ul style="list-style-type: none"> <li>• OPEP (Ref. 2)</li> <li>• OSMP (Ref. 3).</li> </ul> <p>Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>	
<b>External context</b>	<p>During relevant persons consultation, no objections or claims were raised regarding spill response activities.</p>	
<b>Defined acceptable level</b>	<p>These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan. CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<b>Environmental Performance Outcomes</b>	<b>Environmental performance Standard</b>	<b>Measurement Criteria</b>
Reduce the risk of impacts to the environment during event response.	<p><b>OPEP</b></p> <p>If SSDI is selected for use, the subsea dispersant shall be approved for use in Australia.</p>	<p>Records confirm the SSDI is included on AMSA's Oil Spill Control Agents list.</p>

No adverse change to First Nations cultural heritage values from the petroleum activity.	<p><b>OSMP</b></p> <p>In the event of a Level 2 (or above) oil spill occurring to marine or coastal waters, the OSMP will be activated, and:</p> <ul style="list-style-type: none"> <li>the components of the operational monitoring program are initiated<sup>40</sup> once the specific initiation criteria are met</li> <li>the components of the scientific monitoring program are initiated once the specific initiation criteria are met</li> <li>operational and scientific monitoring components are continued until respective termination criteria are met.</li> </ul>	<p>Records confirm the OSMP has been activated.</p> <p>Records confirm that once initial criteria have been met, operational monitoring programs were initiated.</p> <p>Records confirm that once initial criteria have been met, scientific monitoring programs were initiated.</p> <p>Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased.</p>
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>In the event of a spill occurring, CAPL will engage with relevant First Nations people and/or representative bodies.</p>	<p>Relevant persons consultation records.</p>

#### 7.16.4.2 Ground disturbance—shoreline spill response

Conducting SHC involves moving personnel and equipment, which triggers the environmental aspect of ground disturbance.

The objective of SHC is to apply techniques that are appropriate to the shoreline type to remove as much oil as possible. Various techniques may be used alone or in combination to clean oiled shorelines, including shoreline assessment, natural recovery, sorbents, sediment reworking, manual and mechanical removal, and washing, flooding, and flushing.

Source			
In the event of a worst-case spill event, implementing SHC techniques involves people and equipment, which may disturb shoreline habitat.			
Potential Impacts and Risks			
Impacts	C	Risks	C
N/A	-	Conducting SHC, including moving personnel and equipment, has the potential to damage terrestrial habitats (including nests), with subsequent impacts to fauna such as turtles and birds.	5
		Changes to cultural heritage values	5
Consequence Evaluation			
<b>Changes to terrestrial habitats and/or fauna</b>			
Potential impacts of SHC vary, depending on the method used and the shoreline habitat. General impacts include physical disturbance from using personnel, vehicles, and equipment.			

<sup>40</sup> As per Section 2.1 of the OSMP, for this plan initiation means starting preparation for implementation.

Values and sensitivities in the area that may be affected by the spill include sensitive shoreline habitats (such as mangroves) and nesting/foraging habitat for fauna species such as turtles and birds.

The impacts associated with undertaking SHC may be more than if the hydrocarbon product was left in place and remediated through natural processes. Leaving the product in place is a common response option if continual human and vessel/vehicle traffic has the potential to generate greater impacts than the product itself. This technique has been implemented internationally, including for the Montara spill (where persistent components of the product were left to naturally break down in dense coastal mangroves) and the Macondo spill (where marshes and wetlands that had been impacted by weathered product were allowed to recover naturally). If a smaller extent of shoreline is impacted, the impacts from an SHC response activity may be lessened and more localised.

Potential impacts associated with using vehicles, personnel, and equipment during SHC can include disturbing wildlife feeding or breeding (including damage to nests) and damaging dune structures, vegetation, or intertidal habitats. These shoreline activities have the potential to result in short-term and localised damage to or alteration of habitats and ecological communities and therefore the consequence is ranked as Minor (5).

**Changes to cultural heritage values**

As discussed in Section 4.6, there are heritage listed places or sites within the Hydrocarbon EMBA, including World and National heritage Ningaloo Coast (within both Hydrocarbon Ecological and Social EMBA), a First Nation Heritage site around Ningaloo Station and a Native Title Determination area around the Ningaloo Coast (both within the Hydrocarbon Social EMBA only). However, if SPD or SHC were selected for implementation during a spill response these are likely to occur at sites closer to the spill location (and subject to higher shoreline oil loading) such as the offshore Pilbara islands (Sections 7.16.2 and 7.16.3); i.e. not along the Ningaloo Coast area.

Without proper planning, there is potential for SPD and SHC to result in changes to tangible and intangible cultural heritage values. As such, CAPL has ranked the consequence for changes to cultural values as Minor (5), consistent with that for SPD and SHC.

**ALARP Decision Context Justification**

The risks associated with shoreline oil spill response techniques are well understood, with the techniques having been applied successfully for a number of large spill events. Although there is a good understanding of these response techniques, there is uncertainty regarding the specific location at which this may be undertaken, and the level of response that may be required in these areas. Spill modelling was used to inform the extent of such a spill, and thus provide a sound basis for response planning (including shoreline response) to such an incident.

Control measures to manage the risks associated with shoreline spill response techniques are well defined with most being linked to detailed monitoring plans that feed into tactical planning requirements and NEBAs.

During relevant persons consultation, no objections or claims were raised regarding spill response activities.

The risks arising from implementing shoreline response techniques in the event of a spill are extremely low, and CAPL consider these to be lower-order risks in accordance with Table 5-3. As such, CAPL considers ALARP Decision Context A should be applied for this aspect.

**Good practice control measure**

Control Measure	Description
OSMP	<p>The OSMP details the arrangements and capability in place for operational and scientific monitoring.</p> <p>Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required).</p> <p>CAPL has developed an OSMP (Ref. 3) to support all spill monitoring activities across all its assets.</p>
Relevant persons consultation— Ongoing consultation (First	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4)</p>



Nations people and/or representative bodies)	<p>CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>	
<b>Likelihood and Risk Level Summary</b>		
<b>Likelihood</b>	Depending on the clean-up technique and habitat, potential consequences of shoreline cleaning are remote (Note: Mechanical methods are generally expected to have greater consequences than manual cleaning). With the control measures in place, CAPL assessed the likelihood of the consequence described above as Remote (5).	
<b>Risk Level</b>	Very low (9)	
<b>Acceptability Summary</b>		
<b>Principles of ESD</b>	<p>The potential impact associated with this aspect is considered to have the potential to result in minor, localised, incidental damage to, or alteration of, habitats and ecological communities; however, this is not expected to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Minor (5). Therefore, no additional evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	No legislation and other requirements relevant to this aspect were identified.	
<b>Internal context</b>	<p>The following CAPL management processes or procedure were considered relevant for this aspect:</p> <ul style="list-style-type: none"> <li>OSMP (Ref. 3).</li> </ul>	
<b>External context</b>	During relevant persons consultation, no objections or claims were raised regarding spill response activities.	
<b>Defined acceptable level</b>	These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.	
<b>Environmental Performance Outcomes</b>	<b>Environmental performance Standard</b>	<b>Measurement Criteria</b>
<p>Reduce the risk of impacts to the environment during event response.</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>OSMP</b></p> <p>In the event of a Level 2 (or above) oil spill to marine or coastal waters occurring, the OSMP will be activated, and:</p> <ul style="list-style-type: none"> <li>the components of the operational monitoring program are initiated<sup>41</sup> once the specific initiation criteria are met</li> <li>the components of the scientific monitoring program</li> </ul>	Records confirm the OSMP has been activated.
		Records confirm that once initial criteria have been met, operational monitoring programs were initiated.
		Records confirm that once initial criteria have been met, scientific monitoring programs were initiated.
		Records confirm that once termination criteria have been met,

<sup>41</sup> As per Section 2.1 of the OSMP, for this plan initiation means starting preparation for implementation.

	<p>are initiated once the specific initiation criteria are met</p> <ul style="list-style-type: none"> <li>operational and scientific monitoring components are continued until respective termination criteria are met.</li> </ul>	operational and scientific monitoring programs were ceased.
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>In the event of a spill occurring, CAPL will engage with relevant First Nations people and/or representative bodies.</p>	Relevant persons consultation records.

### 7.16.4.3 Physical presence—oiled wildlife response

Oiled wildlife response (OWR) activities are aimed at treating fauna that have encountered, or are likely to encounter, spilt hydrocarbons. OWR generates the environmental aspect of physical presence/interaction with fauna, through handling, treating, rehabilitating, and releasing fauna.

Source			
In the event of a worst-case spill event, the handling and treating marine fauna (through an OWR) will result in personnel interacting with marine fauna.			
Potential Impacts and Risks			
Impacts	C	Risks	C
N/A	-	Conducting OWR has the potential to cause further harm to oiled fauna due to hazing, barriers, deterrents, and cleaning activities, and has the potential to cause injury/death.	5
		Changes to cultural heritage values	5
Consequence Evaluation			
<p><b>Harm to oiled fauna</b></p> <p>Environmental values that may be affected by OWR activities include marine fauna such as turtles and birds.</p> <p>Due to the intensive nature of OWR activities and the fragile nature of many shore and wading birds, OWR activities can have high bird mortality rates. Physical exclusion and hazing operations can result in entanglement and stress-related impacts to marine birds. Cleaning of oiled wildlife may result in skin irritations, impacts to the hydrophobic properties of bird plumage, and stress-induced physiological effects.</p> <p>Spill modelling indicates that areas along the coast frequented by fauna, such as Barrow Island, are areas where OWR is expected to be undertaken. If a spill coincided with turtle nesting/hatchling or bird nesting periods, a large number of animals may be treated using OWR. Impacts from hazing and deterrents are anticipated to be localised to the area of potential spill impact and limited to the spill period. Even if OWR was undertaken during nesting periods, only a small proportion of the nesting population would be involved as the species potentially involved nest widely elsewhere. The potential consequences associated with an OWR are localised and short term and are ranked as Minor (5).</p>			
<p><b>Changes to cultural heritage values</b></p> <p>As identified from literature and/or consultation (Section 4.3.5.2.1), Sea Country is a value for First Nations people. One of the specific tangible values of Sea Country identified through consultation was marine fauna (Table 4-14).</p>			

<p>CAPL considers that indirect impacts to First Nations cultural values associated with marine fauna may occur due to OWR. As such, CAPL has ranked the consequence for cultural values as Minor (5), consistent with that for OWR.</p>	
<p><b>ALARP Decision Context Justification</b></p>	
<p>The risks associated with OWR are well understood, with the technique having been applied successfully for a number of large spill events. Although there is a good understanding of the response technique, there is uncertainty regarding the specific location at which this may be undertaken, the number of animals that may be impacted, and thus the level of response that may be required.</p> <p>Spill modelling was used to inform the extent of such a spill, and thus provide a sound basis for response planning to such an incident.</p> <p>Control measures to manage the risks associated with OWR are well defined with most being linked to detailed monitoring plans that feed into tactical planning requirements and NEBAs.</p> <p>During relevant persons consultation, no objections or claims were raised regarding OWR activities.</p> <p>The risks arising from implementing OWR in the event of a spill are extremely low, and CAPL consider these to be lower-order risks in accordance with Table 5-3. As such, CAPL considers ALARP Decision Context A should be applied for this aspect.</p>	
<p><b>Good practice control measure</b></p>	
<b>Control Measure</b>	<b>Definition</b>
OSMP	<p>The OSMP details the arrangements and capability in place for operational and scientific monitoring.</p> <p>Operational monitoring collects information about the oil spill to aid planning and decision making for executing spill response or clean-up operations. Scientific monitoring focuses on the environmental impact attributable to the spill or the associated response activities and informs requirements for remediation (if required).</p> <p>CAPL has developed an OSMP (Ref. 3) to support all spill monitoring activities across all its assets.</p> <p>Specifically, Operational Study 6 – Rapid Seabird and Shorebird Assessment and Operational Study 7 – Rapid Marine Megafauna Assessment provide information on the presence of wildlife with regards to predicted trajectory to understand the level of OWR required.</p>
Relevant persons consultation— Ongoing consultation (First Nations people and/or representative bodies)	<p>In addition to consultation undertaken during the preparation of this EP (as required by regulation 25 of the OPGGS(E)R, and described in Section 6), where requested, as part of ongoing consultation (as required by regulation 22(15) of the OPGGS(E)R, and described in Section 8.3.4) CAPL will continue to engage with First Nations people and/or representative bodies. This ongoing consultation relates to both the specific petroleum activity (Table 8-5) as well as broader engagement and relationship building (Section 8.3.4.3).</p> <p>Ongoing consultation and relationship building with First Nations people and/or representative bodies provides a continual improvement opportunity to support CAPLs understanding of cultural values or features that may be present within their areas of operation, and subsequently allow potential impacts and risks to be managed to an ALARP and acceptable level.</p>
<p><b>Likelihood and Risk Level Summary</b></p>	
<b>Likelihood</b>	Where there is the possibility for surface oil to impact wildlife, the risks associated with OWR are lower than those associated with inaction. With the control measures in place, the likelihood of the described consequences occurring from OWR activities was determined to be Remote (5).
<b>Risk Level</b>	Very low (9)
<p><b>Acceptability Summary</b></p>	

<b>Principles of ESD</b>	<p>The potential impact associated with this aspect is considered as having the potential to result in a localised incidental impact and thus is not expected to affect biological diversity and ecological integrity.</p> <p>The consequence associated with this aspect is Minor (5).</p> <p>Therefore, no additional evaluation against the Principles of ESD is required.</p>	
<b>Relevant environmental legislation and other requirements</b>	<p>No legislation and other requirements relevant to this aspect were identified.</p>	
<b>Internal context</b>	<p>The following CAPL management processes or procedure were considered relevant for this aspect is:</p> <ul style="list-style-type: none"> <li>OSMP (Ref. 3).</li> </ul> <p>Control measures related to each of the above management processes or procedures have been described for this aspect. As such, CAPL considers that impact and risk management is consistent with company policy, culture, and standards.</p>	
<b>External context</b>	<p>During relevant persons consultation, no objections or claims were raised regarding spill response activities.</p>	
<b>Defined acceptable level</b>	<p>These risks are inherently acceptable as they are considered lower-order risks in accordance with Table 5-3. In addition, the potential risks evaluated for this aspect are not inconsistent with any relevant recovery or conservation management plan, conservation advice, or bioregional plan.</p> <p>CAPL considers that the petroleum activity, with the control measures as described for this aspect in place, meet this acceptable level.</p>	
<b>Environmental Performance Outcomes</b>	<b>Environmental performance Standard</b>	<b>Measurement Criteria</b>
<p>Reduce the risk of impacts to the environment during event response.</p> <p>No adverse change to First Nations cultural heritage values from the petroleum activity.</p>	<p><b>OSMP</b></p> <p>In the event of a Level 2 (or above) oil spill to marine or coastal waters occurring, the OSMP will be activated, and:</p> <ul style="list-style-type: none"> <li>the components of the operational monitoring program are initiated<sup>42</sup> once the specific initiation criteria are met</li> <li>the components of the scientific monitoring program are initiated once the specific initiation criteria are met</li> <li>operational and scientific monitoring components are continued until respective termination criteria are met. .</li> </ul>	Records confirm the OSMP has been activated.
		Records confirm that once initial criteria have been met, operational monitoring programs were initiated.
		Records confirm that once initial criteria have been met, scientific monitoring programs were initiated.
		Records confirm that once termination criteria have been met, operational and scientific monitoring programs were ceased.
	<p><b>Relevant persons consultation—Ongoing consultation (First Nations people and/or representative bodies)</b></p> <p>In the event of a spill occurring, CAPL will engage with relevant First Nations people and/or representative bodies.</p>	Relevant persons consultation records.

<sup>42</sup> As per Section 2.1 of the OSMP, for this plan initiation means starting preparation for implementation.

## 8 implementation strategy

This section provides a description of the implementation strategy as required under regulation 22 of the OPGGS(E)R. The implementation strategy identifies the systems, practices, and procedures used to ensure the environmental impacts and risks of the petroleum activities are continuously reduced to ALARP and the environmental performance outcomes and standards detailed in Section 6 are achieved.

CAPL, as titleholder, is responsible for ensuring the petroleum activity within scope of this EP is managed in accordance with this implementation strategy. The MODU and vessel contractors will be required to comply with the requirements of this EP to ensure that the environmental performance outcomes and standards are achieved. The MODU and vessel contractors Health, safety, and environment (HSE) documentation will be reviewed for alignment with the relevant requirements described in this EP prior to the commencement of the activity.

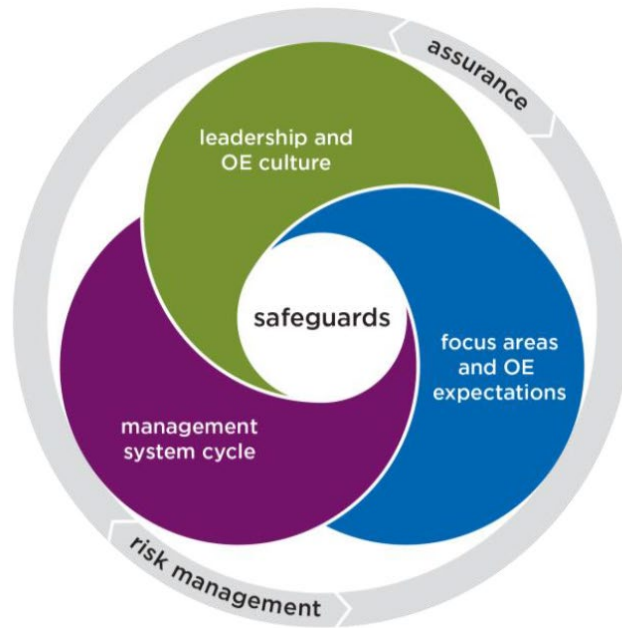
### 8.1 Operational Excellence Management System

CAPL's operations are managed in accordance with Chevron Corporation's OEMS, which is a comprehensive management framework that supports the corporate commitment to protect the safety and health of people and the environment. The OEMS aligns with ISO 14001:2015 *Environmental management system - Requirements with guidance for use* (Ref. 37) and meets the requirements of the OPGGS(E)R.

OE systematically manages workforce safety and health, process safety, reliability, and integrity, environment, efficiency, security, and relevant persons to meet the OE objectives and ensure safe operations of CAPL facilities and projects. The OEMS comprises the following key components (Figure 8-1):

- **leadership and OE culture**—through the OEMS, CAPL leaders engage employees and contractors to build and sustain the OE culture and deliver OE performance
- **management system cycle (MSC)**—by applying the MSC, CAPL leaders make risk-based and data-driven decisions, prioritise activities, and direct improvements
- **focus areas and OE expectations** (including common expectations)—focus areas are categories of OE risks and include workforce safety and health, process safety reliability and integrity, environment, efficiency, security, and stakeholder engagement; OE expectations guide the design, management, and assurance of the presence and effectiveness of safeguards.

The OEMS outlines the process for identifying, establishing, and maintaining safeguards and to provide assurance that they are in place, functioning as intended, and are in accordance with legal and OE requirements. The risk management process (Figure 8-1) assesses and identifies safeguards, which are the hardware and human actions designed to directly prevent or mitigate an incident or impact associated with the project, personnel, and the environment. The assurance process (Figure 8-1) provides the verification and validation that the safeguards are in place and functioning as intended.



**Figure 8-1: Overview of Chevron Corporation's OEMS**

## 8.2 Leadership and OE culture

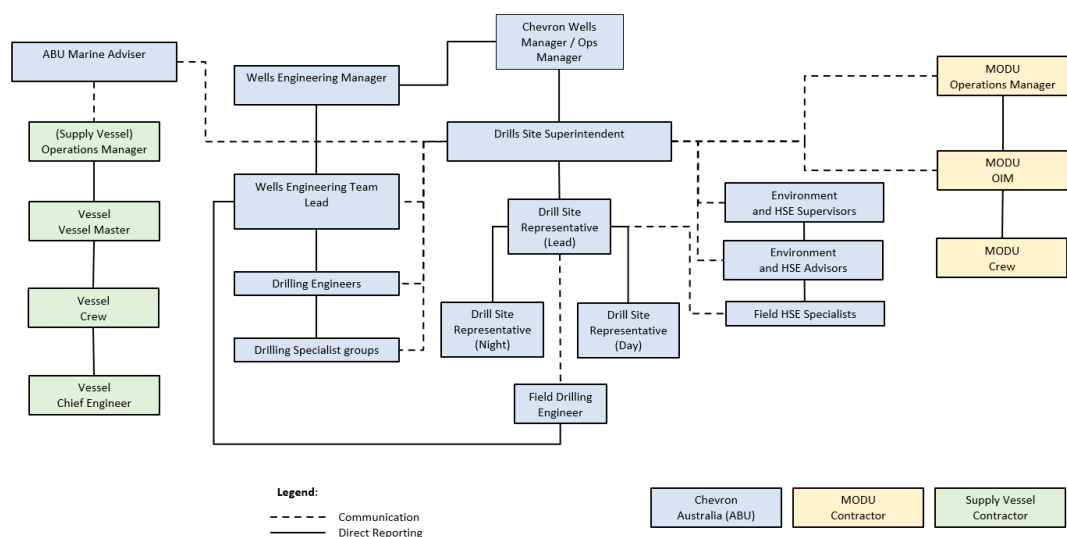
CAPL leaders demonstrate and are accountable for the consistent and rigorous application of the OEMS to drive performance and manage risks. The actions and visibility of leaders reinforce CAPL's commitment to place the highest priority on the safety and health of its workforce, and on the protection of communities, the environment, and its assets.

### 8.2.1 Roles and accountability

CAPL leaders have the overall accountability for the implementation of the OEMS.

#### 8.2.1.1 Chain of command (petroleum activity)

As required under regulation 22(3) of the OPGGS(E)R, a clear chain of command for implementing the petroleum activity is outlined in Figure 8-2.



**Figure 8-2: Chain of command—DS-1 exploration drilling**

### 8.2.1.2 Roles and responsibilities (petroleum activity)

The roles and responsibilities of key CAPL and contractor personnel for implementing task-specific control measures as detailed in Section 7, are summarised in Table 8-1.

**Table 8-1 Key roles and responsibilities—DS-1 exploration drilling**

Role	Responsibilities
<b>CAPL personnel</b>	
Chevron Wells Manager / Ops Manager	<ul style="list-style-type: none"> <li>• Overall responsibility for implementing, managing, and reviewing this EP. Ensure that:               <ul style="list-style-type: none"> <li>• all third-party vessels or contractors are aware of any requirements within this EP, including completion of relevant inductions as per Section 8.2.1.3</li> <li>• ongoing consultation is conducted in accordance with Section 8.3.4.1</li> <li>• any Management of Change (MoC) is conducted in accordance with Section 8.3.2.2, and notify the Drill Site Representative and HSE Adviser of any scope changes where relevant</li> <li>• environmental incident reporting is completed in accordance with Section 8.4.2</li> <li>• routine environmental reporting is undertaken in accordance with Section 8.4.3.</li> </ul> </li> </ul>
Drills Site Superintendent (Chevron Wells Superintendent)	<ul style="list-style-type: none"> <li>• Ensure that:               <ul style="list-style-type: none"> <li>• all personnel are made aware of their requirements under this EP and have completed inductions</li> <li>• impacts and risks are continually reduced to ALARP and an acceptable level by implementing this EP in accordance with Section 7</li> <li>• pre-mobilisation inspections of vessels are undertaken to confirm they comply with relevant legislative requirements, and all requirements under this EP</li> <li>• corrective actions identified during environmental inspections are closed out in accordance with Section 8.3.6</li> <li>• all incidents, including breaches of environmental performance standards, are reported to the Chevron Wells Manager / Ops Manager.</li> </ul> </li> </ul>
Environment and HSE Supervisors	<ul style="list-style-type: none"> <li>• Ensure that:               <ul style="list-style-type: none"> <li>• all personnel are made aware of their requirements under this EP</li> <li>• impacts and risks are continually reduced to ALARP and an acceptable level by implementing this EP in accordance with Section 7</li> <li>• all changes to this EP are subject to a MoC assessment as described in Section 8.3.2.2</li> <li>• compliance with this EP is verified in accordance with Section 8.3 and Section 8.3.8.8.1, including:                   <ul style="list-style-type: none"> <li>– completion of environmental inspections</li> <li>– collection of evidence against environmental performance standards</li> <li>– regular review of compliance with environmental performance standards</li> <li>– preparation of environmental performance report following completion of drilling program</li> </ul> </li> <li>• assist with review, investigation, and reporting of environmental incidents (as required)</li> <li>• this EP is reviewed in accordance with Section 8.5.</li> </ul> </li> </ul>



Role	Responsibilities
<b>Contractor</b>	
Vessel Master/s	<p>Ensure that:</p> <ul style="list-style-type: none"> <li>• impacts and risks are continually reduced to ALARP and an acceptable level by implementing this EP in accordance with Section 7</li> <li>• all necessary vessel-related documentation (e.g. SOPEPs, certificates, etc.) is available in accordance with Section 7</li> <li>• all marine safety information notifications are issued in accordance with Section 7</li> <li>• vessel operations are being conducted in accordance with the legislative requirements and this EP, including waste management, refuelling, and emergency/oil spill response</li> <li>• maintenance of equipment and records meet statutory requirements</li> <li>• vessels implement cetacean interaction requirements in accordance with EPBC Regulations 2000, and any other additional marine fauna interaction requirements in accordance with this EP</li> <li>• report any potential UCH finds to the Drill Site Representative</li> <li>• all incidents are immediately reported to the Drill Site Representative</li> <li>• all emissions and discharges are monitored and recorded in accordance with Section 7 and Section 8.4.1.</li> </ul>
MODU OIM	<p>Ensure that:</p> <ul style="list-style-type: none"> <li>• impacts and risks are continually reduced to ALARP and an acceptable level by implementing this EP in accordance with Section 7</li> <li>• all marine safety information notifications are issued in accordance with Section 7</li> <li>• MODU operations are being conducted in accordance with the legislative requirements and this EP, including waste management, refuelling, and emergency/oil spill response</li> <li>• maintenance of equipment and records meet statutory requirements</li> <li>• all incidents are immediately reported to the Drill Site Representative</li> <li>• all emissions and discharges are monitored and recorded in accordance with Section 7 and Section 8.4.1.</li> </ul>
MODU and vessel crew	<p>Ensure that:</p> <ul style="list-style-type: none"> <li>• working in accordance with accepted MODU and vessel procedures</li> <li>• compliance with this EP's requirements as applicable to assigned role</li> <li>• all incidents are immediately reported to the MODU OIM or Vessel Master.</li> </ul>
ROV operator	<p>Ensure that:</p> <ul style="list-style-type: none"> <li>• UCH finds protocol is implemented.</li> </ul>

### 8.2.1.3 Training and competency (petroleum activity)

In accordance with regulation 22(4) of the OPGGS(E)R, each employee responsible for implementing task-specific control measures during operational activities must be aware of their specific responsibilities as detailed in this EP. People who hold responsibilities relating to implementing this EP are hired by CAPL on the basis of their particular qualifications, experience, and competency.

All external contractor personnel involved with activities within scope of this EP will hold qualifications or training certification relevant to their role, which will be confirmed through the contractor selection process, audits and review processes.

The MODU and vessel contractors will provide marine crew who are trained and competent to undertake their respective activities on board the MODU or vessel. All marine personnel will be qualified in accordance with the International Convention on Standards of Training Certification and Watch Keeping for Seafarers (STCW95).

Personnel with specific responsibilities under this EP (refer to Section 8.2.1.2) will be made aware of their role-specific responsibilities under this EP.

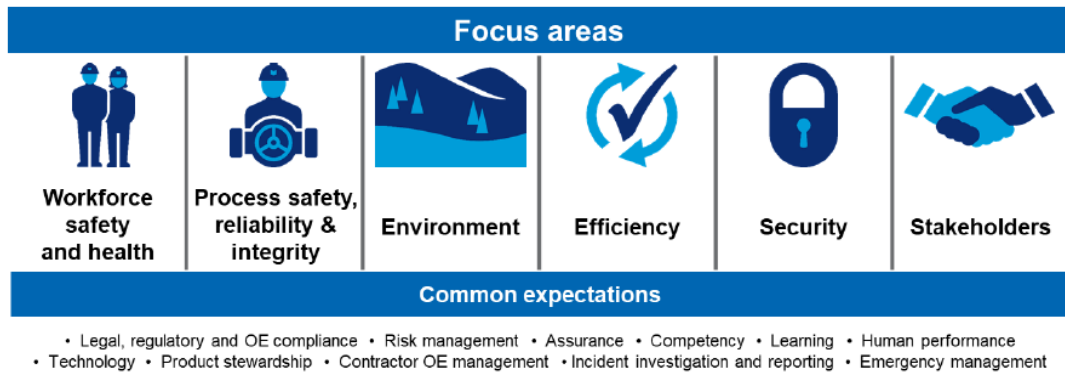
All personnel (including contractors) are required to attend inductions that are relevant to their role (Table 8-2). Records of attendance at inductions will be maintained as per Section 8.3.2.1.

**Table 8-2: Training and competency—DS-1 exploration drilling**

Training/ competency	Required personnel	Scope
Induction	All relevant personnel	<p>Before commencing activities, all personnel, including contractors, must attend an induction that includes an overview of the requirements of this EP. This induction fosters environmental stewardship amongst all personnel and ensures that they are aware of the control measures implemented to minimise the potential impact on the environment.</p> <p>The induction includes:</p> <ul style="list-style-type: none"> <li>• awareness of Chevron Corporation’s Operational Excellence Policy 530 (appendix a)</li> <li>• an overview of environmental sensitivities, and key impacts and risks from the petroleum activity</li> <li>• roles and responsibilities of MODU and vessel crew members</li> <li>• cetacean interaction requirements under Part 8 of this EPBC Regulations 2000 and additional marine fauna interaction controls as per requirements of this EP</li> <li>• overview of requirements of UCH finds protocol</li> <li>• waste management and hazardous materials housekeeping requirements</li> <li>• incident reporting requirements (including definitions and reporting pathways)</li> <li>• incident response arrangements.</li> </ul>
UCH	ROV operators	<p>Before commencing the petroleum activity, ROV operators will be provided with a UCH-specific induction. This induction will include an overview of the identification of potential UCH sites or artefacts, and the specific management requirements of the UCH finds protocol.</p>
Marine fauna observations	Bridge-watch crew	<p>All bridge-watch crew must have completed an MFO awareness session. This awareness session includes:</p> <ul style="list-style-type: none"> <li>• cetacean observation requirements under the EPBC Regulations 2000</li> <li>• additional marine fauna observation requirements as specified within this EP</li> <li>• sighting process and forms.</li> </ul>

### 8.3 Focus areas and OE expectations

The OE expectations are organised into six focus areas (Figure 8-3). The OE expectations provide guidance to design, operate, maintain, improve, and assure the presence and effectiveness of safeguards. Common expectations also apply and support the OE expectations and focus areas Figure 8-3.



**Figure 8-3: Focus areas and common expectations**

The focus areas and common expectations relevant to this EP, and their key processes that demonstrate how CAPL is effective in reducing environmental impacts and risks to ALARP and an acceptable level, are listed in Table 8-3. Each of these focus areas and common expectations are described in further detail in the following subsections.

**Table 8-3: Relevant focus areas and common expectations**

Focus area or common expectation	Key processes
<b>Focus area</b>	
Workplace safety and health	<ul style="list-style-type: none"> <li>• <i>Managing Safe Work (MSW): ABU Standardised OE Process</i> (Ref. 38)</li> <li>• <i>Chevron Marine Standard Non Tankers: Corporate OE Standard</i> (Ref. 39)</li> <li>• <i>ABU Hazardous Materials Management Procedure: ABU Standardised OE Procedure</i> (Ref. 40).</li> </ul>
Process safety, reliability and integrity	<ul style="list-style-type: none"> <li>• <i>OE Information Management: ABU Standardised OE Process</i> (Ref. 41)</li> <li>• <i>Management of Change for Facilities and Operations: ABU Standardised OE Process</i> (Ref. 42).</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• <i>Environmental Stewardship: ABU Standardised OE Process</i> (Ref. 43)</li> <li>• <i>Quarantine Procedure Marine Vessels. ABU Standardised OE Process</i> (Ref. 44)</li> </ul>
Stakeholders	<ul style="list-style-type: none"> <li>• <i>Stakeholder Engagement and Issues Management: ABU Standardised OE Process</i> (Ref. 45)</li> </ul>
<b>Common expectation</b>	
Risk management	<ul style="list-style-type: none"> <li>• <i>ABU OE Risk Management Process</i> (Ref. 32)</li> </ul>
Assurance	<ul style="list-style-type: none"> <li>• <i>OE Assurance Corporate Process</i> (Ref. 46)</li> <li>• <i>OE Corporate Standard Incident Investigation</i> (Ref. 47)</li> <li>• <i>OE Data Reporting Standard</i> (Ref. 48)</li> </ul>
Incident investigation and reporting	<ul style="list-style-type: none"> <li>• <i>Incident Investigation and Reporting (II&amp;R) Execution Manual</i> (Ref. 49)</li> </ul>
Emergency management	<ul style="list-style-type: none"> <li>• <i>Emergency Management ABU Standardised OE Process</i> (Ref. 50)</li> <li>• <i>ABU Emergency Response Plan</i> (Ref. 287)</li> <li>• OPEP (Ref. 2)</li> <li>• OSMP (Ref. 3)</li> </ul>

### 8.3.1 Workforce safety and health

#### 8.3.1.1 Managing safe work

The MSW expectation is to assess workplace safety and health hazards and manage the risks associated with the execution and control of work performed by CAPL employees, their delegates, contractors, and subcontractors. The MSW system (Ref. 38) is implemented to ensure safe work practices are made available to the workforce. Standards and procedures relating to MSW relevant to this EP include the permit to work (PTW) system. The PTW system, which includes simultaneous operations (SIMOPS) and hazard analysis, is a way to identify, communicate, mitigate, and control hazards associated with work that have the potential to adversely affect HSE. As the potential consequence associated with each task increases, so does the level of controls and approval that are required.

#### 8.3.1.2 Marine

The *Marine Standard Non Tankers: Corporate OE Standard* (Ref. 39) identifies the requirements and activities necessary to deliver safe, reliable, and efficient third-party marine operations. This process describes key roles and responsibilities for managing marine safety and establishes measurement and verification activities designed to promote a process of continual improvement.

The Marine Standard applies to all marine vessels, emergency response, and all other (non-bulk petroleum) vessels chartered, owned, or operated by CAPL. The process also applies to vessels contracted by an affiliate or contractor that provide marine support or marine services to CAPL.

The key elements of the Marine Standard that apply to the activities outlined in this EP are:

- vessel inspections—vessels used by CAPL or its affiliates must undergo a vessel audit/inspection process before deployment to ensure that the vessels and the staffing levels meet safety requirements and are fit-for-purpose; inspections also ensure emergency procedures (such as SOPEP/SMPEP) are available and that the required standards are met for navigation equipment, lighting, waste systems, and other marine safety protocols including Marine Order 30 (Prevention of Collisions)
- competency management—vessels used by CAPL must be operated by competent personnel who meet applicable international and local regulations
- cargo handling—cargo transport and handling operations on marine vessels must comply with handling procedures and align to standard marine industry practices
- complicated and/or heavy lifts—all lifting and installing of heavy equipment near offshore infrastructure must meet the detailed requirements
- hose management—operations involving the transfer of bulk liquids using loading hoses must align to standard industry practice and safety of the environment
- vessel communication—vessels must have in place communications procedures for operations close to installations, or other mobile units to ensure that safe positioning and communications are maintained at all times.

Vessels provide an activity-specific operational guideline (ASOG), based on their use and specification, which must be accepted by CAPL.

### 8.3.1.3 Hazardous materials

CAPL's *Hazardous Materials Management Procedure* (Ref. 40) outlines the process for HSE assessment and approval of hazardous materials. Hazardous materials include those classified as 'hazardous substances' or 'dangerous goods'.

The *Hazardous Materials Management Procedure* is designed to:

- assess hazardous materials requested for procurement for their HSE risks
- ensure that appropriate controls are identified for using procured hazardous materials and that these controls are communicated to the requestors of the materials and end users at locations within CAPL's operations
- ensure no product includes CAPL-prohibited ingredients
- ensure substitutes were considered if a product contains CAPL-restricted ingredients.

As part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment. This environmental assessment is guided by the methodology and classification system used by the OCNS and Chemical Hazard Assessment and Risk Management (CHARM). Hazardous materials not listed on OCNS or CHARM, are still subject to the environmental assessment described below.

The environmental assessment includes an evaluation of the potential environmental risks that could be associated with the chemical, and considers the relevant dosage, quantity and frequency of the chemical discharge, the location and nature of the receiving environment, and the assessment criteria described in Table 8-4.

The chemical selection process ensures impacts and risks associated with chemical discharge are reduced to levels that are ALARP and acceptable, while meeting operational performance requirements.

**Table 8-4: Chemical risk assessment criteria**

Assessment criteria	Selection rationale
Potential for acute and/or chronic toxicity to aquatic life	The toxicity of a chemical is the fundamental consideration within this assessment. This reflects the UK OCNS system which ranks chemicals based on their toxicity, and then adjusts rankings depending on biodegradation and bioaccumulation properties.  The scale for toxicity is based on the toxicity rating classification system used by DEMIRS, from Hinwood et al. (Ref. 51).
Persistence or biodegradability	Biodegradation rate provides an indication of the potential persistence of the chemical within the environment, and therefore the potential duration of exposure for environmental sensitivities. The scale for biodegradation is based on adjustment criteria used by Centre for Environment, Fisheries and Aquaculture Science (CEFAS) to finalise chemical hazard assessment scores under the OCNS system.
Bioaccumulation or bio-concentration	Indicates the potential for the chemical (or components of the chemical) to accumulate within biological matrices and food chains. Chemicals which may not be toxic and are introduced to the environment in low concentrations can concentrate within biological matrices to the point where they become toxic and may have either acute or chronic effects.

Assessment criteria	Selection rationale
	The scale for bioaccumulation is based on adjustment criteria used by CEFAS to finalise chemical hazard assessment scores under the OCNS system.

### 8.3.2 Process safety, reliability and integrity

#### 8.3.2.1 OE information management

Under the OEMS, records (including compliance records to demonstrate environmental performance and compliance with commitments in this EP) will be retained in accordance with regulation 52 of the OPGGS(E)R.

The OE information management process (Ref. 41) explains how critical information related to HSE, reliability, efficiency, and process safety is to be identified, developed, assessed, and maintained so that the workforce has access to, and is using, the most current information. This document describes key roles, responsibilities, and competencies associated with the process, and includes measurement and verification activities.

Vessel contractors will maintain records as above and are required to make these available upon request.

Records relevant to the DS-1 exploration drilling may include:

- this EP
- induction material and attendance records
- assurance register
- inspection records and supporting evidence
- incident reports, if applicable
- routine environmental reporting
- emissions and discharge data
- relevant log book records (e.g. vessel).

#### 8.3.2.2 Management of change

MoC expectations are to manage proposed changes to design, equipment, operations and products before they are implemented. In conjunction with the *ABU OE Risk Management Process* (Section 8.3.5), the *Management of Change for Facilities and Operations* process (Ref. 42) is followed to document and assess the impact of changes to activities described in this EP. These changes will be addressed to determine if there is potential for any new or increased environmental impact or risk not already provided for in this EP. If these changes do not trigger relevant petroleum regulations as detailed below, this EP will be revised, and changes recorded in the EP without resubmission.

For the DS-1 exploration drilling, the following would trigger an MoC:

- change to the activity scope (e.g. timing, vessel, equipment, etc.)
- changes to knowledge of the receiving environment (e.g. EPBC listed species, Part 13 statutory instruments [i.e. recovery plans, threat abatement plans, conservation advice, wildlife conservation plans], requirements for AMPs, First Nations cultural heritage, etc.)

- new objections or claims received from relevant persons that are assessed to have merit
- non-conformances or opportunities for improvement which indicate that control measures may not be managing environmental impacts and risk to ALARP and acceptable levels
- incidents which identify new or increased impacts and risks arising from activities not previously identified in the accepted EP.

In accordance with regulation 38 and 39 of the OPGGS(E)R this EP must be resubmitted to NOPSEMA in the following circumstances:

- before commencing a new activity, or any significant modification or new stage of the activity, not provided for in this EP
- if a change in the titleholder results in a change in the manner in which the impacts and risks of the activity are managed
- as soon as practicable after the occurrence of any significant new environmental impact or risk, or significant increase in an existing environmental impact or risk, that is not provided for in this EP
- as soon as practicable after the occurrence of a series of new environmental impacts or risks, or a series of increases in existing environmental impacts or risks, occur which, taken together, amount to the occurrence of a significant new environmental impact or risk, or a significant increase in an existing environmental impact or risk, not provided for in this EP.

### 8.3.3 Environment

The Environment Focus Area provides CAPL's framework for the protection of the environment and community health using a risk-based approach that addresses potential environmental impacts.

#### 8.3.3.1 Environmental stewardship

The environmental stewardship process (Ref. 43) is designed to identify, assess, and manage potentially significant environmental impacts in a consistent manner and continually improve environmental performance. The objectives of the process are to:

- provide a consistent approach to environmental stewardship
- reduce the potential for environmental impacts
- support continual improvement in environmental performance throughout the lifecycle of Chevron's assets.

#### 8.3.3.2 Quarantine

The *Quarantine Procedure Marine Vessels* (Ref. 44) provides information about quarantine compliance to CAPL, contractors, and others associated with marine vessels.

The purpose of this procedure in relation to the offshore title areas is to prevent offshore facilities and activities associated with CAPL title areas becoming staging areas for the introduction of marine pests into Australian waters and ports.



This procedure also outlines the requirements for vessels operating in title areas and details the premobilisation requirements and ongoing management of vessels operating in title areas.

All vessels operating in title areas must comply with applicable Australian biofouling and ballast water requirements to prevent the introduction and spread of marine pests. Regardless of the origin of the vessel or where it will be operating, all vessels must be free from marine pests when mobilised and the contractor must demonstrate the vessel meets low risk rating for biofouling.

As per the Quarantine Procedure Marine Vessels (Ref. 44), CAPL undertakes a risk assessment before any vessel is mobilised to title areas to confirm the vessel meets the requirements for approaching and accessing these areas. For this purpose, each vessel contractor submits a completed Marine Vessel Questionnaire with supporting evidence to CAPL for assessment.

This risk assessment will consider the vessel's attributes and history, including wetsides cleaning, application of antifoul coating, and recent transit history, including time in known high-risk waters.

If the vessel's history is unknown or if there is a moderate risk of IMP presence, additional actions must be undertaken. These action items (which may include requirements such as dry-dock, hull cleaning, etc.) will be issued to the contractor to implement. The contractor must also submit the vessel details to the Vessel Check online risk assessment tool (<https://www.vessel-check.com/>) and provide CAPL with a copy of the resulting Risk Assessment Report demonstrating the vessel has achieved low risk rating. Only once a vessel has met the requirements of the *Quarantine Procedure Marine Vessels* (Ref. 44), CAPL will issue a Vessel Mobilisation Certificate.

#### **8.3.4 Stakeholders**

Stakeholder engagement expectations are to manage social, political, and reputational risks to CAPL (and Chevron), address potential business impacts, and generate business value by:

- identifying, assessing, and prioritising issues
- building and maintaining relationships with external stakeholders, including governments and the communities where CAPL operates
- developing and executing issue management and stakeholder engagement plans, tracking engagements and issues, and validating the effectiveness of plans.

The *Stakeholder Engagement and Issues Management Process* (Ref. 45) details an integrated approach for engaging stakeholders and managing external stakeholder issues. This process describes key roles and responsibilities for stakeholder engagement, establishes measurement and verification activities designed to monitor the effectiveness of the stakeholder engagement process and to promote continual improvement.

##### **8.3.4.1 Ongoing consultation with relevant persons**

In accordance with regulation 22(15) of the OPGGS(E)R, CAPL will undertake ongoing consultation for this petroleum activity with relevant authorities and other relevant interested persons or organisations for this petroleum activity as described in Table 8-5.

Through co-design of consultation, CAPL will agree processes for ongoing consultation with relevant persons. This may include consultation on the ongoing environmental performance of the petroleum activity and review of applicable control measures with the relevant persons. Engagement agreements and consultation plans with relevant persons are included in the sensitive information report. Records for ongoing consultation with relevant persons will be recorded and maintained in CAPL’s online tracking engagements system.

Any objections or claims arising from ongoing consultation that have merit and have the potential to result in changes to the description of environment, impact or risk assessment, or control measures, will be subject to CAPL’s Management of Change (MoC) process, in accordance with Section 8.3.2.2.

If a new relevant person is identified during the in-force period of the EP, CAPL will provide sufficient information to that relevant person (as described in Section 6.2.2) and will assess the merits of the objections or claims of that relevant person in accordance with Section 6.3.7 and CAPL’s MoC process (Section 8.3.2.2).

**Table 8-5: Notifications and ongoing consultation**

Stakeholder	Notification or ongoing consultation requirement	Timing	Frequency
<b>Notifications</b>			
AHO	Provide information to enable promulgation of Notice to Mariners Notify AHO via <a href="mailto:datacentre@hydro.gov.au">datacentre@hydro.gov.au</a> .	At least four weeks before commencing activities, or as otherwise agreed with AHO.	Once, prior to activities commencing
AMSA	Provide information to enable promulgation of radionavigation warnings Notify AMSA’s JRCC via <a href="mailto:rccaus@amsa.gov.au">rccaus@amsa.gov.au</a> (phone: 1800 641 792 or +61 2 6230 6811).	At least 24 to 48 hours before commencing activities, or as otherwise agreed with AMSA.	Once, prior to activities commencing.
Relevant persons (that have requested ongoing notifications) including: <ul style="list-style-type: none"> <li>Recfishwest</li> </ul>	CAPL will provide a pre-start notification confirming the start date of the petroleum activity.	At least two weeks before commencing activities.	Once, prior to activities commencing.
	CAPL will provide notification following completion of the petroleum activity.	Within two weeks of completion of activities.	Once post activity completion.
Potentially affected relevant persons and/or relevant persons that have requested emergency event notifications, including: <ul style="list-style-type: none"> <li>Coral Futures Corporation</li> <li>Maxima Pearling Company</li> <li>First Nations people and/or</li> </ul>	CAPL will provide an incident notification if an unplanned emergency event occurs that is likely to affect the functions, interests, or activities of the identified relevant person.	As soon as practicable within an emergency response	Once, post unplanned emergency event

Stakeholder	Notification or ongoing consultation requirement	Timing	Frequency
representative bodies			
<b>Ongoing consultation</b>			
Potentially affected relevant persons	CAPL to advise of any new or significant changes to activities or impacts/risks within the scope of the EP, following an evaluation as per Section 8.3.2.2, that may potentially impact marine users functions, interests, or activities.	Prior to new or significant changes to activities or impacts/risks occurring.	As required.
WAFIC	To inform of changes to activities or impacts/risks occurring that may affect fisheries Notify WAFIC via <a href="mailto:oilandgas@wafic.org.au">oilandgas@wafic.org.au</a>	Prior to new or significant changes to activities or impacts/risks occurring.	As required.
First Nations people and/or representative bodies	CAPL to continue engagement with First Nations people and/or representative bodies regarding identifying and understanding the cultural values or features that may be present within the EMBA (refer to Section 8.3.4.3).	Ongoing.	Ongoing.
	Any new information on cultural values or features within the EMBA, and subsequent changes to activities or impacts/risks within the scope of the EP, will undergo an MoC evaluation as per Section 8.3.2.2.	Ongoing.	Ongoing.
	CAPL to advise of any new or significant changes to activities or impacts/risks within the scope of the EP, following an evaluation as per Section 8.3.2.2, that may potentially impact the functions, interests and activities of First Nations people and/or representative bodies.	Prior to new or significant changes to activities or impacts/risks occurring.	As required.
	If an unplanned emergency event occurs that is likely to affect the functions, interests, or activities of First Nations people and/or representative bodies, CAPL will commence engagement with the	As soon as practicable within an emergency response.	Once, post unplanned emergency event.

Stakeholder	Notification or ongoing consultation requirement	Timing	Frequency
	relevant person and/or representative bodies.		
DCCEEW	CAPL to advise of any new or significant changes to activities or impacts/risks within the scope of the EP, following an evaluation as per Section 8.3.2.2, that may potentially impact UCH (as protected by the UCH Act).	Prior to new or significant changes to activities or impacts/risks occurring.	As required.

#### 8.3.4.2 Consultation in the event of an emergency

In the event of an emergency hydrocarbon spill event, CAPL will commence oil spill trajectory modelling using the actual inputs associated with the spill event to predict trajectory, as described in the OPEP (Ref. 2).

Once oil spill trajectory modelling is completed, CAPL will start engaging with potentially affected relevant persons (those considered relevant from Table 6-4, and any additional relevant persons identified under Section 8.3.4.1), plus any others identified from the oil spill trajectory modelling. This engagement will include WAFIC and any potentially affected commercial fisheries as required. The process for reaching out to these relevant persons includes direct contact (phone or email) or indirect contact via the CAPL website.

In the event of other emergency events (e.g. potential reportable incident), CAPL will commence any emergency management as required (and in accordance with Section 8.3.8), and consultation with required departments or agencies will occur as per regulatory requirements (e.g. refer to Table 8-16 for incident reporting requirements).

CAPL will also notify any relevant persons (as identified in Table 6-4, and any additional relevant persons identified under Section 8.3.4.1) that requested to be notified in the event of an oil spill or in the event of any other emergency event (Table 8-5).

#### 8.3.4.3 Ongoing engagement with First Nations representative bodies

Through the consultation process in preparation of this EP (Section 6), several potential initiatives or scopes for ongoing engagement with First Nations representative bodies were identified, including consideration of:

- ranger programs
- capacity building for emergency response support
- support to assist with identifying and articulating the cultural values and features of Country.

These initiatives/scopes are being discussed and progressed with the respective representative bodies.

Where requested, formal engagement plans and/or consultation protocols are in development and once agreed to by CAPL and the relevant representative body, these will be implemented.

Table 8-6 provides a summary of the objectives, scope, and responsibilities of the engagement plans and/or consultation protocols drafted to date. Further information on ongoing consultation and relationship building with First Nations representative bodies is presented in Table 8-7.

**Table 8-6: Summary of objectives, scope, and responsibilities in engagement plans and/or consultation protocols**

Objectives	Scope	Responsibilities
<ul style="list-style-type: none"> <li>• provide governance and strategic oversight to guide collaboration and communications</li> <li>• sets out general terms for allocation of resources and recovery of reasonable costs</li> <li>• establish a framework for ongoing consultation</li> <li>• outlines the principles for building relationships:               <ul style="list-style-type: none"> <li>– co-design and co-decide</li> <li>– transparency</li> <li>– walking together.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• consultation meetings</li> <li>• consultation funding</li> <li>• review of information relating to CAPL proposals</li> <li>• confidentiality</li> <li>• negotiation principles</li> <li>• dispute resolution</li> <li>• general correspondence.</li> </ul>	<p>CAPL responsibilities:</p> <ul style="list-style-type: none"> <li>• design and plan engagements in advance</li> <li>• engage in person and aim to provide information in plain English</li> <li>• provide access to internal subject matter experts as well as support for external and independent advice</li> <li>• meet reasonable costs and expenses.</li> </ul> <p>Joint responsibilities:</p> <ul style="list-style-type: none"> <li>• share plans and strategies with each other</li> <li>• plan and engage early and work together on issues</li> <li>• use the negotiations to build trust and goodwill and to negotiate in good faith</li> <li>• spend time together outside of the boardroom.</li> </ul>

**Table 8-7: First Nations representative bodies ongoing consultation and relationship building**

First Nations representative body	Ongoing Consultation	Relationship Building
Baiyungu Aboriginal Corporation (BAC)	<ul style="list-style-type: none"> <li>BAC has requested that ongoing consultation be completed through the PBC, NTGAC</li> <li>CAPL will keep BAC informed on the timing and status of its activities</li> <li>CAPL will notify BAC in the event that a reportable incident occurs.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program and is now providing funding support for a community cultural event in 2024</li> <li>CAPL invited BAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023).</li> </ul>
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	<ul style="list-style-type: none"> <li>CAPL has executed a cost recovery agreement with BTAC for ongoing consultation</li> <li>CAPL and BTAC have finalised a Funding Agreement which will be formally endorsed at the April BTAC board meeting, which CAPL will attend</li> <li>CAPL and BTAC will hold a one-day common law holder consultation meeting in mid-May 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL has provided an Engagement Plan to BTAC which provides cost recovery for informal meetings with BTAC including on country meetings and events</li> <li>CAPL invited BTAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> <li>CAPL has invited BTAC to an on-country consultation on Barrow Island</li> <li>CAPL has supported BTAC with an expression of interest to participate in a joint venture with the Pilbara Development Commission on the Northern Native Seed Initiative</li> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program</li> <li>CAPL and BTAC have commenced implementing the agreed engagement plan</li> <li>CAPL and BTAC have commenced scoping a cultural mapping program in March 2024 and are working towards developing a Relationship Agreement</li> </ul>
Mardathoonera Cultural Heritage Pty Ltd	<ul style="list-style-type: none"> <li>CAPL has provided a negotiation protocol</li> <li>CAPL has provided a consultation meeting protocol</li> <li>CAPL working with MCH to forecast consultation requirements and schedule for 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL has provided an Engagement Plan and Consultation Protocol which provides cost recovery for informal meetings with MCH including on country meetings to learn more about Country and Sea Country</li> <li>CAPL has provided an on-country consultation at Barrow Island and tour (2 nights).</li> </ul>
Murujuga Aboriginal Corporation (MAC)	<ul style="list-style-type: none"> <li>MAC has advised CAPL to consult with the relevant PBCs</li> </ul>	<ul style="list-style-type: none"> <li>CAPL invited MAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> </ul>

First Nations representative body	Ongoing Consultation	Relationship Building
	<ul style="list-style-type: none"> <li>CAPL will keep MAC informed on the timing and status of its activities</li> <li>CAPL will notify MAC in the event that a reportable incident occurs</li> <li>CAPL working with MAC to forecast consultation requirements and schedule for 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program.</li> </ul>
Ngarluma Thanardi Garbu Aboriginal Corporation (NTGAC)	<ul style="list-style-type: none"> <li>CAPL has completed a workshop with the NTGAC board to design ongoing consultation</li> <li>CAPL has provided an Engagement Plan to NTGAC which provides cost recovery for informal meetings with NTGAC including on country meetings and events</li> <li>CAPL working with NTGAC to forecast consultation requirements and schedule for 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL has offered funding support to NTGAC for a resource to assist with consultations and the development of the corporation</li> <li>CAPL invited NTGAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program.</li> </ul>
Ngarluma Aboriginal Corporation (NAC)	<ul style="list-style-type: none"> <li>CAPL and NAC have executed a consultation meeting protocol which provides cost recovery and agreed meeting schedule</li> <li>CAPL working with NAC to co-design ongoing consultation</li> <li>CAPL working with NAC to forecast consultation requirements and schedule for 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL invited NAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program.</li> </ul>
Ngarluma Yindjibarndi Foundation Ltd (NYFL)	<ul style="list-style-type: none"> <li>CAPL has provided an Engagement Plan to NYFL which provides cost recovery for informal meetings with NYFL including on country meetings and events</li> <li>CAPL working with NYFL to co-design ongoing consultation</li> <li>CAPL working with NYFL to forecast consultation requirements and schedule for 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL invited NYFL participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program and have provided financial support for a social benefits program in Roebourne.</li> </ul>
Robe River Kuruma Aboriginal Corporation (RRKAC)	<ul style="list-style-type: none"> <li>RRKAC has requested that we inform them of activities occurring within 2 km of the mouth of the Fortescue River and to inform them of future activities for consideration by their Heritage and Culture Committee</li> </ul>	<ul style="list-style-type: none"> <li>CAPL invited WAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> <li>CAPL has provided funding support to RRKAC through its community spirit grant program to invest in its ranger program.</li> </ul>



First Nations representative body	Ongoing Consultation	Relationship Building
	<ul style="list-style-type: none"> <li>CAPL working with RRKAC to forecast consultation requirements and schedule for 2024.</li> </ul>	
Wirrawandi Aboriginal Corporation (WAC)	<ul style="list-style-type: none"> <li>CAPL and WAC have established a joint working group for ongoing consultation with cost recovery confirmed</li> <li>CAPL working with WAC to forecast consultation requirements and schedule for 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL invited WAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> <li>CAPL provided WAC Board and Elders opportunity to spend time on Barrow Island</li> <li>CAPL has provided WAC funding support to employ a Ranger Coordinator</li> <li>CAPL has supported WAC with an expression of interest to participate in a joint venture with the Pilbara Development Commission on the Northern Native Seed Initiative</li> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program.</li> </ul>
Yinggarda Aboriginal Corporation (YAC)	<ul style="list-style-type: none"> <li>CAPL has provided YAC with a consultation meeting protocol which provides cost recovery and agreed meeting schedule</li> <li>CAPL is working with YAC to co-design ongoing consultation and forecast consultation requirements for 2024.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL has discussed ongoing engagement plan with YAC and opportunities to assist the corporation in the achievements of its strategic plan</li> <li>CAPL invited YAC participants to attend the Roebuck Challenge Oil Spill Response Training in Broome (October 2023)</li> <li>CAPL provided opportunity to participate in Chevron Community Spirit Grant program.</li> </ul>

### 8.3.5 Risk management

The risk management process (Ref. 32) assesses and identifies safeguards, which are the hardware and human actions designed to directly prevent or mitigate an incident or event and is designed to be consistent with the environmental risk management requirements of ISO 14001 *Environmental Management System* (Ref. 37) and ISO 31000:2018 *Risk management – Principles and guidelines* (Ref. 33).

This risk management process is summarised in Section 5 of this EP. Additional risk assessments must be undertaken if the MoC process (Section 8.3.2.2) is triggered. Risk assessments are undertaken in accordance with this process.

The *ABU OE Risk Management Process* (Ref. 32) and the *Management of Change for Facilities and Operations* process (Ref. 42) are the key systems CAPL use to ensure, that in accordance with regulation 22(2)(a) of the OPGGS(E)R, the impacts and risks of the petroleum activity continue to be identified and reduced to ALARP.

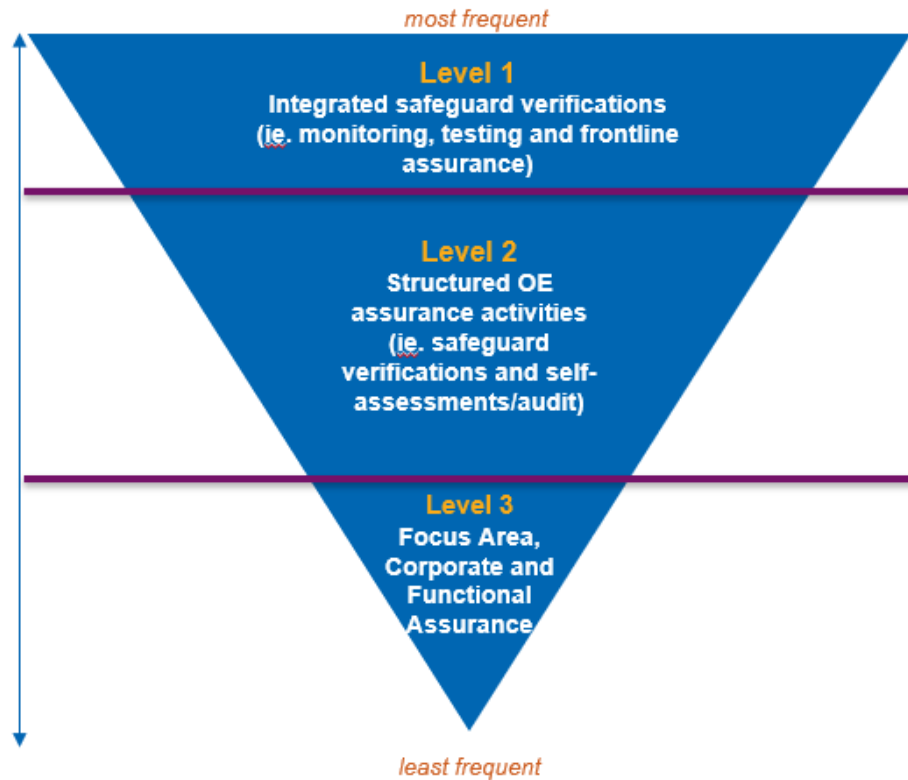
### 8.3.6 Assurance

Within the OEMS, assurance is a common expectation that supports the OE objective of each focus area. The *ABU OE Assurance Process* (Ref. 46) enables CAPL to deliver assurance that safeguards are established and functioning; it details:

- a framework for managing verification activities that assure that CAPL complies with applicable legal and OEMS requirements
- a process to identify, report and resolve potential noncompliance
- the minimum qualifications and organisational capability to execute this process.

The *ABU OE Assurance Plan* (Ref. 52) documents the CAPL ABU integrated assurance system and associated assurance activities (Figure 8-4). The *ABU OE Assurance Plan* is reviewed and approved annually and includes:

- a list of OE assurance priorities based on risk
- a schedule of assurance activities to evaluate safeguards and verifications (e.g. safeguard assurance workshops, audits, and assurance programs)
- reference to project and asset assurance plans that outline asset specific assurance activities and risk-based frequency (i.e. field inspection programs, audits, compliance reviews, performance reviews).



**Figure 8-4: ABU integrated assurance system**

To support the implementation of the *ABU OE Assurance Process* (Ref. 46), CAPL have developed an ABU integrated assurance system (Figure 8-4), which integrates and leverages assurance activities across the various levels of CAPL business through to the corporate level—to provide confidence that safeguards are in place and functioning as intended. This integrated assurance system includes:

- **Level 1 – Monitoring, testing and frontline assurance assurance:** ongoing, routine, planned verifications of safeguards specific for the asset/facility (e.g. inspections, preventive maintenance, emergency drills and exercises,)
- **Level 2 – OE assurance:** OE assurance activities (e.g. assessments, reviews, audits, inspections) that verify safeguards are in place and functioning, and validate that L1 assurance is effective. These assurance activities monitor weaknesses in the management system and compliance with regulatory requirements, and input learnings into the management system cycle.
- **Level 3 – Corporate and functional assurance:** Assurance activities undertaken by Chevron, CAPL’s functional groups (e.g., HSE, Drilling and Completions, base business) or third parties. These assurance activities test effectiveness of the focus area’s complete assurance system and how associated safeguards are being sustained.

Assurance activities are scheduled on a risk-based approach and conducted to verify the effectiveness of safeguards and verifications and the extent to which requirements are met by CAPL.

Assurance activities focus on in-field activities and administrative processes, depending on the activities being undertaken and assurance priorities (these priorities are based on risk) and provide sufficient demonstration that

environmental performance outcomes and environmental performance standards have been met and the activity implemented in accordance with this implementation strategy. A record of all assurance activities undertaken, and the outcomes, are maintained and actions are tracked until closure.

As outlined in Section 8.3.1.2, prior to the petroleum activity commencing, a pre-survey vessel inspection will be undertaken to confirm that vessel management systems are consistent with the requirements in this EP.

Prior to the commencement of the petroleum activity, an assurance register specific to the requirements of this EP will be developed. Assurance activities will be undertaken in accordance with the *ABU OE Assurance Process* (Ref. 52). Any potential non-conformances or opportunities for improvement will be identified, and corrective actions associated with these will be implemented as soon as practicable. Corrective actions will be delegated to the person deemed most appropriate to fulfil the action. Records of inspections will be maintained in accordance with Section 8.3.2.1.

Environmental performance standards in the EP will undergo a compliance review and evidence will be gathered for each environmental performance standard to support the end of activity environmental report. Environmental performance during the petroleum activity will be reviewed to ensure that environmental performance standards and environmental performance outcomes are being met, reviewed and where necessary amended to continue to manage the environmental impacts and risks of the petroleum activity to ALARP and acceptable levels.

Assurance related to the petroleum activity described in this EP will be summarised in the end of activity report submitted to NOPSEMA (Section 8.4.3).

#### **8.3.6.1 Managing instances of potential non-conformance**

The reporting, investigation, and tracking of non-conformances are managed via Chevron's *OE Corporate Standard Incident Investigation* (Ref. 47) and *OE Data Reporting Standard* (Ref. 48). These processes apply to instances where the requirements of this EP have not been met. This process is used if audit findings identify that activities in the scope of this EP are not being implemented in accordance with the risk and impact control measures identified in Section 7.

Audit findings and corrective actions are recorded and tracked in a CAPL compliance assurance database for timely closure of actions. As per Section 8.3.6, any corrective action/s identified during environment inspections is required to be implemented as soon as practicable during the DS-1 exploration drilling program. Audit findings that identify a breach of an environmental performance outcome or environmental performance standard will be reported in accordance with Section 8.4.2.

Any suggested changes to activities or control measures arising from audit findings or instances of potential noncompliance will be subject to a MoC process in accordance with Section 8.3.2.2.

#### **8.3.7 Incident investigation and reporting**

Incident investigation and reporting (IIR) expectations are to identify, report, record and investigate incidents, analyse trends, correct deficiencies, and share and adopt relevant lessons learned.

The *Incident Investigation and Reporting (IIR) Execution Manual* (Ref. 49) defines the requirements to report, classify, record, and investigate incidents and near misses, including but not limited to injury, occupational illness, environmental impact, reliability, business disruption, and community concern.

The IIR process includes these requirements:

- training for employees and contractors to recognise and report events
- internal and external notification of events
- investigating incidents at the probable level of consequence, with the rigor of investigation based upon learning opportunity and incident severity
- allocating an incident management sponsor for selected investigations
- sharing alerts, lessons learned, and bulletins
- tracking recommended actions to closure
- analysing event trends.

Events that meet the required criteria are recorded in the CAPL incident management system (IMS). The system holds records of the associated investigation results. The lessons learned from selected investigations are shared to reduce the likelihood of future comparable events.

Specific incident reporting requirements for this EP are detailed in Section 8.4.2.

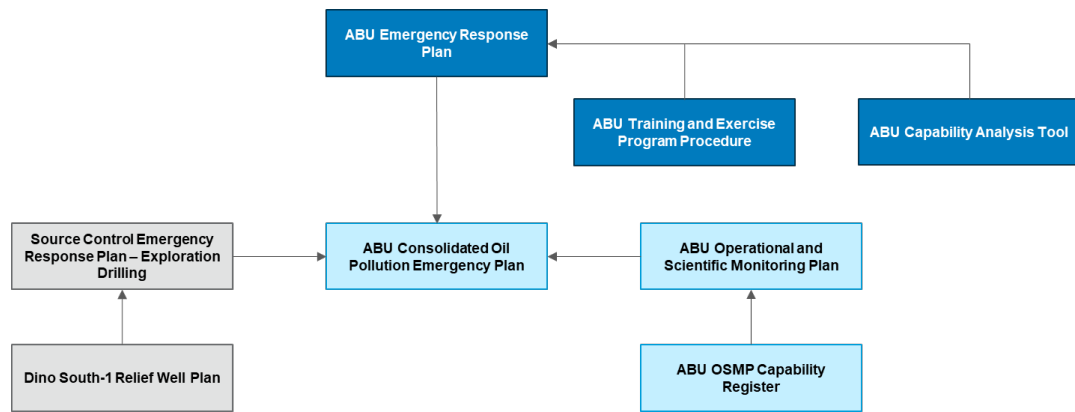
### **8.3.8 Emergency management**

CAPL's emergency management implementation strategy is described in the following sub-sections.

In addition to CAPL's overarching emergency management strategies, and with specific reference to vessel-based activities, an approved SOPEP will also be in place (in accordance with vessel class requirements) as required by MARPOL 73/78 Annex I and Marine Order 91 (Marine pollution prevention – oil). In the event of a vessel-based spill event the SOPEP will be implemented by the Vessel Master. Control measures and environmental performance standards relating to SOPEPs are described in Sections 7.13 and 7.14, and requirements have not been duplicated here.

#### **8.3.8.1 Response document interfaces**

In the event of an oil spill the overarching *ABU Emergency Response Plan* (Ref. 287) interfaces with the ABU OPEP (Ref. 2) and OSMP (Ref. 3), and the activity-specific SCERP (Ref. 195) and Relief Well Plan (Ref. 280) (Figure 8-5; Table 8-8).



**Figure 8-5: Oil spill response document interface for DS-1 exploration drilling**

**Table 8-8: Summary of oil spill response documentation**

Document	Description
<b>All ABU activities</b>	
ABU Emergency Response Plan (Ref. 287)	The ABU ERP describes the emergency management, governance, and coordination arrangements for the Perth Emergency Management Team (PEMT) for emergency incidents across the ABU.
Consolidated OPEP (Ref. 2)	The Consolidated OPEP outlines specific emergency response options and tactics to respond effectively to an oil spill, should a spill occur where CAPL is the Nominated Titleholder (Commonwealth) or Operator (State).
OSMP (Ref. 3)	The OSMP describes the types of environmental monitoring that may be implemented during an emergency event that results in an oil spill to marine or coastal waters. The OSMP is the principal tool for determining the extent, severity, and persistence of environmental impacts from an oil spill. It comprises two types of monitoring: operational and scientific.
<b>Activity-specific (well activities)</b>	
SCERP – Exploration Drilling (Ref. 195)	This activity-specific SCERP outlines the source control response arrangements in place for proposed exploration drilling activities. This document provides the Source Control Branch within the EMT with guidance and checklists for implementing source control strategies in the event of a LOWC.
DS-1 Relief Well Plan (Ref. 280).	This activity-specific Relief Well Plan provides the detailed design of a relief well and proposed locations. This document supports the activity-specific SCERP.

### 8.3.8.1.1 Source Control Emergency Response Plan

The SCERP (Ref. 195) contains all steps necessary to affect the direct intervention on a well that has experienced LOWC, with the intent to halt or control the release of hydrocarbons to the environment. This may include:

- BOP intervention
- subsea dispersant injection
- relief well drilling
- capping stack installation.

The SCERP (Ref. 195) structure was specifically developed to align with relevant industry guidance and standards, including the Australian Energy Producers (AEP) *Australian Offshore Titleholders Source Control Guideline* (Ref. 268),

IOGP's *Source Control Emergency Response Planning Guide for Subsea Wells* (Ref. 276) and NOPSEMA's *Source control planning and procedures Information Paper* (Ref. 277). The SCERP also aligns with source control response expectations within CAPL.

The SCERP (Ref. 195) contents satisfy the information recommendations in the industry guidance and standards documents, including:

- source control IMT arrangements and notifications
- source control training and emergency exercises
- response time modelling for source control strategies
- WCD calculation
- relief well planning
  - locations and designs
  - relief well dynamic well kill plan
  - relief well long lead inventory management
- plume and dispersion study
- source control resources
  - mutual aid arrangements via AEP (previously APPEA) Memorandum of Understanding (MoU)
  - response vessels and tracking
- capping stack landing analysis and capping stack selection
- BOP intervention
  - well or BOP to capping stack interface analysis
- debris clearance
- subsea dispersant operations and supply planning
- capping stack
  - capping stack and ROV interfaces
  - capping stack mobilisation and deployment planning
  - wellhead structural integrity analysis
- SIMOPS planning.

#### 8.3.8.1.2 Relief Well Plan

As per the SCERP and associated DS-1 RTMs, deployment of a capping stack is the primary source control option for the DS-1 exploration well given that the well is in water depths greater than 800 m. However, in the event of LOWC, the drilling of a relief well may commence in parallel to capping operations. Detailed information on relief well planning is contained in the *Dino South-1 Relief Well Plan* (Ref. 280).

CAPL relief well planning is based on internal company standards—the *ABU Wells WCD Calculation and Relief Well Planning SOP* (Ref. 278) and the Chevron Corporate *CTC Business Unit Source Control Response Plan* (Ref. 279). These



internal standards are aligned with the content and strategy outlined in the OGUK's *Guidelines on Relief Well Planning for Offshore Wells* (Ref. 281).

### 8.3.8.2 Emergency management arrangements

The emergency management arrangements outline a systematic approach for planning, responding to, and recovering from emergency events and are intended to provide a standardised management and response structure that details emergency management documentation, Emergency Response Organisation (ERO), facilities and equipment, and training and exercises.

The ERO provides a standardised management and response structure for all emergency scenarios. Personnel filling roles within this structure may include full and parttime CAPL employees from across the workforce with event-specific or subject matter expertise.

The system used to organise CAPL's EMTs is based on the Incident Command System (ICS) and provides a standardised approach to the coordination of an emergency response across all hazards, including oil spill response. This program is compatible with the Australasian Inter-service Incident Management System (AIIMS), and the *National Plan for Maritime Environmental Emergencies* (National Plan; Ref. 53) and is consistent with the core aspects presented in the International Maritime Organisation (IMO) equivalent courses.

The ERO comprises the groups listed in Table 8-9; this table also describes the major functions of teams during an emergency.

Figure 8-6 to Figure 8-8 outline the organisational chart of the On-site Response Teams (ORTs) and EMTs. The Crisis Management Team (CMT), which focus on the business implications of incidents and events, are further described in the *ABU Crisis Management Plan* (Ref. 54).

As the incident escalates and the workload of each function increases, it may be necessary to delegate specific roles to additional people within each section. These roles may lead a team of people to fulfil the tasks under their control.

To establish emergency response arrangements that can be scaled up or down depending on the nature of the incident by integrating with other local, regional, national, global, and industry plans and resources, CAPL has adopted a tiered approach in its response system. This tiered-response model scales the number of resources mobilised for a response, and the emergency team activated, according to the severity of the incident. This approach is consistent with the *International Convention on Oil Pollution Preparedness, Response and Cooperation 1990*. The response tiers and resources that may be mobilised for an oil spill incident within CAPL are further described within the OPEP (Ref. 2).

**Table 8-9: CAPL emergency management teams**

Team	Description
<b>Tier 1 (CAPL)</b>	
On-site Response Teams (ORTs)	<p>Trained responders at the installation who are responsible for on-scene tactical response operations during an incident.</p> <p>ORTs are led by an On-scene Commander (OC) who has incident control during smaller Level 1A incidents, which do not require further escalation to an incident management team. If the IEMT is activated, the OC will come under the direction of the IEMT's Incident Commander (IC).</p>

Team	Description
Installation Emergency Management Team (IEMT)	<p>The IEMT is led by an IC and operates out of an on-site emergency command centre.</p> <p>The IEMT may be activated to take control of Level 1B incidents and coordinate local resources and ORTs.</p> <p>Upon activation of the IEMT, the PEMT Incident Commander will be informed and maintain a standby position.</p>
Perth Emergency Management Team (PEMT)	<p>The PEMT is led by the PEMT IC and operates out of a Perth-based emergency command centre.</p> <p>The PEMT is activated in situations where the IEMT do not have adequate resources and personnel to bring the emergency under control.</p> <p>For complex and prolonged responses, the IEMT will be absorbed and form into the PEMT Operations Section, which is led by the Operations Section Chief (OSC). This change happens as the PEMT enters the proactive phase of the Incident Command System.</p> <p>The PEMT stands up at the direction of the PEMT IC for all Level 2 and 3 incidents.</p> <p>Upon activation of the PEMT, the CMT will be informed and maintain a standby position.</p>
CAPL Crisis Management Team (CMT)	<p>The CMT comprises of senior CAPL executives and ensures that all emergency and crisis management operations are carried out in congruence with The Chevron Way, Chevron Corporation policies, and the tenets of OE.</p> <p>The CMT stands up at the direction of the CAPL Crisis Manager for Level 3 incidents.</p>
<b>Tier 2 (Regional Response)</b>	
Chevron Corporation's Asia-Pacific Regional Response Team	An enterprise-level team able to support CAPL during the initial response (reactive phase) to a significant incident and help manage the transition to the ongoing response (proactive phase).
<b>Tier 3 (Global Response)</b>	
Chevron Corporation's Functional Response Teams	Enterprise-level teams with specific technical expertise in selected command staff positions and unit positions in the Planning, Logistics, and Finance sections. Team members are trained to support the management of global- and regional-level (Tier 2 and 3) incidents but are available to support any response.
Chevron Corporation's Worldwide Emergency Response Team	An enterprise-level team of Chevron Corporation's most highly trained and experienced personnel capable of filling ICS command and general staff roles of a response organisation, including Deputy IC. Team members are trained to support the management of global-level (Tier 3) incidents but are available to support any response.
Chevron Corporation's Advisory and Resource Team	An enterprise-level initial assessment and support team available to advise during the initial stages of a significant event, assess incident potential, and help the local response team marshal additional resources.

### 8.3.8.3 Emergency management process

The *Emergency Management OE Process* (Ref. 50) is CAPL's system for emergency management. The process ensures CAPL is prepared to respond immediately and effectively to all emergencies involving contractor- or CAPL-owned or -operated assets as defined in their scope of work.

The emergency management process (Ref. 50) comprises nine key elements.

- emergency scenarios, including worst case, have been identified; these scenarios are based on the findings from risk assessments of significant safety, health and environmental hazards and other sources (e.g. historical incidents)
- emergency response plans are developed and maintained to address emergency scenarios
- a reliability program is in place for inspection, testing and preventative maintenance of critical emergency response equipment and systems supporting emergency response plans
- an IMS is in place capable of immediately and effectively managing all emergencies
- a training and exercise program, including minimum training and exercise requirements, has been developed to establish and maintain emergency response capability
- crisis management plans have been developed to address a potential crisis or significant event
- business continuity plans have been developed in conformance with the *Business Continuity Planning Corporate OE Process* (Ref. 55).

The OPEP (Ref. 2) acts as an operational document to ensure an appropriate response to the emergency events described in this EP. Smaller spills will be monitored, evaluated, and cleaned up as part of routine duties, where relevant and appropriate to the nature and scale of the spill, and will not require activation of the ORT or OPEP. Several emergency management subprocesses are outlined below that are integral to emergency preparedness and management.

#### **8.3.8.4 Chain of command (emergency response)**

A well-delineated EMT chain of command has been established for emergency response (Figure 8-6 to Figure 8-8). As incidents grow or reduce in size or complexity, command may transfer several times. Within the response structure, command may transfer between On-scene Commanders (OC) at the tactical level. For a major incident, incident command may transfer to a designated Control Agency or to the Perth EMT, if required.

Although the identity of those filling command positions may change over the course of the incident, the continuity of responsibility and accountability will be maintained. Typically, specialists for particular response options will fulfil Task Leader positions in the IEMT and PEMT where they will be expected to oversee a team or particular response operation.

Throughout an incident, a formal handover will be conducted whenever any command or control position is transferred from one person to another.

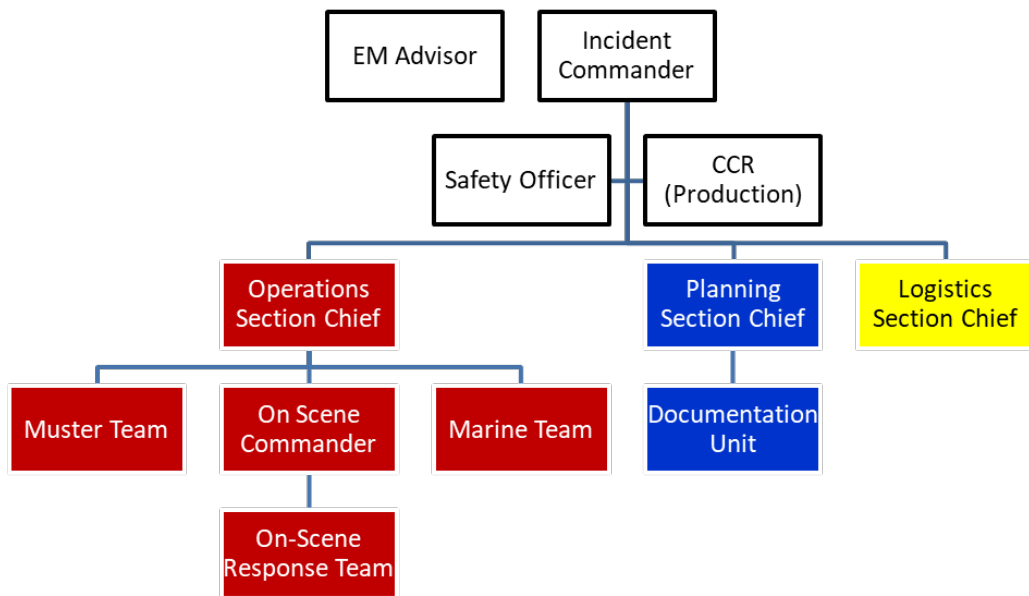


Figure 8-6: Basic installation EMT organisation chart

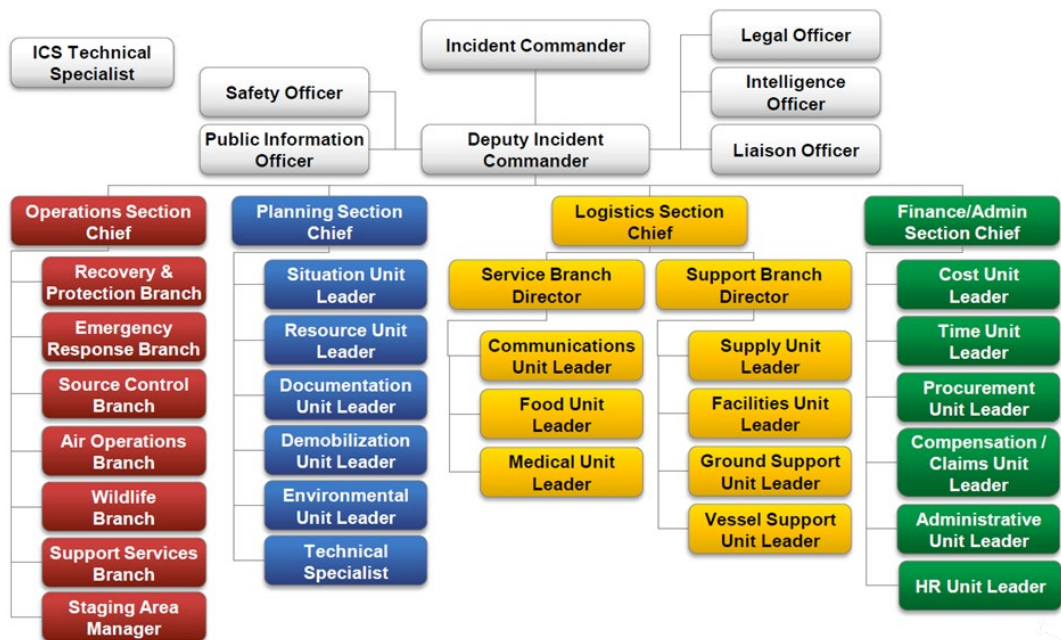


Figure 8-7: Example expanded EMT organisation chart

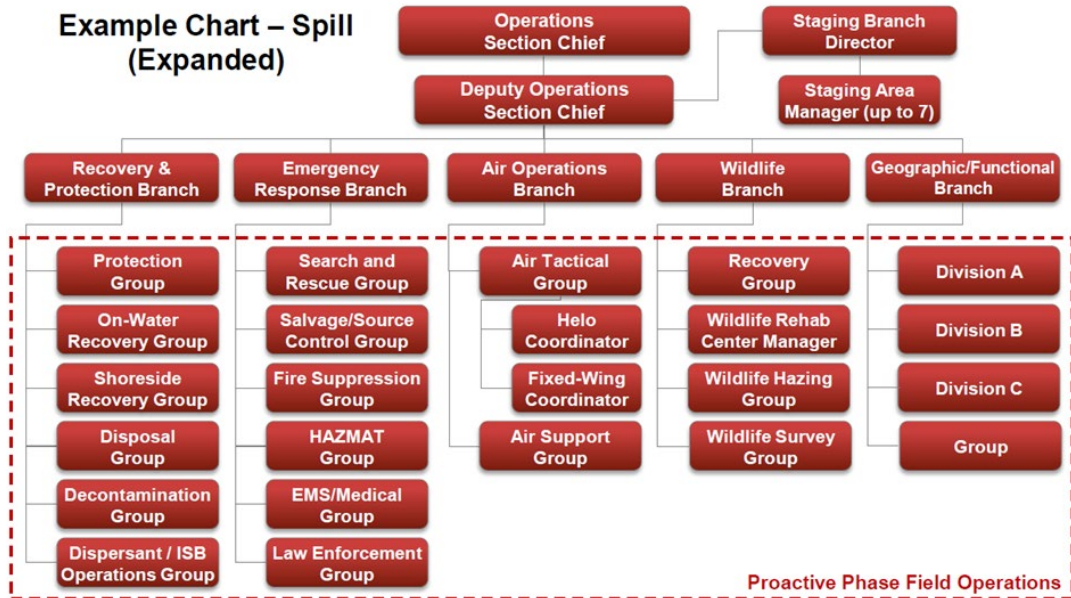


Figure 8-8: Example expanded operations section organisation chart

### 8.3.8.5 Roles and responsibilities (emergency response)

Table 8-10 provides additional information about the structure of these teams and the key individual roles and responsibilities during emergency response.

Table 8-10: Key roles and responsibilities—emergency response

Role	Responsibilities
<b>On-Site Response Team (ORT)</b>	
On-Scene Commander (OC) <i>(Vessel Master)</i>	<ul style="list-style-type: none"> <li>Safely and effectively organises and manages the ORT response operations.</li> </ul>
CAPL Drill Site Representative (DSR)	<ul style="list-style-type: none"> <li>Keeps the EMT informed regarding the nature and status of the incident and on-site tactical response operations.</li> </ul>
Site Safety Officer	<ul style="list-style-type: none"> <li>Ensures that appropriate actions are taken to protect the safety and health of ORT response personnel.</li> </ul>
Task Leader	<ul style="list-style-type: none"> <li>Safely carries out their assignment consistent with directions received from the OC, branch director, division, or group supervisor.</li> </ul>
<b>Installation Emergency Management Team (IEMT)</b>	
IEMT Incident Commander (IC)	<ul style="list-style-type: none"> <li>Manages the overall emergency response operations and ensures that they are carried out safely, effectively and efficiently.</li> <li>Ensure direct line of communications is maintained with the OC/DSR.</li> <li>Mobilises the IEMT and assigns additional support from other response teams (as appropriate to the incident) for Level 1B incidents that require support beyond the ORT.</li> </ul>
Operations Section Chief (OSC)	<ul style="list-style-type: none"> <li>Provides strategic direction and support to the OC with muster and evacuation procedures.</li> <li>Receives information regarding the nature and status of the ORT and provides support for mustering and/or shelter-in-place operations</li> <li>Disseminates information to the IC and other members of the IEMT.</li> </ul>

Role	Responsibilities
Planning Section Chief (PSC)	<ul style="list-style-type: none"> <li>Focuses on the incident's potential using the compilation and display of information regarding the nature and status of an incident and emergency response operations</li> <li>Assists the IEMT IC in defining strategic objectives</li> <li>Assists the IEMT IC in providing information to the PEMT</li> <li>Compiles and retains documentation.</li> </ul>
Logistics Section Chief (LSC)	<ul style="list-style-type: none"> <li>Obtains personnel, equipment, materials, and supplies needed to mount and sustain emergency response operations</li> <li>Provides services necessary to ensure that emergency response operations are carried out safely and efficiently.</li> </ul>
<b>Perth Emergency Management Team (PEMT)</b>	
PEMT Incident Commander (IC)	<ul style="list-style-type: none"> <li>Establish immediate priorities and incident objectives to manage all aspects of the emergency response.</li> <li>Stand up the PEMT and establish the ICS structure with key personnel.</li> </ul>
Safety Officer	<ul style="list-style-type: none"> <li>Develop and recommend measures for assuring personnel safety during emergency response operations.</li> <li>Assess and anticipate hazardous and unsafe situations.</li> <li>Assist the PEMT IC by keeping them informed of all anticipated risks.</li> </ul>
Liaison Officer	<ul style="list-style-type: none"> <li>Liaise with agencies, business partners and regulators on current emergency status.</li> <li>Responsible focal point between state emergency services and CAPL.</li> </ul>
Public Information Officer	<ul style="list-style-type: none"> <li>Develop statements and communications to be distributed with internal and external stakeholders.</li> <li>Responsible focal point for all external media and third party enquiries.</li> </ul>
<b>Crisis Management Team (CMT)</b>	
ABU Crisis Manager	<ul style="list-style-type: none"> <li>Provides strategic direction to the organisation's emergency and crisis management activities.</li> <li>Ensures all necessary resources are available to the PEMT, IEMT and ORT to return the organisation to business as usual.</li> <li>Responsible for communications to all key stakeholders both internal and external to CAPL.</li> </ul>

### 8.3.8.6 Training and competency (emergency response)

Competencies and training requirements for the IEMT, PEMT and other response personnel during implementation of the OPEP (Ref. 2) are detailed in the *Chevron Emergency Management ABU Training and Exercise Program Procedure* (Ref. 249) and summarised in Table 8-12. Training is delivered via a mix of computer-based training (CBT) and face-to-face. Competency and training records for personnel, including contractors and subcontractors, are maintained.

Oil spill response training is delivered via three modules, which have been designed to align with the knowledge requirements outlined in AEP's *Guidance Document: Incident Management Teams – Knowledge Requirements for Responding to Marine Oil Spills* (Ref. 250). CAPL's Oil Spill Management Modules 1 and 2 are CBT training packages that align with the general knowledge requirements for all IEMT members, as per Table 2 of the AEP's Guidance Note. Module 3 is a two-day face-to-face training that aligns with the PEMT function specific knowledge requirements outlined in Table 3 of the AEP's Guidance Note. This training is delivered to key EMT positions across four functions (control,



operations, planning, logistics) and covers four general topics—oil spill preparedness and response (OSPR) strategies, regulatory and stakeholder engagement, safety in response, and CAPL-specific OSPR arrangements. Further detail on this training is provided in Table 8-11. Note: The AEP Guidance Note includes an additional topic (Dynamic Incident Action Plan [IAP] Planning), and these aspects are covered through the delivery of Incident Command System (ICS) courses that are required to be completed by all EMT members, as per Table 8-12.

**Table 8-11: Oil spill training package details**

<b>CAPL Oil Spill Management – Training Packages</b>	
<b>CAPL Oil Spill Management Module 1</b>	
Delivery method	<ul style="list-style-type: none"> <li>• CBT.</li> </ul>
Guidance	<ul style="list-style-type: none"> <li>• general knowledge requirements for all IEMT and PEMT members, as per Table 2 of AEP’s Guidance Note (Ref. 249).</li> </ul>
Oil spill topics	<ul style="list-style-type: none"> <li>• this awareness level module covers:               <ul style="list-style-type: none"> <li>– oil spills overview</li> <li>– fates, impacts, and response strategies for oil spill</li> <li>– fates and environmental effects of spills</li> <li>– oil properties</li> <li>– weathering properties/processes</li> <li>– environmental and socio-economic impacts of oil spills</li> <li>– oil spill response strategies.</li> </ul> </li> </ul>
<b>CAPL Oil Spill Management Module 2</b>	
Delivery method	<ul style="list-style-type: none"> <li>• CBT.</li> </ul>
Guidance	<ul style="list-style-type: none"> <li>• general knowledge requirements for all IEMT and PEMT members, as per Table 2 of AEP’s Guidance Note (Ref. 249).</li> </ul>
Oil spill topics	<ul style="list-style-type: none"> <li>• this awareness level module covers:               <ul style="list-style-type: none"> <li>– oil spills regulatory context and spill arrangements</li> <li>– oil spill response regulatory context for CAPL activities</li> <li>– interfaces and responsibilities of response and coordination agencies involved in CAPL OSPR response</li> <li>– external oil spill support agencies and the broad types of support they can offer</li> <li>– CAPL activities and associated spill risks, environmental values and sensitivities for CAPL’s area of operation</li> <li>– CAPL OPEP activation/trigger and notification requirements, first strike actions, response options</li> <li>– CAPL response capability and arrangements.</li> </ul> </li> </ul>
<b>CAPL Oil Spill Management Module 3</b>	
Delivery method	<ul style="list-style-type: none"> <li>• face-to-Face, typically ~2 days.</li> </ul>
Guidance	<ul style="list-style-type: none"> <li>• PEMT function specific knowledge requirements outlined in Table 3 of AEP’s Guidance Note (Ref. 249).</li> </ul>
Oil spill topics	<ul style="list-style-type: none"> <li>• this detailed level module covers:               <ul style="list-style-type: none"> <li>– CAPL OSPR overview</li> <li>– OSPR strategies</li> <li>– regulatory context and stakeholder engagement</li> <li>– safety in response</li> </ul> </li> </ul>



CAPL Oil Spill Management – Training Packages	
	<ul style="list-style-type: none"> <li>– Titleholder-specific OSPR arrangement</li> <li>– dynamic IAP planning (this training is managed via the Incident Command System training required for EMT members).</li> </ul>

**Table 8-12: Competency and training requirements—emergency response**

Role	Minimum all hazards training or competency	Minimum oil spill training or competency
<i>Note: Personnel with no specialist emergency response duties should undergo training in line with their responsibilities as indicated below for 'All personnel'.</i>		
All personnel	<ul style="list-style-type: none"> <li>• Provide basic first response to an incident, including, but not limited to: conducting a quick assessment; making safe; notifying anyone else in danger; and raising the alarm</li> <li>• Complete basic procedures in response to an alarm and evacuate to a muster point (as necessary)</li> <li>• Competency maintenance through response, training, exercise, or drills at least once every three years</li> </ul>	
<i>In addition to the above, personnel responsible for roles with specialist oil spill response duties should undergo further training and practice in line with the responsibilities set out below. Training is provided to maintain the capability to respond to all hazards in line with the Incident Command System implemented by CAPL.</i>		
Emergency Management Teams (EMTs)		
Core PEMT members assigned positions of: <ul style="list-style-type: none"> <li>• Incident Commander / Deputy</li> <li>• Section Chiefs / Deputy</li> <li>• Safety Officers</li> <li>• Environment Unit Leads (EUL)</li> </ul>	<ul style="list-style-type: none"> <li>• ICS-100 Introduction to the Incident Command System or equivalent</li> <li>• ICS-200 Basic Incident Command System training or equivalent</li> <li>• ICS-300/320 Blended Intermediate Incident Command System or equivalent</li> </ul>	<ul style="list-style-type: none"> <li>• CAPL Oil Spill Management Module 1</li> <li>• CAPL Oil Spill Management Module 2</li> <li>• CAPL Oil Spill Management Module 3</li> <li>• EUL requires 10 years experience in environmental work.</li> </ul>
IEMT members assigned positions of: <ul style="list-style-type: none"> <li>• Incident Commander</li> <li>• Section Chiefs</li> <li>• Safety Officers</li> </ul>	<ul style="list-style-type: none"> <li>• ICS-100 Introduction to the Incident Command System or equivalent</li> <li>• ICS-200 Basic Incident Command System training or equivalent</li> <li>• ICS-220 Initial Incident Command System or equivalent</li> </ul>	<ul style="list-style-type: none"> <li>• CAPL Oil Spill Management Module 1</li> <li>• CAPL Oil Spill Management Module 2</li> </ul>
ABU Oil Spill Coordinator	<ul style="list-style-type: none"> <li>• ICS-100 Introduction to the Incident Command System or equivalent</li> <li>• ICS-200 Basic Incident Command System training or equivalent</li> <li>• ICS-300/320 blended or equivalent.</li> </ul>	<ul style="list-style-type: none"> <li>• CAPL Oil Spill Response Operations (IMO1) or equivalent Chevron focused Response Operations course</li> <li>• CAPL Oil Spill Response Management (IMO2) or equivalent Chevron focused Response Operations course.</li> </ul>
Source Control Branch Director / Deputy Branch Director	<ul style="list-style-type: none"> <li>• ICS-100 Introduction to the Incident Command System or equivalent</li> </ul>	<ul style="list-style-type: none"> <li>• CAPL Oil Spill Management Module 1</li> </ul>

Role	Minimum all hazards training or competency	Minimum oil spill training or competency
	<ul style="list-style-type: none"> <li>ICS-200 Basic Incident Command System training or equivalent.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL Oil Spill Management Module 2</li> <li>CAPL Oil Spill Management Module 3.</li> <li>15+ years in roles such as a Wells Engineer</li> <li>10 years in subsea/offshore related well work</li> <li>Must hold a valid IADC Subsea Well Control Certification (Supervisor level) or valid IWCF Subsea Well Control Certification (Supervisor level).</li> </ul>
Oiled Wildlife Branch Director	<ul style="list-style-type: none"> <li>ICS-100 Introduction to the Incident Command System or equivalent</li> <li>ICS-200 Basic Incident Command System training or equivalent</li> <li>ICS-300/320 Blended intermediate Incident Command System or equivalent.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL Oil Spill Management Module 1</li> <li>CAPL Oil Spill Management Module 2</li> <li>CAPL Oil Spill Management Module 3</li> <li>AMOSC/DBCA (or equivalent): Course in oiled wildlife response - management</li> </ul>
Support PEMT: General support positions, including: <ul style="list-style-type: none"> <li>Branch Directors</li> <li>Unit Leaders</li> <li>Source Control Branch Support</li> </ul> External agencies/OSROs Chevron Global response	<ul style="list-style-type: none"> <li>ICS-100 Introduction to the Incident Command System or equivalent</li> <li>ICS-200 Basic Incident Command System training or equivalent.</li> </ul> (Just in time training, delivered prior to mobilisation into the PEMT).	<ul style="list-style-type: none"> <li>CAPL Oil Spill Management Module 2 or equivalent training.</li> </ul> (Just in time training, delivered prior to mobilisation into the PEMT).
<b>Onsite Response Teams (ORTs)</b>		
Oil Spill Responders	<ul style="list-style-type: none"> <li>N/A.</li> </ul>	<ul style="list-style-type: none"> <li>CAPL Oil Spill Response Operations (IMO1) or equivalent Chevron focused Response Operations course.</li> </ul>
Aerial Surveillance Coordinator	<ul style="list-style-type: none"> <li>N/A.</li> </ul>	<ul style="list-style-type: none"> <li>AMOSC Aerial Surveillance or equivalent.</li> </ul>
Oiled Wildlife Responders**	<ul style="list-style-type: none"> <li>N/A.</li> </ul>	<ul style="list-style-type: none"> <li>AMOSC/DBCA (or equivalent): Course in Introduction to Oiled Wildlife Response</li> <li>fauna handling training.</li> </ul>
AMOSC Core Group	<ul style="list-style-type: none"> <li>N/A.</li> </ul>	<ul style="list-style-type: none"> <li>IMO1 – Operations Stream</li> <li>IMO1 and IMO2 – for Management Stream</li> </ul>

Role	Minimum all hazards training or competency	Minimum oil spill training or competency
		<ul style="list-style-type: none"> <li>attend AMOSC Core Group Workshop as required.</li> </ul>

### 8.3.8.7 Oil spill response resourcing and capability

CAPL has multiple EMT resourcing arrangements in place to respond to a potential oil spill event, including internal CAPL EMT capacity (inclusive of Source Control), regional and global Chevron support teams and functional groups, oil spill response organisations (OSROs) and industry mutual aid agreements.

The *ABU EMT Capability Analysis Tool* (Ref. 266) outlines CAPL’s EMT capability requirements and evaluates CAPL’s ability to meet the EMT capability requirements. It quantifies and justifies EMT positions required for a generalised LOWC oil spill scenario (based on 13 weeks) and provides a real-time assessment of resources available to CAPL to fill the identified core and support positions. Using activity-specific worst case spill scenarios (such as the LOWC scenario described in this EP), the tool can be used to demonstrate that sufficient capability is in place. The process used to complete the assessment, which includes allowances for redundancy, rostering, shift coverage and rotation, is outlined in the tool.

The *ABU EMT Capability Analysis Tool* (Ref. 266) outlines the core and support EMT capability requirements specific to the worst credible scenario described in this EP (LOWC) and demonstrates that at the time of writing, CAPL maintains access to personnel to fill these roles.

#### 8.3.8.7.1 CAPL resources

CAPL maintains a PEMT with a 24/7 call out roster available to be stood up at any time if required. This includes 13 on-call positions sourced from a pool of trained personnel. Each on-call PEMT member is required to be within 1 hour of the Perth office at all times, and the PEMT duty roster enables the formation of the PEMT within 2 hours of notification. Further information on the PEMT is contained in the *ABU Emergency Response Plan* (Ref. 50).

Current numbers of qualified EMT personnel, including those trained in accordance with the training requirements outlined in Table 8-2, are reflected in the *ABU EMT Capability Analysis Tool* (Ref. 266). In addition to this, CAPL currently has additional ‘all hazards’ personnel, and this capability would be able to be inducted/trained in the oil spill response functions prior to entering the EMT (as outlined in Table 8-2), as the response transitions from a rapidly evolving reactive response phase to a more proactive, steady-state, project phase response.

#### 8.3.8.7.2 Chevron regional and global teams

As per the *Chevron Corporate Emergency ABU Response Teams and Resources Procedure* (Ref. 267) the Chevron Centre for Emergency Preparedness and Response (CEPR) maintains a global mutual-aid capability, available on a 24/7 basis to quickly and effectively provide enterprise-wide support for major incidents and events. This capability shall include pre-identified, trained, and fit-for-duty response teams capable of filling IMS positions, access to industry owned response cooperatives, and access to internal experts and key external vendors. It includes the following services:

### **The Advisory and Resource Team (ART)**

The ART is an initial assessment and support team available to provide advice during the initial stages of an event, to assess incident potential, assist the local response team in marshalling additional resources, and to keep corporate management briefed on the situation or incident. The ART is comprised of a management representative from the impacted operating company, a representative of CEPR, plus a subject matter expert in each of the following areas: public affairs, environmental, safety, and law. The ART team is available via conference call within 2 hours (or less) of notification, and may also mobilise to the incident site to continue with the assessment and provide assistance to the incident management team.

### **World-Wide Emergency Response Team (WWERT)**

The WWERT is a team of Chevron's trained and experienced personnel capable of filling ICS Command and General Staff roles of a response organisation, including Deputy Incident Commander. WWERT members are trained to support the management of global-level (Tier 3) incidents but are available to support any response. Team members are subject matter experts in emergency management and the development of incident action plans.

### **Functional Teams (FT)**

There are 13 functional response teams with specific technical expertise in selected Command Staff positions (safety officer, legal officer) and unit positions in the planning, logistics and finance sections. FT members are trained to support management of global and regional level (Tier 2 and 3) incidents but are available to support any response. The functional teams have expertise in the following areas: communications, law, finance, public affairs, environmental, procurement, facilities, safety, fire & health, human resources, documentation, insurance/claims, global sub-sea source control, geographic information system.

### **Regional Response Teams (RRT)**

There are two corporate RRTs: Europe/Africa/Middle East and Asia Pacific. The RRTs are regional level (Tier 2) response teams trained to support the initial response (reactive phase) of a significant incident within their respective regions and assist in managing the transition to the ongoing response (proactive phase). The RRTs include personnel capable of filling positions including the Deputy Incident Commander, and Section Chiefs for the Operations, Planning, and Logistics Sections, and specialist to fill the Safety, Documentation, and Public Affairs/Liaison positions.

#### **8.3.8.7.3 Oil spill response organisations**

CAPL maintains contractual arrangements with OSROs which include the provision of technical specialists to supplement the CAPL EMT, as detailed in the OPEP (Ref. 2). Arrangements are maintained with:

#### **AMOSOC**

CAPL is a participating company in AMOSOC. This arrangement provides CAPL with access to the AMOSOC personnel and the AMOSOC Core-Group under the AMOSOC Plan.

The AMOSOC Core-Group has around 30-40 IMT personnel and 50-70 field operators.

AMOSOC Core Group policy requires all Core-Group personnel to undertake initial training, followed by competency re-validation/training every 2 years. Typically, AMOSOC manage the Core-Group re-validation/training by conducting 3x1 week Core-Group training/workshops per year. AMOSOC coordinates the routine testing, monitoring and monthly reporting of Core-Group personnel availability.

#### **Oil Spill Response Limited (OSRL)**

CAPL is a participant member with OSRL which guarantees access to Tier 3 technical advice, resources and expertise 365 days per year on a 24-hours per day. OSRL have capacity to mobilise additional equipment and personnel to CAPL EMT from their global bases. Anyone within the CAPL PEMT can notify OSRL of an incident, however, only the nominated CAPL personnel may request the assistance of OSRL using the Mobilisation Form, as per the Service Level Agreement.

The OSRL Service Level Agreement provide for:

- 24/7 call-out arrangements
- guaranteed initial response from OSRL of five technical support personnel (EMT or field personnel) for five days
- surge to guaranteed 18 OSRL personnel, upon request from the CAPL EMT
- depending on size/complexity, OSRL maintain 80 response team personnel globally, who are potentially able to be provided to support an ongoing Level 3 event, on a best-endeavours basis.

OSRL service level statement defines the types of services provided by the 18 persons surge capability as:

- technical advice and incident management coaching within the command centre
- development of an Incident Management Plan
- tier 1/2 equipment readiness and training of contractors
- in-country logistics planning and support for inbound equipment
- impact assessment and advice on response strategy selection
- shoreline cleanup and assessment technique and aerial surveillance / quantification surveys
- tactical response planning.

#### **8.3.8.7.4 Mutual Aid Arrangements**

##### **APPEA Memorandum of Understanding (MoU) framework**

As a member company, CAPL would seek to engage the services of Perth-based specialist personnel (as required) from other Petroleum Titleholders under the APPEA MoU (Ref. 268). The MOU agreement documents the commitment to share rigs, equipment, and service personnel in the event of a major loss of containment incident, significantly increasing the resources available to a titleholder company.

### **OSRL Mutual Aid Framework Agreement—subsea well intervention services (SWIS)**

As a member company, CAPL has access to and can request support from other SWIS members under the OSRL Mutual Aid provisions for source control specialist support. This includes support from any of the SWIS member companies around the world that are signed on to the mutual aid agreement with OSRL SWIS.

#### **8.3.8.7.5 Well Control Specialists**

##### **CAPL Global Source Control**

The Global Source Control roster provides CAPL names, locations and positions to allow the CAPL PEMT to mobilise individuals into the PEMT to sit in the Source Control branch.

##### **Third Party Technical Specialists**

As per the exploration drilling SCERP (Ref. 195), CAPL has service agreements or memberships with several specialist contractors/organisations that are available to support a response to a LOWC incident, including:

- Wild Well Control
- Add Energy
- Trendsetter
- Oceaneering.

Activation of these resources will occur upon authorisation from the CAPL PEMT Incident Commander or delegate.

#### **8.3.8.8 Oil spill exercise schedule**

The CAPL *Emergency Management 5 Year Training and Exercise Schedule* (Ref. 56) describes the schedule of training and exercise required for all emergency events. The training and exercise program incorporates CAPL's oil spill exercise schedule for oil spill training, drills, and exercises, including oiled wildlife response and OSMP implementation. As CAPL'S response arrangements are common among its assets, and resource capabilities are shared, the testing and exercise schedule has been developed to test the various response options. The focus changes for each exercise to ensure any unique aspects of that location (e.g. resources at risk, first-strike equipment) are tested.

The objective is to test and maintain the capability to respond to emergency events. The exercises aim to test:

- notification, activation, and mobilisation of the ORT and EMT
- efficiency and effectiveness of equipment deployment
- efficiency and effectiveness of communication systems.

The testing schedule is a live document that is subject to change. The 5 year training and exercise schedule (Ref. 56) outlines the proposed testing arrangements to be completed, including the exercise types (Table 8-13) and proposed level of response to be tested (Table 8-14) that may be used to meet the defined objectives. A minimum of one test for each level will be conducted each year.

**Table 8-13: Exercise types**

Type	Details
Notification exercise	<ul style="list-style-type: none"> <li>Tests the procedures to notify and activate the EMTs, support organisations, and regulators</li> </ul>
Tabletop exercise	<ul style="list-style-type: none"> <li>Normally involves interactive discussions of a simulated scenario amongst members of an EMT; personnel or equipment are not mobilised</li> </ul>
Drill	<ul style="list-style-type: none"> <li>Conducts field activities such as equipment deployment, shoreline assessment, monitoring etc.</li> </ul>
Functional exercise	<ul style="list-style-type: none"> <li>Activates at least one EMT to establish command, control, and coordination of a serious emergency event</li> <li>Often more complex as it simulates several different aspects of an oil spill incident and may involve third parties.</li> </ul>

**Table 8-14: Exercise levels**

Level	Details
Level 1 – ORT	<ul style="list-style-type: none"> <li>May be held in conjunction with a Level 2 EMT exercise</li> <li>Designed to evaluate the ability of ORTs to implement CAPL’s Emergency Management System as it applies to ORTs</li> <li>ORTs are encouraged to conduct as many exercises as they want each year that do not include the ERT or a Level 2 EMT.</li> </ul>
Level 2 – EMT	<ul style="list-style-type: none"> <li>Exercises may include the participation of an ORT and may be held in conjunction with a Level 3 EMT exercise</li> <li>Usual duration – one to two hours</li> <li>Designed to evaluate a Level 2 EMT’s ability to notify and activate team members, set up a Level 2 EMT emergency command centre, and implement CAPL’s Emergency Management System as it applies to Level 2 EMTs.</li> </ul>
Level 3 – EMT	<ul style="list-style-type: none"> <li>Each exercise may include the participation of a Level 2 EMT and/or ORT</li> <li>Usual duration – three to six hours</li> <li>Designed to evaluate the EMT’s ability to notify and activate team members, transfer command to a Level 3 EMT Emergency Command Centre and implement the CAPL’s Emergency Management System as it applies to incident escalation.</li> </ul>
Oiled Wildlife	<ul style="list-style-type: none"> <li>Exercises may include the participation of an ORT and may be held in conjunction with a Level 3 EMT exercise</li> <li>Usual duration – three to six hours</li> <li>Designed to evaluate the Oiled Wildlife Branch’s ability to notify and activate oiled wildlife response teams and implement a response in line with CAPL and DBCA oiled wildlife plans and manuals.</li> </ul>
OSMP	<ul style="list-style-type: none"> <li>Exercises may be held in conjunction with a Level 3 EMT exercise, or conducted as a standalone exercise</li> <li>Usual duration – three to six hours</li> <li>Designed to evaluate the EMT’s ability to notify and activate OSMP team members and external service providers and test the arrangements and capability in place for OSMP.</li> </ul>

The training and exercise program outlines the process for evaluating training, drills, and exercises against defined objectives, and incorporating lessons learned. An after-action report is generated for all Level 2 (and above) exercises, which is used during spill exercises to assess the effectiveness of the exercise against its objectives and to record recommendations. Relevant actions are then assigned to the responsible party where they are tracked to completion using internal



processes. Exercise planners will be required to refer to previous recommendations for continual review and improvement.

Response arrangements as detailed in the OPEP (Ref. 2) must be tested:

- when they are introduced
- when they are significantly amended
- not later than 12 months after the most recent test
- if a new location for the activity is added to this EP after the response arrangements have been tested, and before the next test is conducted: test the response arrangements in relation to the new location as soon as practicable after it is added to this EP.

### 8.3.8.8.1 Source control training and exercises

In addition to the training and exercise schedule outlined in the *Emergency Management 5 Year Training and Exercise Schedule* (Ref. 56), specific source control exercises are also carried out in accordance with the SCERP (Ref. 195). There are two exercise styles (Table 8-15) that will be utilised to exercise and test components outlined in the SCERP.

A minimum of one test of each type will be completed for each SCERP. Source control exercises are conducted at a minimum three months prior to the planned exploration drilling campaign.

**Table 8-15: Source control exercise types**

Type	Details
Discussion exercise	<ul style="list-style-type: none"> <li>• discussion exercise (DISCEX) in the form of a workshop or seminar</li> <li>• a DISCEX will be conducted prior to commencement of exploration drilling campaign, during which the CAPL PEMT and source control branch can provide an overview of the SCERP components and source control tactics that may be employed in the unlikely event of a LOWC.</li> <li>• Chevron's Houston resources that would likely be involved in the PEMT Source Control Branch may also receive the familiarisation/information session.</li> </ul>
Functional exercise	<ul style="list-style-type: none"> <li>• functional exercise in the form of a scenario-based simulation (no actual deployment of equipment)</li> <li>• a functional exercise will be conducted prior to the commencement of the exploration drilling campaign incorporating elements of the CAPL PEMT Command and General Staff, Source Control Branch Perth resources, Source Control Branch Houston resources (as may be required) and selected support specialist contractors.</li> <li>• This exercise may be incorporated into an oil spill response exercise</li> </ul>

The source control exercises are designed to:

- practice activation and mobilisation of Source Control Branch Perth and Houston functions
- validate successful interface of Houston based Source Control Branch resources with Perth EMT Source Control Branch
- practice developing Source Control Branch strategies and tactics to meet objectives

- validation of vessel tracking software utilised to identify vessels with ROV support for site survey, debris clearance, BOP intervention and SSDI
- validate capping stack transport and deployment vessel utilising vessel tracking software
- validate AMOSC subsea first-response toolkit, OSRL subsea incident response tool kit or OSRL dispersant delivery system transport timings from AMOSC and OSRL to facilitate SSDI operations
- validate OSRL water column monitoring equipment transport timings into Australia
- validation of OSRL capping stack and ancillary equipment activation process.

Exercise evaluation will be undertaken by selected exercise evaluators drawn both internally within Chevron and externally by specialist incident management /source control training providers. Any actions from exercises are tracked and closed out via the CAPL action tracker and lessons learnt incorporated into subsequent tests. Where required, response documentation shall be updated to incorporate learnings derived during response testing.

## 8.4 Environmental monitoring and reporting

### 8.4.1 Environmental monitoring

Regulation 22(6) of OPGGS(E)R requires that the implementation strategy provides for sufficient monitoring of, and maintaining a quantitative record of, emissions and discharges such that this record can be used to assess whether the environmental performance outcomes and standards in the EP are being met.

CAPL and vessel contractors will monitor and record emissions and discharges as detailed in Section 7 to ensure that this record can be used to assess whether the environmental performance outcomes and standards in this EP are being met.

If an emergency condition resulting in a Level 2 or 3 spill event occurs, CAPL will implement the OSMP (Ref. 3), which is identified as a control measure in Sections 7.14, 7.15, 7.16.4.1, 7.16.4.2 and 7.16.4.3. The OSMP describes a program of monitoring, and is the principal tool for determining the extent, severity, and persistence of environmental impacts from an emergency condition and the emergency response activities to be undertaken by CAPL.

### 8.4.2 Incident reporting

Environmental incidents will be reported by CAPL in accordance with Table 8-16.

**Table 8-16: Incident reporting**

Recordable Incident reporting – regulation 50	
Legislative definition of ‘recordable incident’: <i>‘Recordable incident, for an activity, means a breach of an environmental performance outcome or environmental performance standard, in the environment plan that applies to the activity, that is not a reportable incident’</i> Recordable incidents are breaches of the environmental performance outcomes and standards described in Section 5.7.	
Reporting requirements	Report to / Timing
Written notification to NOPSEMA by the 15 <sup>th</sup> of each month	Submit written report to NOPSEMA by the 15 <sup>th</sup> of each month

<p>As a minimum, the written incident report must describe:</p> <ul style="list-style-type: none"> <li>the incidents and all material facts and circumstances concerning the incidents</li> <li>any actions taken to avoid or mitigate any adverse environmental impacts</li> <li>any corrective actions already taken, or that may be taken, to prevent a repeat of similar incidents.</li> </ul> <p>If no recordable incidents occur during the reporting month, a 'nil report' will be submitted.</p>	
<b>Reportable Incident reporting – Regulations 47, 48, 49</b>	
<p>Legislative definition of 'reportable incident': <i>'Reportable incident, for an activity means an incident relating to the activity that has caused, or has the potential to cause moderate to significant environmental damage.'</i></p> <p>Therefore, in alignment with Chevron Corporation's Integrated Risk Priorization Matrix (Table 5-1) 'reportable incidents' under this EP include those events (not planned activities) that have been risk assessed within Section 7 as having a consequence level between Moderate (4) and Catastrophic (1). In accordance with this definition, the reportable incidents with the potential to cause moderate to significant environmental damage identified under this EP are:</p> <ul style="list-style-type: none"> <li>introduction of an IMP (Section 7.7)</li> <li>unplanned release from a vessel collision event (Section 7.14)</li> <li>unplanned release from a loss of well control event (Section 7.15).</li> </ul> <p>Incident reporting is assessed on a case-by-case basis to determine if they trigger a reportable incident as defined by the OPGGS(E)R and this EP. Other incidents that may be considered reportable incidents include:</p> <ul style="list-style-type: none"> <li>death or injury to individual(s) from an EPBC Act listed species</li> <li>an unplanned event within a Commonwealth Marine Park.</li> </ul>	
<b>Reporting requirements</b>	<b>Report to</b>
<p>Verbal or written notification must be undertaken within two hours of the incident or as soon as practicable. This information is required:</p> <ul style="list-style-type: none"> <li>the incident and all material facts and circumstances known at the time</li> <li>any actions taken to avoid or mitigate any adverse environmental impacts.</li> </ul>	<p>Report verbally to NOPSEMA within two hours or as soon as practicable and provide written record of notification by email. Phone: (08) 6461 7090 Email: <a href="mailto:submissions@nopsema.gov.au">submissions@nopsema.gov.au</a></p>
<p>Verbal notifications must be followed by a written report as soon as practicable, and not later than three days following the incident.</p> <p>At a minimum, the written incident report will include:</p> <ul style="list-style-type: none"> <li>the incident and all material facts and circumstances</li> <li>actions taken to avoid or mitigate any adverse environmental impacts</li> <li>any corrective actions already taken, or that may be taken, to prevent a recurrence.</li> </ul> <p>If the initial notification of the reportable incident was verbal, this information must be included in the written report.</p>	<p>Written report to be provided to:</p> <ul style="list-style-type: none"> <li>NOPSEMA: <a href="mailto:submissions@nopsema.gov.au">submissions@nopsema.gov.au</a></li> <li>National Offshore Petroleum Titles Authority: <a href="mailto:info@nopta.gov.au">info@nopta.gov.au</a></li> </ul>

Additional Reporting Requirements	
Reporting requirements	Report to
<p>An oil/gas pollution incident that occurs within a marine park or is likely to impact on a marine park.</p> <p>The notification should include:</p> <ul style="list-style-type: none"> <li>• titleholder details</li> <li>• time and location of the incident (including name of marine park likely to be affected)</li> <li>• proposed response arrangements as per the OPEP (e.g. dispersant, containment, etc.)</li> <li>• confirmation of providing access to relevant monitoring and evaluation reports when available</li> <li>• contact details for the response coordinator.</li> </ul>	<p>Report verbally to the Director of national parks (DNP) (24-hour) Marine Compliance Duty Officer as soon as practicable, and also provide a follow-up email. Phone: 0419 293 465</p> <p>Email: <a href="mailto:marine.compliance@environment.gov.au">marine.compliance@environment.gov.au</a></p>
<p>Death or injury to individual(s) from an EPBC Act Listed Species as a result of the petroleum activity</p>	<p>Report injury to or mortality of EPBC Act Listed Threatened or Migratory species within seven business days of observation to DCCEEW or equivalent:</p> <ul style="list-style-type: none"> <li>• Phone: +61 2 6274 1111</li> <li>• Email: <a href="mailto:EPBC.Permits@environment.gov.au">EPBC.Permits@environment.gov.au</a></li> </ul>
<p>Vessel collision with marine mammals (whales)</p>	<p>Reported as soon as practicable.</p> <p><a href="https://data.marinemammals.gov.au/report/shipstrike">https://data.marinemammals.gov.au/report/shipstrike</a></p>
<p>Presence of any suspected IMP or disease within 24 hours</p>	<p>DPIRD:</p> <ul style="list-style-type: none"> <li>• Email: <a href="mailto:biosecurity@fish.wa.gov.au">biosecurity@fish.wa.gov.au</a></li> <li>• Phone: FishWatch 24-hour hotline: 1800 815 507</li> </ul>
<p>Unplanned release that is likely to impact land or water within Western Australian State jurisdiction</p>	<p>Reported as soon as practicable.</p> <p><a href="mailto:petroleum.environment@dmirs.wa.gov.au">petroleum.environment@dmirs.wa.gov.au</a></p> <p>Report verbally to the DoT MEER Duty Officer within two hours, and also provide a follow-up email with a POLREP attached.</p> <p>Phone: 08 948 9924</p> <p>Email: Report verbally to the DNP (24-hour) Marine Compliance Duty Officer as soon as practicable, and also provide a follow-up email.</p> <p>Phone: 0419 293 465</p> <p>Email: <a href="mailto:marine.compliance@environment.gov.au">marine.compliance@environment.gov.au</a></p>

### 8.4.3 Routine environmental reporting

Regulation 51 of the OPGGS(E)R requires environmental performance reporting for the activity described in this EP, as summarised in Table 8-17. Routine notifications required by regulation 54 of the OPGGS(E)R, and additional notifications as required by other legislation or guidelines, are also included in Table 8-17.

**Table 8-17: Routine external reporting or notification requirements**

Reporting requirement	Description	Reporting to	Timing
<b>Environmental performance reporting – Regulation 51</b>			
Environmental performance reporting	A report detailing environmental performance of the activity detailed in this EP.	NOPSEMA <a href="mailto:submissions@nopsema.gov.au">submissions@nopsema.gov.au</a> Phone: +61 8 6461 7090.	Within three months of completion of activities.
<b>Notification of start and end of activity – Regulation 54</b>			
Notification of start of activity	CAPL must complete Form FM1405 and submit to NOPSEMA at least 10 days before activity commencement.	NOPSEMA <a href="mailto:submissions@nopsema.gov.au">submissions@nopsema.gov.au</a> or: <a href="https://securefile.nopsema.gov.au/filedrop/submissions">https://securefile.nopsema.gov.au/filedrop/submissions</a> .	Once prior to activity commencement.
Notification of conclusion of activity	CAPL must complete Form FM1405 and submit to NOPSEMA within 10 days of activity completion.	NOPSEMA <a href="mailto:submissions@nopsema.gov.au">submissions@nopsema.gov.au</a> or: <a href="https://securefile.nopsema.gov.au/filedrop/submissions">https://securefile.nopsema.gov.au/filedrop/submissions</a> .	Once following completion of activity.
<b>Additional notification requirements</b>			
Notification of start of activity	CAPL will provide DEMIRS a pre-start notification confirming the start date of the proposed activity.	DEMIRS: <a href="mailto:Petroleum.environment@dmirs.wa.gov.au">Petroleum.environment@dmirs.wa.gov.au</a> .	Once prior to activity commencement.
Notification of conclusion of activity	CAPL must notify DEMIRS following completion of the activity.	DEMIRS: <a href="mailto:Petroleum.environment@dmirs.wa.gov.au">Petroleum.environment@dmirs.wa.gov.au</a> .	Once following completion of activity.
Discovery of certain UCH	In accordance with section 40 of the UCH Act, CAPL must provide written notification setting out: <ul style="list-style-type: none"> <li>a description of the article</li> <li>a description of the place where the article is situated that is sufficient to enable the article to be located.</li> </ul>	Electronic form available via the Australasian Underwater Cultural Heritage Database: <a href="http://www.environment.gov.au/shi/pwreck/public/forms/notification.do?jsessionid=08546DC0F8BB76EEA72FCE054D9139F1?mode=add">http://www.environment.gov.au/shi/pwreck/public/forms/notification.do?jsessionid=08546DC0F8BB76EEA72FCE054D9139F1?mode=add</a> .	Within 21 days of the discovery.

## 8.5 Environment Plan review

If required, any revisions and/or resubmission of this EP to NOPSEMA, in accordance with regulation 39 of the OPGGS(E)R, will be undertaken in accordance with the OEMS, and particularly the MoC process (Section 8.3.2.2).

## 9 acronyms and abbreviations

Table 9-1 defines the acronyms and abbreviations used in this document

**Table 9-1 Abbreviations and Definitions**

Acronym or abbreviation	Definition
ABU	Australian Business Unit
AFMA	Australian Fisheries Management Authority
AHO	Australian Hydrographic Office
AIIMS	Australasian Inter-service Incident Management System
AIMS	Australian institute of marine science
AIS	Automated identification system
ALARP	As low as reasonably practicable
AMSA	Australian Maritime Safety Authority
AMP	Australian Marine Park
API	American petroleum index
ART	<i>Advisory and Resource Team</i>
AR6	Sixth Assessment Report (AR6) of the United Nations Intergovernmental Panel on Climate Change (IPCC)
ASOG	Activity-specific operational guideline
BIAs	Biologically important areas
BOP	Blowout preventor
BRS	Bureau of resource sciences
BWI	Barrow Island
CALM Act	Conservation and Land Management Act 1984
CAPL	Chevron Australia Pty Ltd
CAR	Containment and recovery
CBT	Computer-based training
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CERP	Centre for Emergency Preparedness and Response
CHARM	Chemical Hazard Assessment and Risk Management
cm	Centimetre
CMT	Crisis Management Team
CO	Carbon monoxide
COLREGS	International Regulations for Preventing Collisions at Sea 1972
CO <sub>2</sub>	Carbon dioxide
cP	Centipoise
Cth	Commonwealth

Acronym or abbreviation	Definition
DAWE	Commonwealth Department of Agriculture, Water and the Environment (now denominated Department of Climate Change, Energy, the Environment and Water)
DCCEEW	Commonwealth Department of Agriculture, Climate Change, Energy, the Environment and Water
DISCEX	Discussion exercise
DNP	Director of National Parks
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety
DoT	Western Australian Department of Transport
DP	Dynamic positioning
DPIRD	Western Australian Department of Primary Industries and Regional Development
DWH	Deep Water Horizon
DS-1	Dino South-1
EAAF	East Asian-Australasian Flyway
EEA	Environmental exposure area
EMBA	Environment that may be affected
EMT	Emergency Management Team
ENGO	Environmental non-governmental organisation
EP	Environment Plan
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
ER	Exposure range
ERO	Emergency response organisation
ESD	Ecologically sustainable development
EUL	Environment Unit Leads
FT	Functional Teams
g/m <sup>2</sup>	Grams per square metre
GHG	Greenhouse gas
HB	Handbook
HSE	Health, safety, and environment
HFO	Heavy fuel oil
HWM	High water mark
IAATO	International Association of Antarctica Tour Operators
IAPP	International Air Pollution Prevention
IBRA	Interim Biogeographic Regionalisation for Australia
IC	Incident Commander
ICS	Incident commander system
IEE	International energy efficiency



Acronym or abbreviation	Definition
IEMT	Installation Emergency Management Team
IMCRA	Integrated Marine and Coastal Regionalisation of Australia
IMO	International Maritime Organisation
IMP	Invasive marine pests
IMS	Incident management system
IOGP	International Association of Oil & Gas Producers
IOPP	International Oil Pollution Prevention
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardisation
ISPP	International sewage pollution prevention
ITOPF	International Tanker Owners Pollution Federation Limited
JASMINE	JASCO Animal Simulation Model Including Noise Exposure
JRCC	Joint Resource Coordination Centre
KEF	Key ecological feature
kg	Kilogram
km	Kilometre
LOC	Loss of containment
LOWC	Loss of well control
LNG	Liquefied Natural Gas
LWM	Low water mark
m	Metre
m <sup>2</sup>	Square metre
m <sup>3</sup>	Cubic metre
MarCHES	Marine contractor HES
MARPOL	International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol of 1978 (also known as MARPOL 73/78)
MARS	Maritime Arrivals Reporting System
MCH	Mardathoonera Cultural Heritage Pty Ltd
MD	Measured depth
MDO	Marine Diesel Oil
MGO	Marine Gas Oil
MES	Monitoring, evaluation, and surveillance
MNES	Matters of national environmental significance
MoC	Management of change
MODU	Mobile offshore drilling unit
MSC	Management System Cycle
MSW	Managing Safe Work

Acronym or abbreviation	Definition
N/A	Not Applicable
NADF	Non-aqueous drill fluid
NEBA	Net Environmental Benefit Analysis
NEPM	National Environmental Protection Measure
NERA	National Energy Resources Australia
NO <sub>2</sub>	Nitrogen dioxide
No <sub>x</sub>	Nitrous oxides
NOAA	National oceanic and atmospheric administration
NOPSEMA	National Offshore Petroleum Safety and Environment Management Authority
NOPTA	National Offshore Petroleum Titles Administrator
NWMR	North-west Marine Region
NWS	North West Shelf
O <sub>3</sub>	Ozone
OA	Operational area
OC	On-Scene Commander
OCNS	Offshore Chemical Notification Scheme
OE	Operational Excellence
OEMS	Operational Excellence Management System
OGUK	Oil and Gas UK
OIM	Offshore installation manager
OPEP	Oil Pollution Emergency Plan
OPGGs Act	<i>Commonwealth Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
OPGGs(E)R	Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009
ORT	On-site Response Team
OSC	Operations Section Chief
OSCA	Oils spill control agents
OSMP	Operational and Scientific Monitoring Plan
OSRL	Oil Spill Response Limited
OSRO	Oil spill response organisation
OSV	Offshore support vessel
OWR	Oiled wildlife response
PAR	Pre-arrival reporting
PBC	Prescribed Bodies Corporate
PEMT	Perth Emergency Management Team
POB	Persons on board

Acronym or abbreviation	Definition
PLONOR	Pose little or no risk to the environment
POB	Persons on board
ppb	Parts per billion
ppm	Parts per million
PPP	Protection Prioritisation Process
PTS	Permanent threshold shift
PTW	Permit to Work
RNTBC	Registered native title bodies corporate
ROV	Remotely operated vehicle
RRT	Regional Response Teams
RTM	Response Time Models
SCERP	Source Control Emergency Response Plan
SEEMP	Ship Energy Efficiency Management Plan
SEL	Sound exposure level
SIMAP	Spill Impact Mapping and Analysis Program
SIMOPS	Simultaneous operations
SMPEP	Shipboard marine pollution emergency plan
SOLAS	International Convention for the Safety of Life at Sea 1974
SOP	Standard operational procedure
SOPEP	Ship Oil Pollution Emergency Plan
SO <sub>x</sub>	Sulfur oxides
SPL	Sound pressure level
SSDI	Subsea dispersant injection
SWIS	subsea well intervention services
TEC	Threatened ecological community
TRG	Tactical response guide
TTS	Temporary threshold shift
UK	United Kingdom
WA	Western Australia
WBF	Water based fluid
WCD	Worst Case Discharge
WAFIC	Western Australian Fisheries Industry Council
WOMP	Well operations management plan
WWERT	World-Wide Emergency Response Team

## 10 references

The following documentation is either directly referenced in this document or is a recommended source of background information.

**Table 10-1: References**

Ref. No.	Description	Document ID
1.	NOPSEMA. 2024. <i>Form: Environment Plan Summary Statement</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/document-hub/forms-and-templates">https://www.nopsema.gov.au/document-hub/forms-and-templates</a> [Accessed: February 2024].	N-04750-FM1848 A662605
2.	Chevron Australia. 2023. <i>Chevron ABU: Consolidated Oil Pollution Emergency Plan (OPEP)</i> . Chevron Australia, Perth, Western Australia.	ABU-COP-02788
3.	Chevron Australia. 2023. <i>Operational and Scientific Monitoring Plan: Environmental Monitoring in the Event of an Oil Spill to Marine or Coastal Waters</i> . Chevron Australia, Perth, Western Australia.	ABU13070 0448
4.	Chevron Australia. DRAFT. <i>Well Operations Management Plan – Dino South-1</i> . Chevron Australia, Perth, Western Australia.	ABU23060 0247
5.	DAWE. 2020. <i>Australian Ballast Water Management Requirements</i> . Version 8. Department of Agriculture, Water and the Environment, Canberra, Australian Capital Territory. Available from: <a href="https://www.agriculture.gov.au/sites/default/files/documents/australian-ballast-water-management-requirements.pdf">https://www.agriculture.gov.au/sites/default/files/documents/australian-ballast-water-management-requirements.pdf</a> [Accessed: March 2024]	
6.	DAFF. 2023. <i>Australian biofouling management requirements</i> . Version 2. Department of Agriculture, Fisheries and Forestry, Canberra, Australian Capital Territory. Available from: <a href="https://www.agriculture.gov.au/sites/default/files/documents/Australian-biofouling-management-requirements.pdf">https://www.agriculture.gov.au/sites/default/files/documents/Australian-biofouling-management-requirements.pdf</a> [Accessed: March 2024]	
7.	IMO. 2012. <i>Control and Management of Ships' Biofouling to Minimize the Transfer of Invasive Aquatic Species</i> . 2012 Edition. International Maritime Organization, London, United Kingdom.	
8.	Marine Pest Sectoral Committee. 2009. <i>National biofouling management guidelines for the petroleum production and exploration industry</i> . Version 1.0. Department of Agriculture and Water Resources, Australian Government, Canberra, Australian Capital Territory. Available from: <a href="https://www.marinepests.gov.au/sites/default/files/Documents/petroleum-exploration-biofouling-guidelines.pdf">https://www.marinepests.gov.au/sites/default/files/Documents/petroleum-exploration-biofouling-guidelines.pdf</a> [Accessed March 2024].	
9.	DCCEEW. 2023. <i>National Light Pollution Guidelines for Wildlife</i> . Version 2.0. Department of Climate Change, Energy, the Environment and Water, Canberra, Australian Capital Territory. Available from: <a href="https://www.dcceew.gov.au/sites/default/files/documents/national-light-pollution-guidelines-wildlife.pdf">https://www.dcceew.gov.au/sites/default/files/documents/national-light-pollution-guidelines-wildlife.pdf</a> [Accessed: March 2024]	
10.	RPS. 2022. <i>Wheatstone Deep and Dino South Exploration Wells – Oil Spill Modelling</i> . Report prepared by PRS for Chevron Australia Pty Ltd, Brisbane, Queensland.	MAQ1137J
11.	NERA. 2018. <i>Environment Plan Reference Case: Anchoring of Vessels and Floating Facilities</i> . National Energy Resources Australia, Kensington Western Australia. Available from: <a href="https://referencecases.nera.org.au/Attachment?Action=Download&amp;Attachment_id=223">https://referencecases.nera.org.au/Attachment?Action=Download&amp;Attachment_id=223</a> [Accessed: June 2022]	
12.	NERA. 2017. <i>Environment Plan Reference Case: Planned discharge of sewage, putrescible waste and grey water</i> . National Energy Resources	

Ref. No.	Description	Document ID
	Australia, Kensington Western Australia. Available from: <a href="https://referencecases.nera.org.au/Attachment?Action=Download&amp;Attachment_id=230">https://referencecases.nera.org.au/Attachment?Action=Download&amp;Attachment_id=230</a> [Accessed: June 2022]	
13.	Chevron Australia. 2021. <i>Chevron Global Technical Standard – Well Barriers Design</i> . Chevron Australia, Perth, Western Australia.	ABU-DCM-ST102006
14.	NOPSEMA. 2019. <i>Environment Bulletin: Oil spill modelling</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/2021-04/A652993.pdf">https://www.nopsema.gov.au/sites/default/files/documents/2021-04/A652993.pdf</a> [Accessed: March 2024].	A652993
15.	DCCEEW. 2024. <i>Protected Matters Search Tool</i> . Department of Climate Change, Energy, the Environment and Water, Canberra, Australian Capital Territory. Available from: <a href="https://www.dcceew.gov.au/environment/epbc/protected-matters-search-tool">https://www.dcceew.gov.au/environment/epbc/protected-matters-search-tool</a> [Accessed: January 2024].	
16.	NOPSEMA. 2024. <i>Guideline: Environment plan decision making</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/Environment%20plan%20decision%20making%20guideline.pdf">https://www.nopsema.gov.au/sites/default/files/documents/Environment%20plan%20decision%20making%20guideline.pdf</a> [Accessed: March 2024]	N-04750-GL1721
17.	NOPSEMA. 2024 <i>Guideline: Consultation with Commonwealth agencies with responsibilities in the marine area</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/Consultation%20with%20agencies%20with%20responsibilities%20in%20the%20Commonwealth%20marine%20area.pdf">https://www.nopsema.gov.au/sites/default/files/documents/Consultation%20with%20agencies%20with%20responsibilities%20in%20the%20Commonwealth%20marine%20area.pdf</a> [Accessed: March 2024]	N-06800-GL1887
18.	EPA. 2016. <i>Technical Guidance: Protection of Benthic Communities and Habitats</i> . Environmental Protection Authority, Government of Western Australia. Available from: <a href="https://www.epa.wa.gov.au/policies-guidance/technical-guidance-protection-benthic-communities-and-habitats">https://www.epa.wa.gov.au/policies-guidance/technical-guidance-protection-benthic-communities-and-habitats</a> [Accessed April 2023].	
19.	Harris, P., Heap, A., Passlow, V., Sbaffi, L., Fellows, M., Porter-Smith, R., Buchanan, C. and Daniell, J. 2005. <i>Geomorphic Features of the Continental Margin of Australia</i> , Geoscience Australia: Record 2003/30. 142pp.	
20.	Baker, Christina; Potter, Anna; Tran, Maggie; Heap, Andrew. 2008. <i>Sedimentology and Geomorphology of the North West Marine Region of Australia</i> . Geoscience Australia. Canberra.	
21.	Brewer, D.; Vincent, L; Skewes, T; Rothlisberg, P. 2007. <i>Trophic systems of the North-west Marine Region</i> . CSIRO Marine and Atmospheric Research. Cleveland	
22.	CSIRO. 2015. <i>Marine Benthic Substrate Database – CAMRIS – Marsed – V.1</i> . CSIRO. Data Collection. Available from: <a href="https://doi.org/10.4225/08/551485612CDEE">https://doi.org/10.4225/08/551485612CDEE</a> [Accessed April 2023].	
23.	DEH. 2006. <i>A Guide to the Integrated Marine and Coastal Regionalisation of Australia – (IMCRA) Version 4.0</i> . Department of the Environment and Energy and Heritage, Australian Government.	
24.	Sharplies, C., Mount, R., Pedersen, R., Lacey, M., Newton, J., Jaskierniak, D., and Wallace, L. 2009. <i>The Australian Coastal Smartline Geomorphic and Stability Map Version 1</i> . Prepared by University of Tasmania, for Geoscience Australia and Department of Climate Change, Australian Government	

Ref. No.	Description	Document ID
25.	Claire Butler, Vanessa Lucieer, Peter Walsh, Emma Flukes, Craig Johnson. 2017. <i>Seamap Australia [Version 1.0] the development of a national benthic marine classification scheme for the Australian continental shelf</i> . ISBN: 978-1-925646-61-0	
26.	DEWHA. 2008. <i>The North-west Marine Bioregional Plan – Bioregional Profile</i> . Department of the Environment, Water, Heritage and the Arts, Canberra, Australian Capital Territory. Available from: <a href="https://parksaustralia.gov.au">The North-West Marine Bioregional Plan: Bioregional profile (parksaustralia.gov.au)</a> [Accessed: June 2022]	
27.	DPIRD. 2022. <i>Fish Cube WA Data Extract for 2012–2021</i> . Available by request from DPIRD.	
28.	WAFIC. 2022. North Coast Bioregion North Coast demersal scalefish fisheries. Available from: <a href="https://www.wafic.org.au/fishery/north-coast-demersal-scalefish-fisheries/">https://www.wafic.org.au/fishery/north-coast-demersal-scalefish-fisheries/</a> [Accessed: April 2022]	
29.	Newman, S.J., Wise, B.S., Santoro, K.G. and Gaughan, D.J. (eds). 2021. <i>Status Reports of the Fisheries and Aquatic Resources of Western Australia 2020/21: The State of the Fisheries</i> . Department of Primary Industries and Regional Development, Western Australia.	
30.	ABARES. 2021. <i>Fishery status reports map data</i> . Australian Bureau of Agricultural and Resource Economics and Sciences from data collected by the Australian Fisheries Management Authority. Available from: <a href="https://www.awe.gov.au/abares/research-topics/fisheries/fishery-status/fsr-map-data">https://www.awe.gov.au/abares/research-topics/fisheries/fishery-status/fsr-map-data</a> [Accessed: April 2022]	
31.	Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Woodhams, J and Curtotti, R 2021, <i>Fishery status reports 2021</i> . Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. Available from: <a href="https://www.awe.gov.au/abares/research-topics/fisheries/fishery-status#full-report">https://www.awe.gov.au/abares/research-topics/fisheries/fishery-status#full-report</a> [Accessed: April 2022]	
32.	Chevron Australia. 2020. <i>ABU OE Risk Management Process</i> . Chevron Australia, Perth, Western Australia.	OE-03.01.01
33.	Standards Australia / Standards New Zealand. 2018. <i>ISO 31000:2018 Risk management – Principles and guidelines</i> . Sydney, Australia / Wellington, New Zealand	
34.	Standards Australia / Standards New Zealand. 2012. <i>HB 203:2012. Managing environment-related risk</i> . Sydney, Australia / Wellington, New Zealand.	
35.	NOPSEMA. 2022. <i>Guidance Note: ALARP</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/N-04300-GN016601-20-ALARP-2028A138249-29.pdf">https://www.nopsema.gov.au/sites/default/files/documents/N-04300-GN016601-20-ALARP-2028A138249-29.pdf</a> [Accessed: March 2024]	N-04300-GN01660166
36.	OGUK. 2014. <i>Guidance on Risk Related Decision Making</i> . Issue 2, July 2014. Oil and Gas United Kingdom, London, England.	
37.	Standards Australia / Standards New Zealand. 2015. <i>AS/NZS ISO 14001:2015 Environmental management systems—Requirements with guidance for use</i> . Sydney, Australia / Wellington, New Zealand.	
38.	Chevron Australia. 2020. <i>ABU Managing Safe Work (MSW) Operations Process MSW Manual</i> . Chevron Australia, Perth, Western Australia.	OE-03.06.1080
39.	Chevron. 2023. <i>Chevron Marine Standard Non Tankers: Corporate OE Standard</i> . Chevron Corporation, United States of America	

Ref. No.	Description	Document ID
40.	Chevron Australia. 2020. <i>ABU Hazardous Materials Management Procedure: ABU Standardised OE Procedure</i> . Chevron Australia, Perth, Western Australia.	OE-03.11.1045
41.	Chevron Australia. 2016. <i>OE Information Management: ABU Standardised OE Process</i> . Chevron Australia, Perth, Western Australia	OE-03.02.01
42.	Chevron Australia. 2015. <i>ABU Management of Change for Facilities and Operations: Upstream and Gas Standardised OE Process</i> . Chevron Australia, Perth, Western Australia.	OE-04.00.01
43.	Chevron Australia. 2015. <i>Environmental Stewardship: ABU Standardised OE Process</i> . Chevron Australia. Perth, Western Australia.	OE-07.01.02
44.	Chevron Australia. 2020. <i>Quarantine Procedure Marine Vessels. ABU Standardised OE Process</i> . Chevron Australia, Perth, Western Australia.	OE-07.08.1010
45.	Chevron Australia. 2019. <i>Stakeholder Engagement and Issues Management Process: ABU Standardised OE Process</i> . Chevron Australia, Perth, Western Australia.	OE-10.00.01
46.	Chevron Australia. 2018. <i>ABU – OE Assurance Corporate Process</i> . Chevron Australia, Perth, Western Australia.	OE-12.01.01
47.	Chevron. 2020. <i>OE Corporate Standard Incident Investigation</i> . Chevron Corporation, United States of America.	
48.	Chevron. 2021. <i>OE Data Reporting Standard</i> . Chevron Corporation, United States of America.	
49.	Chevron Australia. 2021. <i>Incident Investigation and Reporting (II&amp;R) Execution Manual: ABU Incident Investigation and Reporting</i> . Chevron Australia, Perth, Western Australia.	OE-09.00.01
50.	Chevron Australia. 2018. <i>Emergency Management Chevron Corporate ABU Standardised OE Process</i> . Chevron Australia, Perth, Western Australia.	OE-11.01.01
51.	Hinwood, J.B., Poots, A.E., Dennis, L.R., Carey, J.M., Houridis, H., Bell, R., Thomson, J.R., Boudreau, P. and Ayling, A.M. Australian Marine and Offshore Group Pty Ltd, 1994. The Environmental Implication of Drilling activities. In: Swan, J.M., Neff, J.M. and Young, P.C. (Eds) <i>Environmental Implications of Offshore Oil and Gas Development in Australia – The Findings of an Independent Scientific Review</i> . Australian Petroleum Exploration Association, Sydney, pp 123–207	
52.	Chevron Australia. 2019. <i>ABU OE Assurance Plan</i> . Chevron Australia, Perth, Western Australia.	ABU161100798
53.	AMSA. 2020. <i>National Plan for Maritime Environmental Emergencies. 2020 Edition</i> . Australian Maritime Safety Authority, Australian Government, Canberra, Australian Capital Territory. Available from: <a href="https://www.amsa.gov.au/sites/default/files/national-plan-maritime-environmental-emergencies-2020.pdf">https://www.amsa.gov.au/sites/default/files/national-plan-maritime-environmental-emergencies-2020.pdf</a> [Accessed April 2022].	
54.	Chevron Australia. 2019. <i>ABU: Crisis Management Plan</i> . Chevron Australia, Perth, Western Australia.	OE-11.01.10
55.	Chevron Australia. 2018. <i>Business Continuity Planning Chevron Corporation: ABU Standardized OE Process</i> . Chevron Australia, Perth, Western Australia.	OE-11.01.1110
56.	Chevron Australia. 2023. <i>ABU Emergency Management 5 year training and exercise schedule</i> . Chevron Australia, Perth, Western Australia.	ABU230300030
57.	TSSC. 2015. <i>Conservation Advice Balaenoptera physalus fin whale</i> . Threatened Species Scientific Committee, Australian Government, Canberra, Australian Capital Territory. Available from: <a href="#">Conservation</a>	



Ref. No.	Description	Document ID
	<a href="https://www.environment.gov.au">Advice Balaenoptera physalus (environment.gov.au)</a> [Accessed May 2022].	
58.	TSSC. 2015. <i>Conservation Advice Balaenoptera borealis sei whale</i> . Threatened Species Scientific Committee, Australian Government, Canberra, Australian Capital Territory. Available from: <a href="https://www.environment.gov.au">Conservation Advice Balaenoptera borealis (environment.gov.au)</a> [Accessed May 2022].	
59.	DoE. 2015. <i>Conservation Management Plan for the Blue Whale (2015-2025), A Recovery Plan under the Environment Protection and Biodiversity Conservation Act 1999</i> . Department of the Environment, Australian Government, Canberra, Australian Capital Territory. Available from: <a href="https://www.environment.gov.au">Conservation Management Plan for the Blue Whale (environment.gov.au)</a> [Accessed May 2022].	
60.	Richardson, W.J., Greene, C.R., Malme, C.I and Thomson, D.H. 1995. <i>Marine Mammals and Noise</i> . Academic Press, San Diego.	
61.	Whale and Dolphin Conservation Society. 2006. <i>Vessel Collisions and Cetaceans: What happens when they don't miss the boat</i> . Whale and Dolphin Society. United Kingdom. Available from: <a href="#">Microsoft Word - Collisions LATEST 18 Sept.doc (whales.org)</a> [Accessed March 2022]].	
62.	Mackay, A.I., Bailluel, F., Childerhouse, S., Donnelly, D., Harcourt, R., Parra, G.J. and Goldsworthy, S.D. 2015. <i>Offshore migratory movement of southern right whales: addressing critical conservation and management needs</i> . South Australian Research and Development Institute (Aquatic Sciences), Adelaide. SARDI Publication No. F2015/000526-1. SARDI Research Report Series No. 859.	
63.	Laist, D.W., Knowlton, A.R., Mead, J.G., Collet, A.S. and Podesta, M. 2001. Collisions between ships and whales. <i>Marine Mammal Science</i> , 17(1), 35–75.	
64.	DAWE. 2020. <i>Biologically Important Areas of Regionally Significant Marine Species</i> . Spatial database available from: <a href="http://www.environment.gov.au/fed/catalog/search/resource/details.page?uuid=%7B2ed86f5a-4598-4ae9-924f-ac821c701003%7D">http://www.environment.gov.au/fed/catalog/search/resource/details.page?uuid=%7B2ed86f5a-4598-4ae9-924f-ac821c701003%7D</a> [Accessed: January 2023]	
65.	Gavrilov A. N., McCauley R. D., Paskos G., and Alexey G. 2018. Southbound migration corridor of Pygmy Blue Whales off the northwest coast of Australia based on data from ocean bottom seismographs. <i>The Journal of the Acoustical Society of America</i> . <a href="https://doi.org/10.1121/1.5063452">https://doi.org/10.1121/1.5063452</a>	
66.	Double, M.C. Jenner, K.C.S., Jenner, M-N., Ball, I., Laverick, S. and Gales, N., 2012. Satellite tracking of pygmy blue whales ( <i>Balaenoptera musculus brevicauda</i> ) off Western Australia. Final Report – May 2012. Australian Marine Mammal Centre.	
67.	Gales, N., Double, M. C., Robinson, S., Jenner, C., Jenner, M, King, E. & Paton, D. 2010. Satellite tracking of Australian humpback ( <i>Megaptera novaeangliae</i> ) and Pygmy Blue Whales ( <i>Balaenoptera musculus brevicauda</i> ). White paper presented to the Scientific Committee of the International Whaling Commission. <a href="http://www.marinemammals.gov.au/__data/assets/pdf_file/0017/137312/sc-62-sh21.pdf">http://www.marinemammals.gov.au/__data/assets/pdf_file/0017/137312/sc-62-sh21.pdf</a>	
68.	Branch, T. A., Matsuoka, K. and Miyashita, T. 2004. <i>Evidence for increases in Antarctic blue whales based on Bayesian modelling</i> . <i>Marine Mammal Science</i> 20(4): 726-754.	
69.	Double, M.C., Andrews-Goff, V., Jenner, K.C.S., Jenner, M-N., Laverick, S.M., Branch, T.A. and Gales, N., 2014. <i>Migratory movements</i>	

Ref. No.	Description	Document ID
	<i>of pygmy blue whales (Balaenoptera musculus brevicauda) between Australia and Indonesia as revealed by satellite telemetry.</i> PLOS one, April 2014 9(4).	
70.	Kahn, B., 2007. Blue whales of the Savu Sea, Indonesia. In: <i>Biannual Marine Mammal Conference - Blue Whale Workshop</i> . Cape Town, South Africa. 28 Nov - 3 Dec 2007.	
71.	McCauley, R.D. and K.C. Jenner. 2010. <i>Migratory patterns and estimated population size of Pygmy Blue Whales (Balaenoptera musculus brevicauda) traversing the Western Australian coast based on passive acoustics</i> . Paper SC/62/SH26 presented to the International Whaling Committee Scientific Committee.	
72.	DSEWPC. 2012. <i>Marine bioregional plan for the North-west Marine Region, prepared under the Environment Protection and Biodiversity Conservation Act 1999</i> . Australian Government, Canberra, Australian Capital Territory. Available from: <a href="https://www.awe.gov.au/sites/default/files/env/pages/1670366b-988b-4201-94a1-1f29175a4d65/files/north-west-marine-plan.pdf">https://www.awe.gov.au/sites/default/files/env/pages/1670366b-988b-4201-94a1-1f29175a4d65/files/north-west-marine-plan.pdf</a> [Accessed April 2022].	
73.	Pendleton, D.E., Holmes, E.E., Redfern, J., Zhang, J., 2020. <i>Using modelled prey to predict the distribution of a highly mobile marine mammal</i> . Divers. Distrib. 26, 1612–1626.	
74.	DBCA.2017. <i>Pilbara Inshore Islands Nature Reserves</i> . Parks and Wildlife Service, Department of Biodiversity, Conservation and Attractions. Government of Western Australia. Available at: <a href="https://parks.dpaw.wa.gov.au/park/pilbara-inshore-islands">https://parks.dpaw.wa.gov.au/park/pilbara-inshore-islands</a> [Accessed: May 2022]	
75.	DEWHA. 2012. <i>Species group report card –seabirds and migratory shorebirds</i> . Department of Sustainability, Environment, Water, Population and Communities, Public Affairs, Canberra, ACT.	
76.	Marchant, S. and Higgins, P.J. (eds) 1990, <i>Handbook of Australian, New Zealand and Antarctic birds, volume 1: ratites to ducks, part A: ratites to petrels</i> , Oxford University Press, Melbourne.	
77.	Cannell, B., Hamilton, S. and Driessen, J. 2019. <i>Wedge-tailed shearwater foraging behaviour in the Exmouth region</i> . Report for Woodside Energy Ltd by University of Western Australia and Birdlife Australia.	
78.	Morris, K., Burbidge, A.A., Drew, M. and Kregor, G. 2002. Mammal Monitoring, Barrow Island Nature Reserve October 2002. Unpublished report for ChevronTexaco, Perth, Western Australia	
79.	Chevron Australia. 2005. <i>Gorgon Gas Development and Jansz Feed Gas Pipeline: Terrestrial and Subterranean Baseline State and Environmental Impact Report</i> . Chevron Australia, Perth, Western Australia	G1-TE-H-0000-REPX027
80.	Chevron Australia. 2005. <i>Draft Gorgon Environmental Impact Statement/Environmental Review and Management Programme for the Proposed Gorgon Development</i> . Chevron Australia, Perth, Western Australia	
81.	Surman, C. A., Nicholson, L. W., and Phillips, R. A. 2018. Distribution and patterns of migration of a tropical seabird community in the Eastern Indian Ocean. <i>Journal of Ornithology</i> . Vol 159(3), 867-877.	
82.	EPA. 2016. <i>Environmental Factor Guideline – Marine Environmental Quality</i> . Environmental Protection Authority, Government of Western Australia. Available from: <a href="https://www.epa.wa.gov.au/policies-guidance/environmental-factor-guideline-marine-environmental-">https://www.epa.wa.gov.au/policies-guidance/environmental-factor-guideline-marine-environmental-</a>	

Ref. No.	Description	Document ID
	quality <a href="https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/TechnicalGuidance_ProtectionOfBenthicCommunitiesAndHabitats-131216.pdf">https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/TechnicalGuidance_ProtectionOfBenthicCommunitiesAndHabitats-131216.pdf</a> [Accessed March 2023].	
83.	Chevron Australia. 2010. <i>Draft Environmental Impact Statement/Environmental Review and Management Programme for the Proposed Wheatstone Project</i> . Chevron Australia, Perth, Western Australia. Available from: <a href="https://australia.chevron.com/our-businesses/wheatstone-project/environmental-approvals">https://australia.chevron.com/our-businesses/wheatstone-project/environmental-approvals</a> [Accessed: March 2023]	
84.	DPIRD. 2017. <i>Muiron Islands Marine Management</i> . Area. Available from: <a href="https://www.fish.wa.gov.au/Sustainability-and-Environment/Aquatic-Biodiversity/Marine-Protected-Areas/Pages/Recreational-fishing-in-Muiron-Islands-Marine-Management-Area.aspx#:~:text=The%20key%20species%20likely%20to,deeper%20water%20between%20the%20islands">https://www.fish.wa.gov.au/Sustainability-and-Environment/Aquatic-Biodiversity/Marine-Protected-Areas/Pages/Recreational-fishing-in-Muiron-Islands-Marine-Management-Area.aspx#:~:text=The%20key%20species%20likely%20to,deeper%20water%20between%20the%20islands</a> [Accessed: March 2023]	
85.	DBCA & Parks and wildlife service. 2020. <i>Islands in the Pilbara</i> . Visitor guide. Available from <a href="https://www.murujuga.org.au/wp-content/uploads/2020/06/20180116-Pilbara-Islands-Vistor-guide-FINALwb.pdf">https://www.murujuga.org.au/wp-content/uploads/2020/06/20180116-Pilbara-Islands-Vistor-guide-FINALwb.pdf</a> [Accessed: March 2023]	
86.	Parks and wildlife service. n.d. <i>Pilbara Inshore Islands Nature Reserves</i> . Available from <a href="https://exploreparks.dbca.wa.gov.au/park/pilbara-inshore-islands-nature-reserves">https://exploreparks.dbca.wa.gov.au/park/pilbara-inshore-islands-nature-reserves</a> [Accessed: March 2023]	
87.	DBCA. 2020 <i>Pilbara inshore islands nature reserves and proposed additions draft management plan</i> . Department of Biodiversity, Conservation and Attractions, Perth, Australia	
88.	DBCA. 2022. <i>Ningaloo Coast, Nynggulu – Visitor Guide</i> . Parks and Wildlife Service, Department of Biodiversity, Conservation and Attractions, Western Australian Government. Available from: <a href="https://exploreparks.dbca.wa.gov.au/park/nynggulara-national-park-ex-ningaloo#maps-brochures">https://exploreparks.dbca.wa.gov.au/park/nynggulara-national-park-ex-ningaloo#maps-brochures</a> [Accessed March 2023]	
89.	DBCA. 2022. <i>Ningaloo Coast, Nynggulu – Visitor Guide Maps and Zones</i> . Parks and Wildlife Service, Department of Biodiversity, Conservation and Attractions, Western Australian Government. Available from: <a href="https://exploreparks.dbca.wa.gov.au/park/nynggulara-national-park-ex-ningaloo#maps-brochures">https://exploreparks.dbca.wa.gov.au/park/nynggulara-national-park-ex-ningaloo#maps-brochures</a> [Accessed March 2023]	
90.	Yamatji Marlpa Aboriginal Corporation. 2019. <i>Gnulli native title group celebrates native title win</i> . Available from: <a href="https://www.ymac.org.au/wp-content/uploads/2019/12/191218-Gnulli-Native-Title-Determination-MEDIA-RELEASE-FINAL.pdf">https://www.ymac.org.au/wp-content/uploads/2019/12/191218-Gnulli-Native-Title-Determination-MEDIA-RELEASE-FINAL.pdf</a> [Accessed: March 2023]	
91.	DCCEW. 2021. <i>About Australia's heritage</i> . Available at: <a href="https://www.dcceew.gov.au/parks-heritage/heritage/about">https://www.dcceew.gov.au/parks-heritage/heritage/about</a> [Accessed: March 2023]	
92.	Last, P, Lyne, V, Yearsley, G, Gledhill, D, Gommon, M, Rees, T & White, W, (2005). <i>Validation of national demersal fish datasets for the regionalisation of the Australian continental slope and outer shelf (&gt;40 m depth)</i> . Australian Government Department of the Environment and Heritage and CSIRO Marine Research, Australia.	
93.	DCCEEW. n.d. <i>Species Profile and Threats Database, Key Ecological Features</i> . Available at: <a href="https://www.environment.gov.au/sprat-public/action/kef/search">https://www.environment.gov.au/sprat-public/action/kef/search</a> [Accessed: January 2024]	
94.	Department of Primary Industries and Regional Development (DPIRD). 2020. <i>Recreational fishing</i> . Available at:	

Ref. No.	Description	Document ID
	<a href="https://www.fish.wa.gov.au/Fishing-and-Aquaculture/Recreational-Fishing/Pages/default.aspx">https://www.fish.wa.gov.au/Fishing-and-Aquaculture/Recreational-Fishing/Pages/default.aspx</a> [Accessed: March 2023]	
95.	Ryan KL, Lai EKM, Smallwood CB. 2022. <i>Boat-based recreational fishing in Western Australia 2020/21</i> . Fisheries Research Report No. 327 Department of Primary Industries and Regional Development, Western Australia. 221pp. Available at: <a href="https://www.fish.wa.gov.au/Documents/research_reports/fr327.pdf">https://www.fish.wa.gov.au/Documents/research_reports/fr327.pdf</a> [Accessed: March 2023]	
96.	Department of Primary Industries and Regional Development (DPIRD). 2015. <i>Customary fishing — frequently asked questions</i> . Available at: Customary fishing — frequently asked questions [Accessed: March 2023]	
97.	Tourism Research Australia. 2022. <i>State Tourism Satellite Account 2020–21: Western Australia summary</i> . Available at: <a href="https://www.tra.gov.au/data-and-research/reports/state-tourism-satellite-account-2020-21/western-australia-summary">https://www.tra.gov.au/data-and-research/reports/state-tourism-satellite-account-2020-21/western-australia-summary</a> [Accessed: March 2023]	
98.	Schianetz Karin, Jones Tod, Kavanagh Lydia, Walker Paul, Lockington David, Wood David. 2009. <i>The practicalities of a Learning Tourism Destination: a case study of the Ningaloo Coast</i> . <i>International Journal of Tourism Research</i> .	
99.	AHO. 2020. <i>Fact Sheet: Navigation – Maritime Military Firing Practice and Exercise Areas</i> . Australian Hydrographic Office, Department of Defence, Australian Government. Available from: <a href="https://www.hydro.gov.au/factsheets/FS_Navigation-Firing_Practice_and_Exercise_Areas.pdf">https://www.hydro.gov.au/factsheets/FS_Navigation-Firing_Practice_and_Exercise_Areas.pdf</a> [Accessed March 2023]	
100.	Department of Defence. 2022. <i>Defence UXO Mapping Application Version 1.0.2.21</i> . Available from: <a href="https://www.wherisuxo.org.au/">https://www.wherisuxo.org.au/</a> [Accessed March 2023]	
101.	Australian Marine Parks. n.d. Australian Marine Parks. Available from: <a href="https://parksaustralia.gov.au/marine/">https://parksaustralia.gov.au/marine/</a> [Accessed March 2023]	
102.	DPLH. 2023. <i>Aboriginal Heritage Places Database</i> . Available at: <a href="https://catalogue.data.wa.gov.au/dataset/aboriginal-heritage-places">https://catalogue.data.wa.gov.au/dataset/aboriginal-heritage-places</a> . [Accessed: January 2023]	
103.	UNESCO. n.d. Ningaloo Coast. Available from: <a href="https://whc.unesco.org/en/list/1369/">https://whc.unesco.org/en/list/1369/</a> [Accessed: March 2023]	
104.	DCCEEW. 2023. National Heritage Places - The Ningaloo Coast. Available from: <a href="https://www.dcceew.gov.au/parks-heritage/heritage/places/national/ningaloo">https://www.dcceew.gov.au/parks-heritage/heritage/places/national/ningaloo</a> [Accessed: March 2023]	
105.	API. 2015. <i>API Recommended Practice 2SK, Design and Analysis of Station keeping Systems for Floating Structures</i> , Third Edition, October 2005	
106.	International Organization for Standardization (ISO) 19901-7:2013 <i>Petroleum and natural gas industries — Specific requirements for offshore structures — Part 7: Station keeping systems for floating offshore structures and mobile offshore units</i> .	
107.	Woodside Energy Ltd. 2014. <i>Browse FLNG Development, Draft Environmental Impact Statement</i> . EPBC 2013/7079. November 2014. Woodside Energy, Perth, Western Australia. Available from: <a href="https://www.woodside.com.au/docs/default-source/our-business---documents-and-files/burrup-hub---documents-and-files/browse---documents-and-files/index-of-previous-browse-studies/f16---erm-2010--browse-upstream-Ing-development-light-impact-assessment_.pdf">https://www.woodside.com.au/docs/default-source/our-business---documents-and-files/burrup-hub---documents-and-files/browse---documents-and-files/index-of-previous-browse-studies/f16---erm-2010--browse-upstream-Ing-development-light-impact-assessment_.pdf</a> [Accessed April 2022].	

Ref. No.	Description	Document ID
108.	DoE. 2015. <i>Wildlife Conservation Plan for Migratory Shorebirds</i> . Department of the Environment, Australian Government, Canberra, Australian Capital Territory. Available from: <a href="https://www.awe.gov.au/sites/default/files/documents/wildlife-conservation-plan-migratory-shorebirds.pdf">https://www.awe.gov.au/sites/default/files/documents/wildlife-conservation-plan-migratory-shorebirds.pdf</a> [Accessed April 2022].	
109.	Rodríguez, A., Burgan, G., Dann, P., Jessop, R., Negro, J.J. and Chiaradia, A. 2014. Fatal attraction of short-tailed shearwaters to artificial lights. <i>PLoS ONE</i> 9(10):e110114	
110.	Marquenie, J., Donners, M., Poot, H., Steckel, W. and de Wit, B. 2008. Adapting the spectral composition of artificial lighting to safeguard the environment. <i>Petroleum and Chemical Industry Conference Europe – Electrical and Instrumentation Applications</i> , pp 1–6.	
111.	Wiese, F.K., Montevecci, W.A., Davoren, G.K., Huettmann, F., Diamond, A.W. and Linke, J. 2001. Seabirds at risk around off shore oil platforms in the northwest Atlantic. <i>Marine Pollution Bulletin</i> . 42:1285–1290.	
112.	Shell. 2010. <i>Prelude Floating LNG Project EIS Supplement—Response to Submissions</i> . Shell Developments (Australia) Pty Ltd, Perth, Western Australia.	
113.	Imber M. 1975. Behaviour of petrels in relation to the moon and artificial lights. <i>Notornis</i> 22: 302- 306.	
114.	Marquenie J., Donners M., Poot H., Steckel W de Wit B. 2013. <i>Bird-Friendly Light Sources: Adapting the Spectral Composition of Artificial Lighting</i> . Industry Applications Magazine, IEEE. 19. 56–62. 10.1109/MIAS.2012.2215991.	
115.	Gauthreaux, S.A. and Belser, C.G. 2006. Effects of artificial night lighting on migrating birds. In: <i>Ecological Consequences of Artificial Night Lighting</i> , Rich C and Longcore T, Editors. Island Press: Washington, D.C., USA, p:67–93	
116.	BP. 2013. <i>Shah Deniz 2 Project: Environmental &amp; Socio-Economic Impact Assessment</i> . BP Development Pty Ltd, Azerbaijan. Available from: <a href="https://www.bp.com/en_az/azerbaijan/home/news/environmental-and-social-documentation/shah-deniz-.html">https://www.bp.com/en_az/azerbaijan/home/news/environmental-and-social-documentation/shah-deniz-.html</a> [Accessed April 2022].	
117.	DISER. 2023. <i>National Greenhouse Gas Inventory Quarterly Update: December 2022</i> . Available from: <a href="https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-gas-inventory-quarterly-update-december-2022">https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-gas-inventory-quarterly-update-december-2022</a> [Accessed May 2023].	
118.	DISER. 2021. <i>National Greenhouse Accounts Factors, Australian National Greenhouse Accounts, August 2021</i> . Australian Government Department of Industry, Science, Energy and Resources, Canberra, Australia.	
119.	Arias, P. A., N. Bellouin, E. Coppola, R. G. Jones, G. Krinner, J. Marotzke, V. Naik, M. D. Palmer, G-K. Plattner, J. Rogelj, M. Rojas, J. Sillmann, T. Storelvmo, P. W. Thorne, B. Trewin, K. Achuta Rao, B. Adhikary, R. P. Allan, K. Armour, G. Bala, R. Barimalala, S. Berger, J. G. Canadell, C. Cassou, A. Cherchi, W. Collins, W. D. Collins, S. L. Connors, S. Corti, F. Cruz, F. J. Dentener, C. Dereczynski, A. Di Luca, A. Diongue Niang, F. J. Doblas-Reyes, A. Dosio, H. Douville, F. Engelbrecht, V. Eyring, E. Fischer, P. Forster, B. Fox-Kemper, J. S. Fuglestedt, J. C. Fyfe, N. P. Gillett, L. Goldfarb, I. Gorodetskaya, J. M. Gutierrez, R. Hamdi, E. Hawkins, H. T. Hewitt, P. Hope, A. S. Islam, C. Jones, D. S. Kaufman, R. E. Kopp, Y. Kosaka, J. Kossin, S. Krakovska, J-Y. Lee, J. Li, T. Mauritsen, T. K. Maycock, M. Meinshausen, S-K. Min, P. M. S. Monteiro, T. Ngo-Duc, F. Otto, I. Pinto, A. Pirani, K. Raghavan, R. Ranasinghe, A. C. Ruane, L. Ruiz, J-B. Sallée, B. H. Samset, S.	



Ref. No.	Description	Document ID
	Sathyendranath, S. I. Seneviratne, A. A. Sörensson, S. Szopa, I. Takayabu, A-M. Treguier, B. van den Hurk, R. Vautard, K. von Schuckmann, S. Zaehle, X. Zhang, K. Zickfeld, 2021, Technical Summary. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J. B. R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press, page 26	
120.	IPCC, 2021: <i>Summary for Policymakers</i> . In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [MassonDelmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press. In Press.	
121.	Koessler M. W., M.J. Weirathmueller, and C.R. McPherson. 2022. <i>Wheatstone Deep and Dino South Drilling Campaign: Acoustic and Animal Movement Modelling for Assessing Marine Fauna Sound Exposures</i> . Document 02716, Version 2.0. Technical report by JASCO Applied Sciences for Chevron Australia Pty Ltd.	ABU22060 0166
122.	Southall, B.L., J.J. Finneran, C.J. Reichmuth, P.E. Nachtigall, D.R. Ketten, A.E. Bowles, W.T. Ellison, D.P. Nowacek, and P.L. Tyack. 2019. Marine Mammal Noise Exposure Criteria: Updated Scientific Recommendations for Residual Hearing Effects. <i>Aquatic Mammals</i> 45(2): 125-232. <a href="https://doi.org/10.1578/AM.45.2.2019.125">https://doi.org/10.1578/AM.45.2.2019.125</a> .	
123.	NOAA. 2019. ESA Section 7 Consultation Tools for Marine Mammals on the West Coast (web page), 27 Sep 2019. National Oceanic and Atmospheric Administration (US) <a href="https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/esa-section-7-consultation-tools-marine-mammals-west">https://www.fisheries.noaa.gov/west-coast/endangered-species-conservation/esa-section-7-consultation-tools-marine-mammals-west</a> . [Accessed April 2022]	
124.	Popper, A.N., Hawkins, A.D., Fay, R.R., Mann, D.A., Bartol, S., Carlson, T.J., Coombs, S., Ellison, W.T. and 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. Springer Briefs in Oceanography, Volume ASA S443/SC1.4 TR-2014. ASA Press. 87 pp	
125.	Finneran, J.J., E. Henderson, D.S. Houser, K. Jenkins, S. Kotecki, and J. Mulsow. 2017. Criteria and Thresholds for U.S. Navy Acoustic and Explosive Effects Analysis (Phase III). Technical report by Space and Naval Warfare Systems Center Pacific (SSC Pacific). 183 p. Available from: <a href="https://apps.dtic.mil/dtic/tr/fulltext/u2/a561707.pdf">https://apps.dtic.mil/dtic/tr/fulltext/u2/a561707.pdf</a> [Accessed April 2022]	
126.	DAWE. 2021. Guidance on key terms within the Blue Whale Conservation Management Plan. Department of Agriculture, Water and the Environment, Australian Government, Canberra, Australia. Available from: <a href="https://www.awe.gov.au/sites/default/files/documents/guidance-key-terms-blue-whale-conservation-management-plan-2021.pdf">https://www.awe.gov.au/sites/default/files/documents/guidance-key-terms-blue-whale-conservation-management-plan-2021.pdf</a> [Accessed April 2022]	
127.	INPEX 2009. <i>Ichthys Gas Filed Development Project: Appendix 15, Review of Literature on Sound in the Ocean and Effects of Noise on Marine Fauna</i> . INPEX Browse Ltd.	
128.	Richardson W.J., Fraker, M.A., Wursig, B. and Wills, R.S. 1985. Behaviour of bowhead whales ( <i>Balaena mysticetus</i> ), summering in the	

Ref. No.	Description	Document ID
	Beaufort Sea: Reactions to industrial activities. <i>Biological Conservation</i> . 32. 195–230.	
129.	Richardson, W.J., Greene, C.R., Malme, C.I and Thomson, D.H. 1995. <i>Marine Mammals and Noise</i> . Academic Press, San Diego.	
130.	WDCS. 2004. <i>Oceans of Noise: A WDCS Science report</i> . Editors: Mark Simmonds, Sarah Dolman and Lindy Weilgart. The Whale and Dolphin Conservation Society, Wiltshire P168.	
131.	Wardle, C.S., Carter, T.J., Urquhart, G.G., Johnstone, A.D.F., Ziolkowski, A.M., Hampson, G. and Mackie, D. 2001. Effects of seismic air guns on marine fish, <i>Continental Shelf Research</i> 21 (2001) 1005–1027	
132.	McCauley, R.D. 1994. <i>Seismic Survey</i> . In: <i>Environmental Implications of Offshore Oil and Gas Developments in Australia – the Findings of an Independent Scientific Review</i> . Edited by Swan J.M., Neff J.M. and Young P.C. Australian Petroleum Production and Exploration Association. Sydney	
133.	DAWE. 2021. <i>The Introduction of Marine Pests to the Australian Environment via Shipping</i> . Department of Agriculture, Water and the Environment, Canberra, Australian Capital Territory. Available from: <a href="https://www.awe.gov.au/environment/biodiversity/threatened/nominations/ineligible-ktp/introduction-marine-pests-via-shipping">https://www.awe.gov.au/environment/biodiversity/threatened/nominations/ineligible-ktp/introduction-marine-pests-via-shipping</a> [Accessed April 2022].	
134.	Emma Knight, Simon Barry, Rupert Summerson, Scott Cameron and Rebecca Darbyshire. 2007. <i>Designated Exchange Areas Project – Providing informed decisions on the discharge of Ballast Water in Australia (Phase 2)</i> . Available from: <a href="https://www.lib.washington.edu/msd/norestriction/b67512513.pdf">https://www.lib.washington.edu/msd/norestriction/b67512513.pdf</a> [Accessed April 2022].	
135.	DAWE. 2018. <i>Marine Pest Plan 2018–2023: the National Strategic Plan for Marine Pest Biosecurity</i> . Department of Agriculture and Water Resources, Canberra, May. CC BY 4.0. Available from: <a href="https://www.marinepests.gov.au/sites/default/files/Documents/marine-pest-plan-2018-2023.pdf">https://www.marinepests.gov.au/sites/default/files/Documents/marine-pest-plan-2018-2023.pdf</a> [Accessed April 2022].	
136.	Glasby, T.M., Connell, S.D., Holloway, M.G. <i>et al</i> Nonindigenous biota on artificial structures: could habitat creation facilitate biological invasions?. <i>Mar Biol</i> 151, 887–895 (2007). Available from: <a href="https://doi.org/10.1007/s00227-006-0552-5">https://doi.org/10.1007/s00227-006-0552-5</a> [Accessed April 2022].	
137.	Gustav Paulay, Lisa Kirkendale, Gretchen Lambert and Chris Meyer. 2002. <i>Anthropogenic Biotic Interchange in a Coral Reef Ecosystem: A Case Study from Guam</i> . <i>Pacific Science</i> , vol. 56, no. 4:403-422. Available from: <a href="https://scholarspace.manoa.hawaii.edu/bitstream/10125/2625/1/v56n4-403-422.pdf">https://scholarspace.manoa.hawaii.edu/bitstream/10125/2625/1/v56n4-403-422.pdf</a> [Accessed April 2022].	
138.	Katherine A. Dafforn, Tim and Glasby, Emma L. J. 2009. <i>Links between estuarine condition and spatial distributions of marine invaders</i> . <i>Diversity and distributions</i> p 807-821. Available from: <a href="https://onlinelibrary.wiley.com/doi/10.1111/j.1472-4642.2009.00587.x">https://onlinelibrary.wiley.com/doi/10.1111/j.1472-4642.2009.00587.x</a> [Accessed April 2022].	
139.	Dafforn, Katherine & Johnston, Emma & Glasby, Tim. 2009. Shallow moving structures promote marine invader dominance. <i>Biofouling</i> . 25. 277-87 Available from: <a href="https://www.researchgate.net/publication/23960397_Shallow_moving_structures_promote_marine_invader_dominance">https://www.researchgate.net/publication/23960397_Shallow_moving_structures_promote_marine_invader_dominance</a> [Accessed April 2022].	
140.	Woodside Energy Ltd. 2014. <i>Browse FLNG Development, Draft Environmental Impact Statement</i> . EPBC 2013/7079. November 2014. Woodside Energy, Perth WA.	
141.	McIntyre, A.D. and Johnson, R. 1975. Effects of nutrient enrichment from sewage in the sea. In: ALH Gameson, ed. <i>Discharge of sewage from sea outfalls</i> . New York, Pergamon Press. pp. 131–141	



Ref. No.	Description	Document ID
142.	Abdellatif, E.M., Ali, O.M., Khalil, I.F., and Nyonje, B.M. 1993. Effects of Sewage Disposal into the White Nile on the Plankton Community. <i>Hydrobiologia</i> , Vol 259, pp 195-201.	
143.	Axelrad, D.M., Poore, G.C.B., Arnott, G.H., Bault, J., Brown, V., Edwards, R.R.C, and Hickman, N. 1981. <i>The Effects of Treated Sewage Discharge on the Biota of Port Phillip Bay, Victoria, Australia</i> . Estuaries and Nutrients, Contemporary Issues in Science and Society. The Human Press Inc.	
144.	Parnell, P.E. 2003. The effects of sewage discharge on water quality and phytoplankton of Hawai'ian Coastal Waters. <i>Marine Environmental Research</i> , Vol. 44, pp 293-311.	
145.	Hinwood JB, Poots AE, Dennis LR, Carey JM, Houridis H, Bell R, Thomson JR, Boudreau P and Ayling, AM "Australian Marine and Offshore Group Pty Ltd, 1994. <i>The Environmental Implication of Drilling activities.</i> " In: Swan JM, Neff JM and Young PC (Eds), <i>Environmental Implications of Offshore Oil and Gas Development in Australia - The Findings of an Independent Scientific Review</i> , Australian Petroleum Exploration Association, Sydney, pp 123-207	
146.	Neff, J.M. 2005. <i>Composition, Environmental Fates, and Biological Effect of Water Based Drilling Muds and Cuttings Discharged to the Marine Environment: A Synthesis and Annotated Bibliography</i> . Prepared for Petroleum Environmental Research Forum (PERF) and American Petroleum Institute. Battelle, Duxbury, MA. Available from: <a href="https://www.scribd.com/document/279122627/Composition-Environment-Fates-And-Biological-Effect-of-Water-Based-Drilling-Fluids-and-Cuttings">https://www.scribd.com/document/279122627/Composition-Environment-Fates-And-Biological-Effect-of-Water-Based-Drilling-Fluids-and-Cuttings</a> [Accessed March 2022]	
147.	Neff J. 2010. <i>Fates and Effects of Water Based Drilling Muds and Cuttings in Cold-Water Environments</i> . Neff & Associates LLC for Shell Exploration and Production Company	
148.	Bakke, T; Klungsøyr, J; Sanni, S.2013. <i>Environmental impacts of produced water and drilling waste discharges from the Norwegian offshore petroleum industry</i> . Marine Environmental Research. 154-169	
149.	OSPAR. 2009. <i>Assessment of impacts of offshore oil and gas activities in the North-East Atlantic</i> . OSPAR Commission	
150.	Currie, D R; Isaacs, L R. 2004. Impact of exploratory offshore drilling on benthic communities in the Minerva gas field. <i>Australian Mar. Environ. Res.</i> 217 - 233	
151.	Hyland, J; Hardin, D; Steinhauer, M; Coats, D; Green, R; Neff, J. 1994. Environmental impact of offshore oil development on the outer continental shelf and slope off Point Arguello, California. <i>Marine Environmental Research</i> . 195-229	
152.	Jones, D.O.B., Hudson, I.R., and Bitt, B.J. 2006. Effects of physical disturbance on the cold-water megafaunal communities of the Faroe-Shetland Channel. <i>Mar. Ecol. Prog. Ser.</i> 319:43-54.	
153.	Jones, D.O.B., Gates, A.R., and Lausen, B. 2012. Recovery of deep-water megafaunal assemblages from hydrocarbon drilling disturbance in the Faroe-Shetland Channel. <i>Mar. Ecol. Prog. Ser.</i> 461:71-82	
154.	IOGP. 2016. <i>Environmental fates and effects of ocean discharge of drill cuttings and associated drilling fluids from offshore oil and gas operations</i> . International Association of Oil & Gas Producers	
155.	Chevron Australia. 2020. <i>Wells Fluid Field Guidelines Offshore</i> . Chevron Australia, Perth, Western Australia.	ABU14060 0044

Ref. No.	Description	Document ID
156.	Holloway, P.E., Leeuwin current observations on the Australian North West Shelf, May-June 1993. <i>Deep-Sea Research I</i> 42, 285–305.	
157.	Holloway, P.E. and Nye, H.C., 1985. Leeuwin Current and wind distributions on the southern part of the Australian North West Shelf between January 1982 and July 1983. <i>Australian Journal of Marine and Freshwater Research</i> 36, 123–137.	
158.	DotEE. 2018. <i>Threat Abatement Plan for the impacts of Marine Debris on Vertebrate Wildlife of Australia's Coasts and Ocean</i> , Commonwealth of Australia 2018. Available from: <a href="https://www.awe.gov.au/sites/default/files/documents/tap-marine-debris-2018.pdf">https://www.awe.gov.au/sites/default/files/documents/tap-marine-debris-2018.pdf</a> [Accessed April 2022]	
159.	Commonwealth of Australia. 2017. <i>Recovery Plan for Marine Turtles in Australia, 2017-2027</i> . Department of the Environment and Energy, Australian Government, Canberra, Australian Capital Territory. Available from: <a href="https://www.environment.gov.au/protected-species/marine-turtles-recovery-plan">Recovery Plan for Marine Turtles in Australia 2017–2027 (environment.gov.au)</a> [Accessed March 2022].	
160.	AMSA. 2015. <i>Technical guidelines for preparing contingency plans for Marine and coastal facilities</i> . Australian Maritime Safety Authority, January 2015. Available from: <a href="https://www.amsa.gov.au/sites/default/files/2015-04-np-gui012-contingency-planning.pdf">https://www.amsa.gov.au/sites/default/files/2015-04-np-gui012-contingency-planning.pdf</a> [Accessed May 2022]	
161.	TSSC. 2015 Conservation Advice <i>Rhincodon typus</i> Whale shark. Commonwealth of Australia. Available from: <a href="http://www.environment.gov.au/biodiversity/threatened/species/pubs/66680-conservation-advice-01102015.pdf">http://www.environment.gov.au/biodiversity/threatened/species/pubs/66680-conservation-advice-01102015.pdf</a> [Accessed: April 2022]	
162.	Shell. 2010. <i>Prelude Floating LNG Project EIS Supplement—Response to Submissions</i> . Shell Developments (Australia) Pty Ltd, Perth, Western Australia.	
163.	RPS. 2021. <i>Gorgon Stage 2 Development Project: Oil Spill Modelling</i> . Rev 0. Unpublished report prepared for Chevron Australia Pty Ltd.	
164.	Bonn Agreement. 2016. <i>Bonn Agreement Aerial Operations Handbook</i> . Bonn Agreement, London, United Kingdom. Available from: <a href="https://www.bonnagreement.org/site/assets/files/1081/aerial_operations_handbook.pdf">https://www.bonnagreement.org/site/assets/files/1081/aerial_operations_handbook.pdf</a> [Accessed April 2022]	
165.	French, D., Reed, M., Jayko, K., Feng, S., Rines, H., Pavignano, S. 1996. <i>The CERCLA Type A Natural Resource Damage Assessment Model for Coastal and Marine Environments (NRDAM/CME)</i> , Technical Documentation, Vol. I - Model Description, Final Report. Office of Environmental Policy and Compliance, United States Department of the Interior. Washington, United States of America.	
166.	French, D.P. 2009. State-of-the-art and research needs for oil spill impact assessment modelling. In: <i>Proceedings of 32nd Arctic and Marine Oil Spill Program (AMOP) Technical Seminar</i> . pp. 601–653. Ottawa, Ontario, Canada.	
167.	Engelhardt, F. 1983. Petroleum effects on marine mammals. <i>Aquatic Toxicology</i> , 4: 199–217.	
168.	Clark R. 1984. Impacts of oil pollution on seabirds. <i>Environmental Pollution Series: Ecology and Biology</i> . 33: 1–22.	
169.	Geraci, J.R. and St. Aubin, D.J. 1988. <i>Synthesis of Effects of Oil on Marine Mammals</i> . Report to U.S. Department of the Interior, Minerals Management Service, Atlantic OCS Region, OCS Study. Ventura, California.	
170.	Jenssen, B.M. 1994. Effects of Oil Pollution, Chemically Treated Oil, and Cleaning on the Thermal Balance of Birds. <i>Environmental Pollution</i> , 86	

Ref. No.	Description	Document ID
171.	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. <i>Aquatic Toxicology</i> , 88(2): 121-127.	
172.	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. <i>Science of the Total Environment</i> , 412, pp.148-153.	
173.	Redman, A.D. 2015. Role of entrained droplet oil on the bioavailability of petroleum substances in aqueous exposures. <i>Marine Pollution Bulletin</i> , 97(1-2): 342–348.	
174.	French-McCay D. 2018. <i>Aquatic Toxicity Thresholds for Oil Spill Risk Assessments</i> . RPS Ocean Science, Rhode Island.	
175.	Lin, Q. and Mendelssohn, I.A. 1996. A comparative investigation of the effect of South Louisiana crude oil on the vegetation of freshwater, brackish, and salt marshes. <i>Marine Pollution Bulletin</i> , 32: 202–209.	
176.	Grant, D.L., Clarke, P.J. and Allaway, W.G. 1993. The response of grey mangrove ( <i>Avicennia marina</i> (Forsk.) Vierh) seedlings to spills of crude oil. <i>The Journal of Experimental Marine Biological Ecology</i> , 171(2): 273–295.	
177.	Suprayogi, B. and Murray, F. 1999. A field experiment of the physical and chemical effects of two oils on mangroves. <i>Environmental and Experimental Botany</i> , 42(3): 221–229.	
178.	IPIECA. 1995. <i>Biological Impacts of Oil Pollution: Rocky Shores</i> , International Petroleum Industry Environmental Conservation Association, No. 7. 209–215 Blackfriars Road, London, SE1 8NL, United Kingdom	
179.	National Oceanic and Atmospheric Administration. 2010. <i>Oil and sea turtles: biology planning and response</i> . US Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, Office of Response and Restoration.	
180.	Australian Maritime Safety Authority. 2015. <i>The Effects of Maritime Oil Spills on Wildlife including Non-avian Marine Life</i> . Available from: <a href="http://www.amsa.gov.au/environment/maritime-environmental-emergencies/national-plan/general-information/oiled-wildlife/marine-life/index.asp">http://www.amsa.gov.au/environment/maritime-environmental-emergencies/national-plan/general-information/oiled-wildlife/marine-life/index.asp</a> [Accessed April 2022].	
181.	Lee, K., King, T.L., Robinson, B., Li, Z., Burridge, L., Lyons, M., Wong, D., MacKeigan, K., Courtenay, S., Johnson, S., Boudreau, M., Hodson, P., Greer, C. and Venosa, A.D. 2011. Toxicity Effects of Chemically Dispersed Crude Oil on Fish. In: <i>International Oil Spill Conference Proceedings: March 2011</i> , 2011(1): 163.	
182.	Fodrie F.J., Able K.W., Galvez F., Heck K.L., Jensen O.P., López-Duarte P.C., Martin C.W., Turner R.E., Whitehead A. 2014. Integrating Organismal and Population Responses of Estuarine Fishes in Macondo Spill Research. <i>BioScience</i> , Volume 64, Issue 9, September 2014, Pages 778–788.	
183.	Hjermann D.Ø., Melsom A., Dingsør G.E., Durant J.M., Eikeset A.M., Roed L.P., Ottersen G., Storvik G., Stenseth N. 2007. Fish and oil in the Lofoten-Barents Sea system: synoptic review of the effect of oil spills on fish populations. <i>Mar. Ecol. Prog. Ser.</i> , 339 (2007), pp. 283–299	
184.	IPIECA 1999. IPIECA Report Series. Volume Nine. Biological impacts of oil pollution: Sedimentary shores. International Petroleum Industry Environmental Conservation Association. London	
185.	ITOPF 2014c. Effects of oil pollution on fisheries and mariculture. Technical Information Paper No. 11. The International Tanker Owners Pollution Federation Limited. London, United Kingdom.	
186.	Volkman J.K., Miller, G.J., Revill, A.T. and Connell, D.W. 2004. '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.	

Ref. No.	Description	Document ID
187.	King D.J., Lyne R.L., Girling A., Peterson D.R., Stephenson R., Short D. 1996. Environmental risk assessment of petroleum substances: the hydrocarbon block method. Prepared by members of CONCAWE's Petroleum Products Ecology Group. Report 95/62	
188.	Peakall, D.B., Wells, P.G. and Mackay, D. 1987. A hazard assessment of chemically dispersed oil spills and seabirds. <i>Marine Environmental Research</i> 22(2):91–106.	
189.	Director of National Parks. 2018. <i>North-west Marine Parks Network Management Plan 2018</i> . Director of National Parks, Canberra, Australia.	
190.	Shigenaka, G. 2001. <i>Toxicity of oil to reef building corals: a spill response perspective</i> . National Oceanic and Atmospheric Administration (NOAA) Technical Memorandum, National Ocean Service, Office of Research and Restoration 8, Seattle, USA.	
191.	Negri, A.P. and Heyward, A.J. 2000. Inhibition of fertilization and larval metamorphosis of the coral <i>Acropora millepora</i> (Ehrenberg, 1834) by petroleum products. <i>Marine Pollution Bulletin</i> 41(7-12): 420–427.	
192.	A. D. McIntyre, J. M. Baker, A. J. Southward, W. R. P. Bourne, S. J. Hawkins and J. S. Gray Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences Vol. 297, No. 1087, The Long-Term Effects of Oil Pollution on Marine Populations, Communities and Ecosystems (Jun. 1, 1982), pp. 401-411	
193.	RPS. 2022. <i>Wheatstone Deep and Dino South Exploration Wells Oil Spill Modelling</i> . Unpublished report for Chevron Australia. RPS Group, Brisbane, Queensland.	MAQ1137J
194.	Chevron.2021. <i>Chevron Global Process Standard. Wellsafe</i> . Chevron Australia, Perth, Western Australia.	ABU-DCM-SP102121
195.	Chevron Australia. 2023 <i>ABU Source Control Emergency Response Plan –Exploration Drilling Campaign</i> . Chevron Australia, Perth, Western Australia.	ABU220800006
196.	IOGP. 2019. <i>Risk Assessment Data Directory Blowout Frequencies</i> . Report 434-02.	
197.	Chevron Australia. 2020. <i>Strategic Net Environmental Benefit Analysis</i> . Chevron Australia, Perth, Western Australia.	ABU 190801382
198.	IPIECA. 2017. <i>Guidelines on implementing spill impact mitigation assessment (SIMA)</i> . International Petroleum Industry Environmental Conservation Association, London, United Kingdom.	
199.	Chevron Australia. 2020. <i>Oil Spill Protection Prioritisation Process – North West Shelf</i> . Chevron Australia, Perth, Western Australia.	ABU180500232
200.	DoT. 2017. <i>DOT307215 Provision of Western Australian Marine Oil Pollution Risk Assessment – Protection Priorities: Protection Priority Assessment for Zone 2: Pilbara – Final Report</i> . Department of Transport, Western Australian Government, Perth, Western Australia. Available from: <a href="https://www.transport.wa.gov.au">DOT307215 Provision of Western Australian Marine Oil Pollution Risk Assessment - Protection Priorities (transport.wa.gov.au)</a> [Accessed March 2022].	
201.	Thums, M., Ferreira, L.C., Jenner, C., Jenner, M., Harris, D., Davenport, A., Andrews-Goff, V., Double, M., Moller, L., Attard, C.R.M., Bilgmann, K., Thomson, P.G., and McCauley, R. 2022, Pygmy blue whale movement, distribution and important areas in the Eastern Indian Ocean. <i>Global Ecology and Conservation</i> , 35 (2022). doi: <a href="https://doi.org/10.1016/j.gecco.2022.e02054">https://doi.org/10.1016/j.gecco.2022.e02054</a> [Accessed July 2022]	
202.	American Petroleum Institute. 2013. <i>Industry Recommended Subsea Dispersant Monitoring Plan: API Technical Report 1152</i> . Version 1.0. American Petroleum Institute, Washington DC. Available from: <a href="http://www.oilspillprevention.org/~media/oil-spill-">49Thttp://www.oilspillprevention.org/~media/oil-spill-</a>	

Ref. No.	Description	Document ID
	prevention/spillprevention/r-and-d/dispersants/api-1152-industry-recommended-subsea-dis.pdf49T	
203.	Add Energy. 2023, Blowout and Kill Simulation Study Exploration Well Dino South-1. Revision 4. April 14 <sup>th</sup> 2023.	
204.	Gates, A.R., and Jones, D.O.B. 2012. <i>Recovery of Benthic Megafauna from Anthropogenic Disturbance at a Hydrocarbon Drilling Well (380 m Depth in the Norwegian Sea)</i> . PLoS ONE 7(10): e44114. <a href="https://doi.org/10.1371/journal.pone.0044114">https://doi.org/10.1371/journal.pone.0044114</a>	
205.	Dorn, P. B., Rhodes, I. A., Wong, D. C. L., Van Compernelle, R., Hinojosa, E. M., Farmayan, W. F., Ray, J. P., James, B., Hii, K. K., and S. Hj-Kip. "Assessment of the Fate and Ecological Risk of Synthetic-Paraffin-Based Drilling-Mud Discharges Offshore Sarawak and Sabah (Malaysia)." Paper presented at the SPE Asia Pacific Health, Safety, and Security Environment Conference and Exhibition, Bangkok, Thailand, September 2007. doi: <a href="https://doi.org/10.2118/108653-MS">https://doi.org/10.2118/108653-MS</a>	
206.	Neff, J.M. 2008. Estimation of Bioavailability of Metals from Drilling Mud Barite. <i>Integrated Environmental Assessment and Management</i> 4(2): 184-193	
207.	IFC. 2015. Environmental, Health, and Safety Guidelines for Offshore Oil and Gas Development. International Finance Corporation, World Bank Group. Available: <a href="https://www.ifc.org/wps/wcm/connect/e2a72e1b-4427-4155-aa8f-c660ce3f2cd5/FINAL_Jun+2015_Offshore+Oil+and+Gas_EHS+Guideline.pdf?MOD=AJPERES&amp;CVID=kU7RMJ6">https://www.ifc.org/wps/wcm/connect/e2a72e1b-4427-4155-aa8f-c660ce3f2cd5/FINAL_Jun+2015_Offshore+Oil+and+Gas_EHS+Guideline.pdf?MOD=AJPERES&amp;CVID=kU7RMJ6</a> [Accessed September 2022]	
208.	NOPSEMA. 2023. <i>Guideline: Consultation in the course of preparing an environment plan</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/Consultation%20in%20the%20course%20of%20preparing%20an%20Environment%20Plan%20guideline.pdf">https://www.nopsema.gov.au/sites/default/files/documents/Consultation%20in%20the%20course%20of%20preparing%20an%20Environment%20Plan%20guideline.pdf</a> [Accessed: March 2024]	N-04750-GL2086 A900179
209.	NOPSEMA. 2024. <i>Guidance note: Environment plan content requirement</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/Environment%20Plan%20Content%20Requirements%20Guidance%20Note.pdf">https://www.nopsema.gov.au/sites/default/files/documents/Environment%20Plan%20Content%20Requirements%20Guidance%20Note.pdf</a> [Accessed: March 2024]	N-04750-GN1344 A339814
210.	Federal Court of Australia. 2022. <i>Santos NA Barossa Pty Ltd vs Tipakalippa [2022] FCAFC 193</i> . Australia. Available from: <a href="https://www.judgments.fedcourt.gov.au/judgments/Judgments/fca/full/2022/2022fcafc0193">https://www.judgments.fedcourt.gov.au/judgments/Judgments/fca/full/2022/2022fcafc0193</a> [Accessed: March 2023]	VID555/2022
211.	NOPSEMA. 2024. <i>Guidance Note: Petroleum activities and Australian Marine Parks A guidance note to support environmental protection and effective consultation</i> . National Offshore Petroleum Safety and Environmental Management Authority, Perth, Western Australia. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/Guidance%20note%20-%20Petroleum%20Activities%20and%20Australian%20Marine%20Parks.pdf">https://www.nopsema.gov.au/sites/default/files/documents/Guidance%20note%20-%20Petroleum%20Activities%20and%20Australian%20Marine%20Parks.pdf</a> [Accessed: March 2024]	N-04750 - GN1785 A620236
212.	Parks Australia. 2023 (draft). Petroleum Activities – Director of National Parks consultation guide. Parks Australia, Australian Government, Canberra, ACT.	
213.	DCCEEW. 2023. <i>Interim Engaging with First Nations People and Communities on Assessments and Approvals Under the Environment</i>	



Ref. No.	Description	Document ID
	<i>Protection and Biodiversity Conservation Act 1999</i> . Department of Climate Change, Energy, the Environment and Water, Canberra, ACT. Available from: <a href="https://www.dcceew.gov.au/sites/default/files/documents/interim-engaging-with-first-nations-people-and-communities-assessments-and-approvals-under-epbc-act.pdf">https://www.dcceew.gov.au/sites/default/files/documents/interim-engaging-with-first-nations-people-and-communities-assessments-and-approvals-under-epbc-act.pdf</a> [Accessed: August 2023]	
214.	Government of Western Australia. 2021. <i>Aboriginal Cultural Heritage Act 2021: Consultation Guidelines</i> . Perth, Western Australia. Available from: <a href="https://www.wa.gov.au/system/files/2022-11/ACH-Act-2021-Consultation-Guideline.pdf">https://www.wa.gov.au/system/files/2022-11/ACH-Act-2021-Consultation-Guideline.pdf</a> [Accessed: March 2023]	
215.	DMIRS. 2022. <i>Guideline for the Development of Petroleum, Geothermal and Pipeline Environment Plans in Western Australia</i> . Department of Mines, Industry Regulation and Safety, Perth, Western Australia. Available from: <a href="https://www.dmp.wa.gov.au/Documents/Geological-Survey/Guideline-for-Development-Petroleum-Geotherman-Pipeline-Environment-Plans.pdf">https://www.dmp.wa.gov.au/Documents/Geological-Survey/Guideline-for-Development-Petroleum-Geotherman-Pipeline-Environment-Plans.pdf</a> [Accessed March 2023]	
216.	AFMA. 2023. <i>Petroleum industry consultation with the commercial fishing industry</i> . Australian Fisheries Management Authority, Australian Government. Available from: <a href="https://www.afma.gov.au/afmas-research/petroleum-industry-consultation-commercial-fishing-industry">https://www.afma.gov.au/afmas-research/petroleum-industry-consultation-commercial-fishing-industry</a> [Accessed: March 2023]	
217.	WAFIC. 2023. <i>Oil &amp; Gas Consultation Approach for Unplanned Events</i> . Western Australian Fishing Industry Council Inc. Fremantle, Western Australia. Available from: <a href="https://www.wafic.org.au/what-we-do/access-sustainability/oil-gas/consultation-approach-for-unplanned-events/">https://www.wafic.org.au/what-we-do/access-sustainability/oil-gas/consultation-approach-for-unplanned-events/</a> [Accessed: March 2023]	
218.	DoF. 2013. <i>Guidance statement for oil and gas industry consultation with the Department of Fisheries</i> . Department of Fisheries, Western Australian Government. Available from: <a href="https://www.fish.wa.gov.au/Documents/occasional_publications/fop113.pdf">https://www.fish.wa.gov.au/Documents/occasional_publications/fop113.pdf</a> [Accessed: March 2023]	
219.	DoT. 2020. <i>Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements</i> . Department of Transport, Western Australian Government. Available from: <a href="https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumIndGuidance.pdf">https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumIndGuidance.pdf</a> [Accessed: March 2023]	
220.	DAWE. 2020. <i>Wildlife Conservation Plan for Seabirds</i> . 'Wildlife Conservation Plan for Seabirds, Commonwealth of Australia 2020. Australian Government, Cabrera. Available from: <a href="https://www.dcceew.gov.au/sites/default/files/documents/wildlife-conservation-plan-for-seabirds.pdf">https://www.dcceew.gov.au/sites/default/files/documents/wildlife-conservation-plan-for-seabirds.pdf</a>	
221.	CAPL. 2018. <i>Gorgon Gas Development: Marine Environmental Quality Management Plan</i> . Chevron Australia, Perth, Western Australia.	GOR-COP-01110
222.	RPS. 2009. <i>Baseline Study of the Composition and Quality of Near-shore Waters – Barrow Island</i> . Unpublished report for Chevron Australia, Perth, Western Australia.	N09503
223.	CAPL. 2022. <i>Gorgon Gas Development and Jansz Feed Gas Pipeline: Environmental Performance Report 2022</i> . Chevron Australia, Perth, Western Australia.	ABU22070 0410
224.	DCCEEW. 2023. <i>DRAFT Guidelines for working in the near and offshore environment to protect Underwater Cultural Heritage</i> . Department of Climate Change, Energy, the Environment and Water, Australian Government. Available from:	

Ref. No.	Description	Document ID
	<a href="https://consult.dcceew.gov.au/draft-guidelines-to-protect-uc-heritage">https://consult.dcceew.gov.au/draft-guidelines-to-protect-uc-heritage</a> . [Accessed June 2023]	
225.	DCCEEW. [n.d.] <i>Australasian Underwater Cultural Heritage Database</i> . Department of Climate Change, Energy, the Environment and Water, Canberra, Australian Capital Territory. Available from: <a href="https://www.dcceew.gov.au/parks-heritage/heritage/underwater-heritage/auchd">https://www.dcceew.gov.au/parks-heritage/heritage/underwater-heritage/auchd</a> [Accessed: March 2023]	
226.	DSEWPaC. 2011. <i>Approved Conservation Advice for Aipysurus apraefrontalis (Short-nosed Sea Snake)</i> . Department of Sustainability, Environment, Water, Population and Communities, Australian Government, Canberra, ACT. Available from: <a href="http://www.environment.gov.au/biodiversity/threatened/species/pubs/1115-conservation-advice.pdf">http://www.environment.gov.au/biodiversity/threatened/species/pubs/1115-conservation-advice.pdf</a> [Accessed August 2023].	
227.	DSEWPaC. 2011. <i>Approved Conservation Advice for Aipysurus foliosquama (Leaf-scaled Sea Snake)</i> . Department of Sustainability, Environment, Water, Population and Communities, Australian Government, Canberra, ACT. Available from: <a href="http://www.environment.gov.au/biodiversity/threatened/species/pubs/1118-conservation-advice.pdf">http://www.environment.gov.au/biodiversity/threatened/species/pubs/1118-conservation-advice.pdf</a> [Accessed August 2023].	
228.	Surman, C.A. and Nicholson, L.W. 2008. A survey of the breeding seabirds and migratory shorebirds of the Houtman Abrolhos, Western Australia. <i>Corella</i> 33(4): 81-98.	
229.	Surman, C. 1998. Seabird breeding schedules at the Pelsaert Group of islands, Houtman Abrolhos, Western Australia between 1993 and 1998. <i>Records of the Western Australian Museum</i> 19: 209-215.	
230.	DBCA. 2017. Shorebirds and seabirds of the Pilbara coast and islands. Department of Biodiversity, Conservation and Attractions, Government of Western Australia. Available from: <a href="https://exploreparks.dbca.wa.gov.au/sites/default/files/2023-03/shorebirds-and-seabirds-of-the-pilbara-coast-and-islands.pdf">https://exploreparks.dbca.wa.gov.au/sites/default/files/2023-03/shorebirds-and-seabirds-of-the-pilbara-coast-and-islands.pdf</a> [Accessed August 2023].	
231.	Benjamin, J., O'Leary, M., McDonald, J, Wiseman, C., McCarthy, J., Beckett, E., Morrison, P., Stankiewicz, F., Leach, J., Hacker, J., Baggaley, P., Jerbic, K., Fowler, M., Fairweather, J., Jeffries, P., Ulm, S., and Bailey, G. 2020. Aboriginal artefacts on the continental shelf reveal ancient drowned cultural landscapes in northwest Australia. <i>PLoS ONE</i> 15(7): e0233912. <a href="https://doi.org/10.1371/journal.pone.0233912">https://doi.org/10.1371/journal.pone.0233912</a>	
232.	Veth, P., Ward, I., Manne, T., Ulm, S., Ditchfield, K., Dortch, J., Hook, F., Petchey, F., Hogg, Al., Questiaux, D., Demuro, M., Arnold, L., Spooner, N., Levchenko, V., Skippinton, J., Byrne, C., Basgall, M., Zeanah, D., Belton, D., Helmholz, P., Kendrick, P. 2017. Early human occupation of a maritime desert, Barrow Island, North-West Australia. <i>Quaternary Science Reviews</i> 168: 19-29. <a href="https://doi.org/10.1016/j.quascirev.2017.05.002">https://doi.org/10.1016/j.quascirev.2017.05.002</a>	
233.	O'Leary, M. J., Paumard, V. and Ward, I. 2020. Exploring Sea Country through high-resolution 3D seismic imaging of Australia's NW shelf: Resolving early coastal landscapes and preservation of underwater cultural heritage. <i>Quaternary Science Reviews</i> 239: 106353. <a href="https://doi.org/10.1016/j.quascirev.2020.106353">https://doi.org/10.1016/j.quascirev.2020.106353</a>	
234.	Deckker, P., Moros, M., Perner, K., Blanz, T., Wacker, L., Schneider, R., Barrows, T., O'Loingsigh, T., and Jansen, E. 2020. Climatic evolution in the Australian region over the last 94 ka – spanning human occupancy - , and unvieling the Last Glacial Maximum. <i>Quaternary</i>	



Ref. No.	Description	Document ID
	<i>Science Reviews</i> 249: 106593. <a href="https://doi.org/10.1016/j.quascirev.2020.106593">https://doi.org/10.1016/j.quascirev.2020.106593</a> .	
235.	Benjamin, J., O'Leary, M., McCarthy, J., Reynen, W., Wiseman, C., Leach, J., Bobeldyk, S., Buchler, J., Kermeen, P., Langley, M., Black, A., Yoshida, H., Parnum, I., Stevens, A., Ulm, S., McDonald, J., Veth, P. and Bailey, G. 2023. Stone artefacts on the seabed at a submerged freshwater spring confirm a drowned cultural landscape in Murujuga, Western Australia. <i>Quaternary Science Reviews</i> 313: 108190. <a href="https://doi.org/10.1016/j.quascirev.2023.108190">https://doi.org/10.1016/j.quascirev.2023.108190</a>	
236.	AIATSIS. (n.d.). <i>The Marlaloo Songline</i> . Australian Institute of Aboriginal and Torres Strait Islander Studies. Available from: <a href="https://aiatsis.gov.au/explore/marlaloo-songline">https://aiatsis.gov.au/explore/marlaloo-songline</a> [Accessed: September 2023]	
237.	Deadly Stoary (n.d.). Songlines. <i>Deadly Story</i> . Available from: <a href="https://deadlystory.com/page/culture/Life_Lore/Songlines">https://deadlystory.com/page/culture/Life_Lore/Songlines</a> [Accessed: September 2023]	
238.	Nunn, P. and Reid, N. 2015. Aboriginal Memories of Inundation of the Australian Coast Dating from More than 7000 Years Ago. <i>Australian Geographer</i> 47(1):11-47. <a href="https://doi.org/10.1080/00049182.2015.1077539">https://doi.org/10.1080/00049182.2015.1077539</a> .	
239.	Kearney, A., O'Leary, M. and Platten, S. 2023. Sea Country: Plurality and knowledge of saltwater territories in Indigenous Australian contexts. <i>The Geographical Journal</i> 189(1): 104-116. <a href="https://doi.org/10.1111/geoj.12466">https://doi.org/10.1111/geoj.12466</a> .	
240.	DCCEEW. 2022. DRAFT <i>National Recovery Plan for the Southern Right Whale (Eubalaena australis)</i> . Department of Climate Change, Energy, the Environment and Water, Canberra, Australia. Available from: <a href="https://www.dcceew.gov.au/sites/default/files/documents/draft-national-recovery-plan-southern-right-whale.pdf">https://www.dcceew.gov.au/sites/default/files/documents/draft-national-recovery-plan-southern-right-whale.pdf</a> [Accessed September 2023].	
241.	Smyth, D. 1994. <i>Understanding Country: The Importance of Land and Sea in Aboriginal and Torres Strait Islander Societies</i> . Canberra, Council for Aboriginal Reconciliation.	
242.	Smyth Dermot. 2007. <i>Sea Countries of the North-West. Literature review on Indigenous connection to and uses of the North West Marine Region</i> . Available at: <a href="https://parksaustralia.gov.au/marine/pub/scientific-publications/archive/nw-sea-countries.pdf">https://parksaustralia.gov.au/marine/pub/scientific-publications/archive/nw-sea-countries.pdf</a> . [Accessed: January 2023]	
243.	ITOPF 2014. <i>Effects of oil pollution on the marine environment</i> . Technical Information Paper No. 13. The International Tanker Owners Pollution Federation Limited. London, United Kingdom.	
244.	AMSA 2018. The effects of maritime oil spills on wildlife including non-avian marine life. Australian Maritime Safety Authority, Australian Government. Available from: <a href="https://www.amsa.gov.au/audiences/teacher-or-student">https://www.amsa.gov.au/audiences/teacher-or-student</a> [Accessed August 2019].	
245.	DSEWPaC. 2012. <i>Species group report card – marine reptiles: supporting the marine bioregional plan for the North-west Marine Region</i> . Department of Sustainability, Environment, Water, Population and Communities, Canberra, ACT. Available from: <a href="https://www.dcceew.gov.au/sites/default/files/env/pages/1670366b-988b-4201-94a1-1f29175a4d65/files/north-west-report-card-reptiles.pdf">https://www.dcceew.gov.au/sites/default/files/env/pages/1670366b-988b-4201-94a1-1f29175a4d65/files/north-west-report-card-reptiles.pdf</a> [Accessed August 2023].	

Ref. No.	Description	Document ID
246.	AMSA. 2010. <i>Response to the Pacific adventurer: operational and technical issues reports</i> . Australian Maritime Safety Authority, Canberra, ACT.	
247.	Watson, J.E.M., Joseph, L.N., and Watson, A.W.T. 2009. <i>A rapid assessment of the impacts of the Montara oil leak on birds, cetaceans and marine reptiles</i> . Prepared on behalf of the Australian Government Department of the Environment, Water, Heritage and the Arts by the Spatial Ecology Laboratory, University of Queensland, Brisbane.	
248.	Gagnon, M.M. 2009. <i>Report on biopsy collections from specimens collected from the surrounds of the West Atlas oil leak – sea snake specimen</i> . Curtin University, Perth, Western Australia.	
249.	Chevron Australia. 2023. Chevron Emergency Management ABU Training and Exercise Program Procedure. Chevron Australia, Perth, Western Australia.	OE-11.01.1109
250.	APPEA 2021. Guidance Document: Incident Management Teams – Knowledge Requirements for Responding to Marine Oil Spills	
251.	CoA. 2017. National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna 2017. Department of the Environment and Energy, Commonwealth of Australia, Canberra, ACT.	
252.	Abdul Wahab, M., Fromont, J., Gomez, O., Fisher, R., Jones, R., 2017. <i>Comparisons of benthic filter feeder communities before and after a large-scale capital dredging program</i> . Marine Pollution Bulletin, 122, 176–193.	
253.	Fisher, R., Stark, C., Ridd, P., Jones, R., 2015. <i>Spatial patterns in water quality changes during dredging in tropical environments</i> . PLoS One, 10(12), e014330.	
254.	Ellis, J.I., Fraser, G., Russell, J., 2012. <i>Discharged drilling waste from oil and gas platforms and its effects on benthic communities</i> . Mar. Ecol. Prog. Ser. 456, 285–302. <a href="https://doi.org/10.3354/meps09622">https://doi.org/10.3354/meps09622</a>	
255.	API. 1995. <i>Barium in produced water: Fate and effects in the marine environment</i> . API Publications	
256.	Smit, Mathijs & Holthaus, Karlijn & Trannum, Hilde & Neff, Jerry & Kjeilen-Eilertsen, Grethe & Jak, Robbert & Singsaas, Ivar & Huijbregts, Mark & Hendriks, Jan. 2008. <i>Species Sensitivity Distributions for Suspended Clays, Sediment Burial and Grain Size Change in the Marine Environment</i> . Environmental toxicology and chemistry / SETAC. 27. 1006-12. 10.1897/07-339.1.	
257.	Creelius, E., J. Trefry, J. McKinley, B. Lasorsa, and R. Trocine. 2007. <i>Study of barite solubility and the release of trace components to the marine environment</i> . U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OC5 Study MMS 2007-061. 176 pp.	
258.	Deepwater Horizon Natural Resource Damage Assessment Trustees. (2016). Deepwater Horizon oil spill: Final Programmatic Damage Assessment and Restoration Plan and Final Programmatic Environmental Impact Statement. Available at: <a href="https://repository.library.noaa.gov/view/noaa/18084/noaa_18084_DS1.pdf">https://repository.library.noaa.gov/view/noaa/18084/noaa_18084_DS1.pdf</a> Accessed 27 October 2023	
259.	Aichinger Dias, L. Litz, J., Garrison, L., Martinez, A., Barry, K., Speakman, T. 2017. Exposure of cetaceans to petroleum products following the Deepwater Horizon oil spill in the Gulf of Mexico. January 2017 Endangered Species Research 33(1):119-125. Available at:(PDF) Exposure of cetaceans to petroleum products following the Deepwater	

Ref. No.	Description	Document ID
	Horizon oil spill in the Gulf of Mexico (researchgate.net) Accessed 27 October 2023	
260.	Smultea, MA., Würsig, B. 1995. Behavioral reactions of bottlenose dolphins to the Mega Borg oil spill, Gulf of Mexico 1990. <i>Aquatic Mammals</i> 21(3):171-181. Available at: < <a href="https://www.researchgate.net/publication/244478062_Behavioral_reactions_of_bottlenose_dolphins_to_the_Mega_Borg_oil_spill_Gulf_of_Mexico_1990%20Accessed%20October%202023">https://www.researchgate.net/publication/244478062_Behavioral_reactions_of_bottlenose_dolphins_to_the_Mega_Borg_oil_spill_Gulf_of_Mexico_1990%20Accessed%20October%202023</a> > Accessed 27 October 2023	
261.	Langangen, Ø., Olsen, E. Stige, L., Ohlberger, J. Yaragina, N., Vikebø, F., Bogstad, B., Stenseth, N., and Hjermann, D. 2017. The effects of oil spills on marine fish: Implications of spatial variation in natural mortality. <i>Marine Pollution Bulletin</i> 119(1): 102-109. <a href="https://doi.org/10.1016/j.marpolbul.2017.03.037">https://doi.org/10.1016/j.marpolbul.2017.03.037</a>	
262.	NOAA. 2023 Five Years After Deepwater Horizon Oil Spill, Gulf Research Reveals Oil Damages Fish Heart Development. Available from: <a href="https://response.restoration.noaa.gov/five-years-after-deepwater-horizon-oil-spill-gulf-research-reveals-oil-damages-fish-heart">https://response.restoration.noaa.gov/five-years-after-deepwater-horizon-oil-spill-gulf-research-reveals-oil-damages-fish-heart</a> [Accessed: November 2023]	
263.	Ainsworth CH, Paris CB, Perlin N, Dornberger LN, Patterson WF III, et al. (2018) <i>Impacts of the Deepwater Horizon oil spill evaluated using an end-to-end ecosystem model</i> . PLOS ONE 13(1): e0190840. <a href="https://doi.org/10.1371/journal.pone.0190840">https://doi.org/10.1371/journal.pone.0190840</a>	
264.	DCCEEW. n.d. <i>Species Profile and Threats Database: Thunnus maccoyii — Southern Bluefin Tuna</i> . Department of Climate Change, Energy, the Environment and Water, Canberra, Australian Capital Territory. Available from: <a href="http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=69402">http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=69402</a> [Accessed: November 2023]	
265.	Butler, I., Patterson, H., Bromhead, D., Galeano, D., Timmiss, T., Woodhams, J. and Curtotti, R. 2023. <i>Fishery status reports 2023</i> . Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra, Australian Capital Territory.	
266.	Chevron, 2023. ABU EMT Capability Analysis Tool	ABU23110 0481
267.	Chevron 2018. Corporate Emergency ABU Response Teams and Resources Procedure	OE-11.01.1111
268.	APPEA. 2021. Australian Offshore Titleholders Source Control Guideline. Revision 0 (approved). Australian Petroleum Production & Exploration Association Limited. Available from: <a href="https://www.appea.com.au/wp-content/uploads/2021/09/210921-Australian-Offshore-Titleholders-Source-Control-Guideline-Rev-0-APPROVED-Web.pdf">https://www.appea.com.au/wp-content/uploads/2021/09/210921-Australian-Offshore-Titleholders-Source-Control-Guideline-Rev-0-APPROVED-Web.pdf</a> [Accessed March 2023].	
269.	Smyth, D. 1994. <i>Understanding Country: The Importance of Land and Sea in Aboriginal and Torres Strait Islander Societies</i> . Canberra, Council for Aboriginal Reconciliation.	
270.	UNESCO. 2003. Convention for the Safeguarding of the Intangible Cultural Heritage. United Nations Educational, Scientific and Cultural Organization, Paris, France. Available from: <a href="https://ich.unesco.org/en/convention">https://ich.unesco.org/en/convention</a> [Accessed December 2023]	
271.	Janke, T., Cumpston, Z., Hill, R., Woodward, E., von Gavel, S., Harkness, P., and Morrison, J. 2021. Chapter: Indigenous. In: <i>Australia State of the Environment 2021</i> . Australian Government, Commonwealth of Australia. Available from:	

Ref. No.	Description	Document ID
	<a href="https://soe.dceew.gov.au/heritage/environment/indigenous-heritage">https://soe.dceew.gov.au/heritage/environment/indigenous-heritage</a> [Accessed December 2023]	
272.	Kearney, A., O'Leary, M. and Platten, S. 2023. Sea Country: Plurality and knowledge of saltwater territories in Indigenous Australian contexts. <i>The Geographical Journal</i> 189(1): 104-116. <a href="https://doi.org/10.1111/geoj.12466">https://doi.org/10.1111/geoj.12466</a> .	
273.	Common Ground. 2022. <i>Connection to Animals and Country</i> . Common Ground First Nations. Available from: <a href="https://www.commonground.org.au/article/connection-to-animals-and-country">https://www.commonground.org.au/article/connection-to-animals-and-country</a> [Accessed December 2023]	
274.	Woodward, E., Hill, R., Harkness, P. and Archer, R. (eds). 2020. <i>Our Knowledge Our Way in caring for Country: Indigenous-led approaches to strengthening and sharing our knowledge for land and sea management. Best Practice Guidelines from Australian experiences</i> . NAILSMA and CSIRO.	
275.	SPE. 2015. <i>Society of Petroleum Engineers (SPE) Technical Report – Calculation of Worst-Case Discharge</i> .	
276.	IOGP. 2019. <i>Source Control Emergency Response Planning Guide for Subsea Wells</i> . Report 594. International Association of Oil & Gas Producers	
277.	NOPSEMA. 2024. <i>Source control planning and procedures, Information paper</i> . National Offshore Petroleum Safety and Environmental Management Authority. Available from: <a href="https://www.nopsema.gov.au/sites/default/files/documents/Source%20control%20planning%20and%20procedures%20information%20paper.pdf">https://www.nopsema.gov.au/sites/default/files/documents/Source%20control%20planning%20and%20procedures%20information%20paper.pdf</a> [Accessed: March 2024]	N-04750-IP1979 A787102
278.	Chevron Australia. 2023. <i>ABU Wells Worst Case Discharge Calculation and Relief Well Planning Standard Operational Procedure</i> . Chevron Australia, Perth, Western Australia.	ABU 131000237
279.	Chevron Technology Centre. 2021. <i>Business Unit Well Source Control Response Plan</i> . Chevron Corporation, Houston, United States.	CTC-DCM-EN6800
280.	Chevron Australia. 2023. <i>Dino South-1 Relief Well Plan</i> . Chevron Australia, Perth, Western Australia.	ABU 230400117
281.	OGUK. 2013. <i>Guidelines on Relief Well Planning for Offshore Wells</i> . Issue 2. Oil and Gas UK, United Kingdom.	
282.	WAFIC. 2023. <i>Commercial Fishing Consultiong Framework for the Offshore Oil and Gas Sector</i> . Western Australian Fishing Industry Council Inc, Perth, Western Australia. Available from: <a href="https://www.wafic.org.au/wp-content/uploads/2023/07/Oil-and-Gas-Consultation-Framework.pdf">https://www.wafic.org.au/wp-content/uploads/2023/07/Oil-and-Gas-Consultation-Framework.pdf</a> [Accessed March 2024]	
283.	Sadiq, R; Husain, T; Bose, N; Veitch, B. 2003. <i>Distribution of heavy metals in sediment pore water due to offshore discharges: an ecological risk assessment</i> . Environmental Modelling & Software. Volume 18, Issue 5, June 2003, Pages 451-461.	
284.	Zeanah, D., Veth, P., Basgall, M., Glover, D., Bradshaw, R., Ditchfield, K., Hook, F., Seah, I., Buurabalayji Thalanyji Aboriginal Corporation. 2024. Barrow Island lithic scatters: A unique record of occupation patterns on the North West Shelf before insularisation. <i>Quaternary Science Reviews</i> , 329: 108547. <a href="https://doi.org/10.1016/j.quascirev.2024.108547">https://doi.org/10.1016/j.quascirev.2024.108547</a>	

Ref. No.	Description	Document ID
285.	Jones, R., M. Wakeford, L. Currey-Randall, K. Miller, and H. Tonin. 2021. Drill Cuttings and Drilling Fluids (Muds) Transport, Fate and Effects near a Coral Reef Mesophotic Zone. <i>Marine Pollution Bulletin</i> 172 (2021): 112717. <a href="https://doi.org/10.1016/j.marpolbul.2021.112717">https://doi.org/10.1016/j.marpolbul.2021.112717</a> .	
286.	DSWEPaC. 2012. <i>Conservation Management Plan for the Southern Right Whale: A Recovery Plan under the Environment Protection and Biodiversity Conservation Act 1999, 2011–2021</i> . Department of Sustainability, Environment, Water, Population and Communities. Canberra, Australian Capital Territory.	
287.	Chevron Australia. 2020. <i>ABU Emergency Response Plan</i> . Chevron Australia, Perth, Western Australia.	OE-11.01.11

## appendix a operational excellence—policy 530

# policy 530

## operational excellence: achieving world-class performance

It is the policy of Chevron Corporation to protect the safety and health of people and the environment, and to conduct our operations reliably and efficiently. The Operational Excellence Management System (OEMS) is the way Chevron systematically manages workforce safety and health, process safety, reliability and integrity, environment, efficiency, security, and stakeholder engagement and issues. OEMS puts into action our Chevron Way value of Protecting People and the Environment, which places the highest priority on the safety and health of our workforce and the protection of communities, the environment and our assets. Compliance with the law is a foundation for the OEMS.

Our OEMS is a risk-based system used to understand and mitigate risks and maintain and assure safeguards. OEMS consists of three parts:

### leadership and OE culture

Leadership is the largest single factor for success in OE. Leaders are accountable not only for achieving results, but achieving them in the right way. Leaders must demonstrate consistent and rigorous application of OE to drive performance and meet OE objectives.

### focus areas and OE expectations

Chevron manages risks to our employees, contractors, the communities where we operate, the environment and our assets through focus areas and OE expectations that guide the design, management and assurance of safeguards.

### management system cycle

Chevron takes a systematic approach to set and align objectives; identify, prioritize and close gaps; strengthen safeguards and improve OE results.

We will assess and take steps to manage OE risks within the following framework of focus areas and OE expectations:

**Workforce Safety and Health:** We provide a safe and healthy workplace for our employees and contractors. Our highest priorities are to eliminate fatalities and prevent serious injuries and illnesses.

**Process Safety, Reliability and Integrity:** We manage the integrity of operating systems through design principles and engineering and operating practices to prevent and mitigate process safety incidents. We execute reliability programs so that equipment, components and systems perform their required functions across the full asset lifecycle.

**Environment:** We protect the environment through responsible design, development, operations and asset retirement.

**Efficiency:** We use energy and resources efficiently to continually improve and drive value.

**Security:** We protect personnel, facilities, information, systems, business operations and our reputation. We proactively identify security risks, develop personnel and sustainable programs to mitigate those risks, and continually evaluate the effectiveness of these efforts.

**Stakeholders:** We engage stakeholders to foster trust, build relationships, and promote two-way dialogue to manage potential impacts and create business opportunities. We work with our stakeholders in a socially responsible and ethical manner, consistent with our respect for human rights, to create a safer, more inclusive business environment. We also work with our partners to responsibly manage Chevron's non-operated joint venture partnerships and third-party aviation and marine activities.

There are specific OE expectations which need to be met under each focus area. Additional expectations apply to all focus areas and address legal, regulatory and OE compliance; risk management; assurance; competency; learning; human performance; technology; product stewardship; contractor OE management; incident investigation and reporting; and emergency management.

Through disciplined application of the OEMS, we integrate OE processes, standards, procedures and behaviours into our daily operations. While leaders are responsible for managing the OEMS and enabling OE performance, every individual in Chevron's workforce is accountable for complying with the principles of 'Do it safely or not at all' and 'There is always time to do it right'.

Line management has the primary responsibility for complying with this policy and applicable legal requirements within their respective functions and authority limits. Line management will communicate this policy to their respective employees and will establish policies, processes, programs and standards consistent with expectations of the OEMS.

Employees are responsible for understanding the risks that they manage and the safeguards that need to be in place to mitigate those risks. Employees are responsible for taking action consistent with all Company policies, and laws applicable to their assigned duties and responsibilities. Accordingly, employees who are unsure of the legal or regulatory implications of their actions are responsible for seeking management or supervisory guidance.



Mark Hatfield  
Managing Director, Australasia Business Unit



## appendix b protected matters search reports



# EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 23-Jan-2024

## Summary

### [Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

### [Caveat](#)

### [Acknowledgements](#)

## Summary

### Matters of National Environmental 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](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar)</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	1
<a href="#">Listed Threatened Ecological Communities:</a>	None
<a href="#">Listed Threatened Species:</a>	19
<a href="#">Listed Migratory Species:</a>	31

### 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.

<a href="#">Commonwealth Lands:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	24
<a href="#">Whales and Other Cetaceans:</a>	26
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	None

### Extra Information

This part of the report provides information that may also be relevant to the area you have

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">EPBC Act Referrals:</a>	16
<a href="#">Key Ecological Features (Marine):</a>	1
<a href="#">Biologically Important Areas:</a>	4
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	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)

#### 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
<b>BIRD</b>		
<a href="#">Callidris acuminata</a>	Vulnerable	Species or species habitat may occur within area
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<a href="#">Callidris canutus</a>	Vulnerable	Species or species habitat may occur within area
Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
<a href="#">Callidris ferruginea</a>	Critically Endangered	Species or species habitat may occur within area
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a>	Endangered	Species or species habitat may occur within area
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a>	Critically Endangered	Species or species habitat may occur within area
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus fulvus</a>	Endangered	Species or species habitat may occur within area
Christmas Island White-tailed Tropicbird, Golden Bosunbird [2602.1]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<b>FISH</b>		
<a href="#">Phaethon rubricauda westralis</a>	Endangered	Species or species habitat may occur within area
Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat may occur within area
<a href="#">Sternula nereis nereis</a>	Vulnerable	Species or species habitat may occur within area
Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
<b>MAMMAL</b>		
<a href="#">Thunnus maccoyii</a>	Conservation Dependent	Breeding known to occur within area
Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
<a href="#">Balaenoptera borealis</a>	Vulnerable	Species or species habitat likely to occur within area
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a>	Endangered	Migration route known to occur within area
Blue Whale [36]	Endangered	Migration route known to occur within area
<a href="#">Balaenoptera physalus</a>	Vulnerable	Species or species habitat likely to occur within area
Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
<b>REPTILE</b>		
<a href="#">Caretta caretta</a>	Endangered	Species or species habitat likely to occur within area
Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
<a href="#">Chelonia mydas</a>	Vulnerable	Species or species habitat likely to occur within area
Green Turtle [1765]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Dermochelys coriacea</a>	Endangered	Species or species habitat likely to occur within area
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
<a href="#">Eretmochelys imbricata</a>	Vulnerable	Species or species habitat likely to occur within area
Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Natator depressus</a>	Vulnerable	Congregation or aggregation known to occur within area
Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
<b>SHARK</b>		

Scientific Name	Threatened Category	Presence Text
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
<a href="#">Sphyrna lewini</a> Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat may occur within area
<b>Listed Migratory Species [Resource Information]</b>		
Scientific Name	Threatened Category	Presence Text
<b>Migratory Marine Birds</b>		
<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat may occur within area
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat likely to occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat may occur within area
<a href="#">Macroneutes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat may occur within area
<b>Migratory Marine Species</b>		
<a href="#">Anoxypristis cuspidata</a> Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
<a href="#">Balaenoptera bonaerensis</a> Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Carcharhinus longimanus</a> Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Isurus oxyrinchus</a> Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
<a href="#">Isurus paucus</a> Longfin Mako [82947]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Species or species habitat likely to occur within area
<a href="#">Mobula birostris</a> as <a href="#">Manta birostris</a> Giant Manta Ray [90034]		Species or species habitat likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area
<a href="#">Tursiops aduncus</a> ( <a href="#">Arafura/Timor Sea populations</a> ) Spotted Bottlenose Dolphin ( <a href="#">Arafura/Timor Sea populations</a> ) [78900]		Species or species habitat may occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Callidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<a href="#">Callidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
<a href="#">Callidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Callidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Numenius madagascariensis</a> 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	Threatened Category	Presence Text
<b>Bird</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat may occur within area
<a href="#">Callidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<a href="#">Callidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
<a href="#">Callidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
<a href="#">Callidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat may occur within area
<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bosunbird [2602.1]	Endangered	Species or species habitat may occur within area
<b>Reptile</b>		
<a href="#">Alpsurus laevis</a> Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
<a href="#">Ephalophis greyi</a> Mangrove Sea Snake [1127]		Species or species habitat may occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Hydrophis czebublikovi</a> Fine-spined Sea Snake [59233]		Species or species habitat may occur within area
<a href="#">Hydrophis elegans</a> Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
<a href="#">Hydrophis kingii</a> as <a href="#">Disteira kingii</a> Spectacled Sea Snake [93511]		Species or species habitat may occur within area
<a href="#">Hydrophis major</a> as <a href="#">Disteira major</a> Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
<a href="#">Hydrophis platurus</a> as <a href="#">Pelamis platurus</a> Yellow-bellied Sea Snake [93517]		Species or species habitat may occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
<b>Whales and Other Cetaceans</b>		
Current Scientific Name	Status	Type of Presence
<b>Mammal</b>		
<a href="#">Balaenoptera acutorostrata</a> Minke Whale [33]		Species or species habitat may occur within area
<a href="#">Balaenoptera bonaerensis</a> Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence	Current Scientific Name	Status	Type of Presence
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area	<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area	<a href="#">Peponocephala electra</a> Melon-headed Whale [47]		Species or species habitat may occur within area
<a href="#">Delphinus delphis</a> Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area
<a href="#">Feresa attenuata</a> Pygmy Killer Whale [61]		Species or species habitat may occur within area	<a href="#">Pseudorca crassidens</a> False Killer Whale [48]		Species or species habitat likely to occur within area
<a href="#">Globicephala macrohynchus</a> Short-finned Pilot Whale [62]		Species or species habitat may occur within area	<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	<a href="#">Stenella coeruleoalba</a> Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
<a href="#">Kogia breviceps</a> Pygmy Sperm Whale [57]		Species or species habitat may occur within area	<a href="#">Stenella longirostris</a> Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
<a href="#">Kogia sima</a> Dwarf Sperm Whale [85043]		Species or species habitat may occur within area	<a href="#">Steno bredanensis</a> Rough-toothed Dolphin [30]		Species or species habitat may occur within area
<a href="#">Lagenodelphis hosei</a> Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area	<a href="#">Tursiops aduncus (Arafura/Timor Sea populations)</a> Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Species or species habitat likely to occur within area	<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area
<a href="#">Mesoplodon densirostris</a> Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area	<a href="#">Ziphius cavirostris</a> Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area



Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Draeck 3D Marine Seismic Survey, WA-205-P</a>	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Drilling 35-40 offshore exploration wells in deep water</a>	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Eendracht Multi-Client 3D Marine Seismic Survey</a>	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Orous 3D Marine Seismic Survey in WA-450-P</a>	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Warramunga Non-Inclusive 3D Seismic Survey</a>	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Westralia SPAN Marine Seismic Survey, WA &amp; NT</a>	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Referral decision Bianchi 3D Marine Seismic Survey, Carnarvon Basin, WA</a>	2013/7078	Referral Decision	Completed
<b>Key Ecological Features</b> 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.			
<b>Name</b>	<b>Region</b>		
<a href="#">Continental Slope Demersal Fish Communities</a>	North-west		
<b>Biologically Important Areas</b>			
<b>Scientific Name</b>	<b>Behaviour</b>	<b>Presence</b>	
<a href="#">Seabirds</a>			
<a href="#">Ardenna pacifica</a>			
<a href="#">Wedge-tailed Shearwater [84292]</a>	Breeding	Known to occur	
<a href="#">Whales</a>			

## Extra Information

Title of referral	Reference	Referral Outcome	Assessment Status
<b>EPBC Act Referrals</b> <span style="float: right;">[Resource Information]</span>			
<b>Controlled action</b>			
<a href="#">Equus Gas Fields Development Project, Carnarvon Basin</a>	2012/6301	Controlled Action	Completed
<a href="#">Gorgon Gas Development 4th Train Proposal</a>	2011/5942	Controlled Action	Post-Approval
<b>Not controlled action (particular manner)</b>			
<a href="#">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</a>	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D Marine Seismic Surveys - Contos CT-13 &amp; Supertubes CT-13, offshore WA</a>	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">3D seismic survey</a>	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Aperio 3D Marine Seismic Survey, WA</a>	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">CGGVERTAS 2010 2D Seismic Survey</a>	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Charon 3D Marine Seismic Survey</a>	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Deep Water Northwest Shelf 2D Seismic Survey</a>	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval

Scientific Name	Behaviour	Presence
<a href="#">Balaenoptera musculus brevicauda</a> Pygmy Blue Whale [81317]	Distribution	Known to occur
<a href="#">Balaenoptera musculus brevicauda</a> Pygmy Blue Whale [81317]	Migration	Known to occur
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Migration (north and south)	Known to occur

## Caveat

### 1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

### 2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data 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: 23-Jan-2024

## Summary

### [Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

### [Caveat](#)

### [Acknowledgements](#)

## Summary

### Matters of National Environmental 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](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar)</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	1
<a href="#">Listed Threatened Ecological Communities:</a>	None
<a href="#">Listed Threatened Species:</a>	23
<a href="#">Listed Migratory Species:</a>	35

### 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.

<a href="#">Commonwealth Lands:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	56
<a href="#">Whales and Other Cetaceans:</a>	26
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	1

### Extra Information

This part of the report provides information that may also be relevant to the area you have

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">EPBC Act Referrals:</a>	27
<a href="#">Key Ecological Features (Marine):</a>	2
<a href="#">Biologically Important Areas:</a>	6
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	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)

#### Listed Threatened Species [\[Resource Information\]](#)

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Scientific Name	Threatened Category	Presence Text
<b>BIRD</b>		
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bosunbird [2602.1]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Phaethon rubricauda westralis</a> Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat may occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<b>FISH</b>		
<a href="#">Thunnus maccoyii</a> Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
<b>MAMMAL</b>		
<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
<b>REPTILE</b>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leatherly Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Scientific Name	Threatened Category	Presence Text
<b>SHARK</b>		
<a href="#">Carcharias taurus (west coast population)</a>	Vulnerable	Species or species habitat may occur within area
Grey Nurse Shark (west coast population) [68752]		
<a href="#">Carcharodon carcharias</a>		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pristis pristis</a>		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pristis zijsron</a>		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Rhincodon typus</a>		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Sphyrna lewini</a>		
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
<b>Migratory Marine Birds</b>		
<a href="#">Anous stolidus</a>		
Common Noddy [825]		Species or species habitat may occur within area
<a href="#">Calonectris leucomelas</a>		
Streaked Shearwater [1077]		Species or species habitat likely to occur within area
<a href="#">Fregata ariel</a>		
Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a>		
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Phaethon lepturus</a>		
White-tailed Tropicbird [1014]		Species or species habitat may occur within area
<b>Migratory Marine Species</b>		
<a href="#">Anoxypristis cuspidata</a>		
Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat may occur within area
<a href="#">Balaenoptera bonaerensis</a>		
Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera borealis</a>		
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Balaenoptera edeni</a>		
Bryde's Whale [35]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a>		
Blue Whale [36]	Endangered	Migration route known to occur within area
<a href="#">Balaenoptera physalus</a>		
Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Carcharhinus longimanus</a>		
Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
<a href="#">Carcharodon carcharias</a>		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
<a href="#">Caretta caretta</a>		
Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
<a href="#">Chelonia mydas</a>		
Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leatherly Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area	<a href="#">Prisits zjiron</a> Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	<a href="#">Rhincodon typus</a> Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Isurus oxyrinchus</a> Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area	<a href="#">Tursiops aduncus</a> ( <a href="#">Arafura/Timor Sea populations</a> ) Spotted Bottlenose Dolphin ( <a href="#">Arafura/Timor Sea populations</a> ) [78900]		Species or species habitat may occur within area
<a href="#">Isurus paucus</a> Longfin Mako [82947]		Species or species habitat likely to occur within area	<b>Migratory Wetlands Species</b> <a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Species or species habitat known to occur within area	<a href="#">Callidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<a href="#">Mobula alfredi</a> as <a href="#">Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area	<a href="#">Callidris canutus</a> Red Knot, Knot [8655]	Vulnerable	Species or species habitat may occur within area
<a href="#">Mobula birostris</a> as <a href="#">Manta birostris</a> Giant Manta Ray [90034]		Species or species habitat likely to occur within area	<a href="#">Callidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area	<a href="#">Callidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area	<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area			
<a href="#">Pristis pristis</a> Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	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
<a href="#">Bird</a>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat likely to occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat may occur within area
<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
<a href="#">Fish</a>		
<a href="#">Acentronura latsonae</a> Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
<a href="#">Bulbonaricus brauni</a> Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
<a href="#">Campichthys tricarinalus</a> Three-keel Pipefish [66192]		Species or species habitat may occur within area
<a href="#">Choeroichthys brachysoma</a> Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
<a href="#">Choeroichthys latispinosus</a> Muiron Island Pipefish [66196]		Species or species habitat may occur within area
<a href="#">Choeroichthys sulillus</a> Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
<a href="#">Doryrhamphus dactylophorus</a> Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
<a href="#">Doryrhamphus janssi</a> Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Doryrhamphus multiannulatus</a> Many-banded Pipefish [66717]		Species or species habitat may occur within area	<a href="#">Hippocampus histrix</a> Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
<a href="#">Doryrhamphus negrosensis</a> Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area	<a href="#">Hippocampus kuda</a> Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
<a href="#">Festucalex scalaris</a> Ladder Pipefish [66216]		Species or species habitat may occur within area	<a href="#">Hippocampus planifrons</a> Flat-face Seahorse [66238]		Species or species habitat may occur within area
<a href="#">Filicampus tigris</a> Tiger Pipefish [66217]		Species or species habitat may occur within area	<a href="#">Hippocampus trimaculatus</a> Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
<a href="#">Halicampus brocki</a> Brock's Pipefish [66219]		Species or species habitat may occur within area	<a href="#">Micrognathus micronotopterus</a> Tidepool Pipefish [66255]		Species or species habitat may occur within area
<a href="#">Halicampus grayi</a> Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area	<a href="#">Phoxocampus belcheri</a> Black Rock Pipefish [66719]		Species or species habitat may occur within area
<a href="#">Halicampus nitidus</a> Glittering Pipefish [66224]		Species or species habitat may occur within area	<a href="#">Solegnathus hardwickii</a> Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
<a href="#">Halicampus spinirostris</a> Spiny-snout Pipefish [66225]		Species or species habitat may occur within area	<a href="#">Solegnathus lettiensis</a> Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
<a href="#">Haliichthys taeniophorus</a> Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area	<a href="#">Solenostomus cyanopterus</a> Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
<a href="#">Hippichthys penicillius</a> Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	<a href="#">Syngnathoides biaculeatus</a> Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
<a href="#">Hippocampus angustus</a> Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area	<a href="#">Trachyrhamphus bicoarctatus</a> Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Trachyrhynchus longirostris</a> Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area	<a href="#">Hydrophis major</a> as <a href="#">Disteira major</a> Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
<b>Reptile</b>			<a href="#">Hydrophis platurus</a> as <a href="#">Pelamis platurus</a> Yellow-bellied Sea Snake [93517]		Species or species habitat may occur within area
<a href="#">Alpiysurus laevis</a> Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area	<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	<b>Whales and Other Cetaceans</b> [Resource Information]		
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	<b>Current Scientific Name</b>	<b>Status</b>	<b>Type of Presence</b>
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area	<a href="#">Balaenoptera acutirostrata</a> Minke Whale [33]		Species or species habitat may occur within area
<a href="#">Eimydocephalus annulatus</a> Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area	<a href="#">Balaenoptera bonaerensis</a> Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
<a href="#">Ephialophis grevi</a> Mangrove Sea Snake [1127]		Species or species habitat may occur within area	<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area	<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area
<a href="#">Hydrophis czebblukovi</a> Fine-spined Sea Snake [59233]		Species or species habitat may occur within area	<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area
<a href="#">Hydrophis elegans</a> Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area	<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Hydrophis kingii</a> as <a href="#">Disteira kingii</a> Spectacled Sea Snake [93511]		Species or species habitat may occur within area	<a href="#">Delphinus delphis</a> Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence	Current Scientific Name	Status	Type of Presence
<a href="#">Ereusa attenuata</a> Pygmy Killer Whale [61]		Species or species habitat may occur within area	<a href="#">Pseudorca crassidens</a> False Killer Whale [48]		Species or species habitat likely to occur within area
<a href="#">Globicephala macrorhynchus</a> Short-finned Pilot Whale [62]		Species or species habitat may occur within area	<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	<a href="#">Stenella coeruleoalba</a> Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
<a href="#">Kogia breviceps</a> Pygmy Sperm Whale [57]		Species or species habitat may occur within area	<a href="#">Stenella longirostris</a> Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
<a href="#">Kogia sima</a> Dwarf Sperm Whale [85043]		Species or species habitat may occur within area	<a href="#">Steno bredanensis</a> Rough-toothed Dolphin [30]		Species or species habitat may occur within area
<a href="#">Lagenodelphis hosei</a> Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area	<a href="#">Tursiops aduncus (Arafura/Timor Sea populations)</a> Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Species or species habitat known to occur within area	<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area
<a href="#">Mesoplodon densirostris</a> Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area	<a href="#">Ziphius cavirostris</a> Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area	<b>Habitat Critical to the Survival of Marine Turtles</b>		
<a href="#">Peponocephala electra</a> Melon-headed Whale [47]		Species or species habitat may occur within area	Scientific Name      Behaviour      Presence		
<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area	Aug - Sep      Nesting      Known to occur		
			Natorator depressus Flatback Turtle [59257]		

Extra Information	Title of referral	Reference	Referral Outcome	Assessment Status
<b>EPBC Act Referrals</b>				
	<b>Not controlled action (particular manner)</b>			
	<a href="#">Charon 3D Marine Seismic Survey</a>	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Deep Water Drilling Program</a>	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Deep Water Northwest Shelf 2D Seismic Survey</a>	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Draeck 3D Marine Seismic Survey WA-205-P</a>	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Drilling 35-40 offshore exploration wells in deep water</a>	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Eendracht Multi-Client 3D Marine Seismic Survey</a>	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Glencoe 3D Marine Seismic Survey WA-390-P</a>	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Harmony 3D Marine Seismic Survey</a>	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA</a>	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Mumurah 2D seismic survey within permits WA-308/9-P</a>	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Orcus 3D Marine Seismic Survey in WA-450-P</a>	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R</a>	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval

Extra Information	Title of referral	Reference	Referral Outcome	Assessment Status
	<a href="#">Gorgon Gas Development</a>	2003/1294		Post-Approval
	<b>Controlled action</b>			
	<a href="#">Construct and operate LNG &amp; domestic gas plant including onshore and offshore facilities - Wheatstion</a>	2008/4469	Controlled Action	Post-Approval
	<a href="#">Equus Gas Fields Development Project, Carnarvon Basin</a>	2012/6301	Controlled Action	Completed
	<a href="#">Gorgon Gas Development 4th Train Proposal</a>	2011/5942	Controlled Action	Post-Approval
	<b>Not controlled action</b>			
	<a href="#">Hess Exploration Drilling Programme</a>	2007/3566	Not Controlled Action	Completed
	<b>Not controlled action (particular manner)</b>			
	<a href="#">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</a>	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">3D Marine Seismic Surveys - Contos CT-13 &amp; Supertubes CT-13, offshore WA</a>	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">3D seismic survey</a>	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Aperio 3D Marine Seismic Survey, WA</a>	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA</a>	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
	<a href="#">CGGVERITAS 2010 2D Seismic Survey</a>	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval

[ Resource Information ]

Scientific Name	Behaviour	Presence
<a href="#">Balaenoptera musculus brevicauda</a> Pygmy Blue Whale [81317]	Migration	Known to occur
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Migration (north and south)	Known to occur

Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Warramunga Non-Inclusive 3D Seismic Survey</a>	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">West Anchor 3D Marine Seismic Survey</a>	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Westralia SPAN Marine Seismic Survey, WA &amp; NT</a>	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval

Referral decision	Referral Decision	Completed
<a href="#">Bianchi 3D Marine Seismic Survey, Carnarvon Basin, WA</a>	2013/7078	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
<a href="#">Ancient coastline at 125 m depth contour</a>	North-west
<a href="#">Continental Slope Demersal Fish Communities</a>	North-west

Biologically Important Areas	Behaviour	Presence
Scientific Name		
Marine Turtles		
<a href="#">Natator depressus</a>		
<a href="#">Flatback Turtle [59257]</a>	Interesting buffer	Known to occur

Seabirds	Breeding	Known to occur
<a href="#">Ardenna pacifica</a>		
<a href="#">Wedge-tailed Shearwater [84292]</a>	Breeding	Known to occur
Sharks		
<a href="#">Rhincodon typus</a>		
<a href="#">Whale Shark [66680]</a>	Foraging	Known to occur

Whales	Distribution	Known to occur
<a href="#">Balaenoptera musculus brevicauda</a> Pygmy Blue Whale [81317]	Distribution	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.





Australian Government

Department of Climate Change, Energy,  
the Environment and Water

Appendix B - Hydrocarbon Ecological EMBA

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: 23-Jan-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

## Summary

### Matters of National Environmental 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.

<u>World Heritage Properties:</u>	1
<u>National Heritage Places:</u>	1
<u>Wetlands of International Importance (Ramsar)</u>	None
<u>Great Barrier Reef Marine Park:</u>	None
<u>Commonwealth Marine Area:</u>	2
<u>Listed Threatened Ecological Communities:</u>	None
<u>Listed Threatened Species:</u>	33
<u>Listed Migratory Species:</u>	49

### 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.

<u>Commonwealth Lands:</u>	None
<u>Commonwealth Heritage Places:</u>	None
<u>Listed Marine Species:</u>	81
<u>Whales and Other Cetaceans:</u>	30
<u>Critical Habitats:</u>	None
<u>Commonwealth Reserves Terrestrial:</u>	None
<u>Australian Marine Parks:</u>	2
<u>Habitat Critical to the Survival of Marine Turtles:</u>	4

### Extra Information

This part of the report provides information that may also be relevant to the area you have

<u>State and Territory Reserves:</u>	2
<u>Regional Forest Agreements:</u>	None
<u>Nationally Important Wetlands:</u>	None
<u>EPBC Act Referrals:</u>	122
<u>Key Ecological Features (Marine):</u>	4
<u>Biologically Important Areas:</u>	14
<u>Bioregional Assessments:</u>	None
<u>Geological and Bioregional Assessments:</u>	None

## Details

### Matters of National Environmental Significance

#### World Heritage Properties

<u>Name</u>	<u>State</u>	<u>Legal Status</u>	<u>[Resource Information]</u>
<a href="#">The Ningaloo Coast</a>	WA	Declared property	

#### National Heritage Places

<u>Name</u>	<u>State</u>	<u>Legal Status</u>	<u>[Resource Information]</u>
<u>Natural</u>	WA	Listed place	
<a href="#">The Ningaloo Coast</a>			

#### Commonwealth Marine Area

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

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

<u>Scientific Name</u>	<u>Threatened Category</u>	<u>Presence Text</u>
<b>BIRD</b>		

[Callidris acuminata](#)

Sharp-tailed Sandpiper [874]

Vulnerable

Species or species habitat may occur within area

[Callidris canutus](#)

Red Knot, Knot [855]

Vulnerable

Species or species habitat may occur within area

[Callidris ferruginea](#)

Curlew Sandpiper [856]

Critically Endangered

Species or species habitat may occur within area

[Erythrotriorchis radiatus](#)

Red Goshawk [942]

Endangered

Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area	<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
<a href="#">Phaethon rubricauda westralis</a> Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area	<a href="#">Macrodarma gigas</a> Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pterodroma mollis</a> Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	<b>REPTILE</b> <a href="#">Alpysurus apraefrontalis</a> Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	<a href="#">Alpysurus foliosquama</a> Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Breeding known to occur within area	<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
<b>FISH</b> <a href="#">Thunnus maccoyii</a> Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area	<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<b>MAMMAL</b> <a href="#">Balaenoptera borealis</a> Ser Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area			

Scientific Name	Threatened Category	Presence Text
<a href="#">Nator depressus</a>	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Fiatback Turtle</a> [59257]		
<b>SHARK</b>		
<a href="#">Carcharias taurus (west coast population)</a>	Vulnerable	Species or species habitat likely to occur within area
Grey Nurse Shark (west coast population) [68752]		
<a href="#">Carcharodon carcharias</a>	Vulnerable	Species or species habitat known to occur within area
White Shark, Great White Shark [64470]		
<a href="#">Pristis clavata</a>	Vulnerable	Species or species habitat known to occur within area
Dwarf Sawfish, Queensland Sawfish [68447]		
<a href="#">Pristis pristis</a>	Vulnerable	Species or species habitat likely to occur within area
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]		
<a href="#">Pristis zijsron</a>	Vulnerable	Species or species habitat known to occur within area
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]		
<a href="#">Rhincodon typus</a>	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Whale Shark [66680]		
<a href="#">Sphyrna lewini</a>	Conservation Dependent	Species or species habitat known to occur within area
Scalloped Hammerhead [85267]		

**Listed Migratory Species [ Resource Information ]**

Scientific Name	Threatened Category	Presence Text
<a href="#">Migratory Marine Birds</a>		
<a href="#">Anous stolidus</a>		Species or species habitat may occur within area
Common Noddy [825]		
<a href="#">Ardenna carneipes</a>		Species or species habitat likely to occur within area
Flesh-footed Shearwater, Fleishy-footed Shearwater [82404]		

Scientific Name	Threatened Category	Presence Text
<a href="#">Ardenna pacifica</a>		
Wedge-tailed Shearwater [84292]		Breeding known to occur within area
<a href="#">Calonectris leucomelas</a>		Species or species habitat likely to occur within area
Streaked Shearwater [1077]		
<a href="#">Fregata ariel</a>		Species or species habitat likely to occur within area
Lesser Frigatebird, Least Frigatebird [1012]		
<a href="#">Fregata minor</a>		Species or species habitat may occur within area
Great Frigatebird, Greater Frigatebird [1013]		
<a href="#">Macronectes giganteus</a>	Endangered	Species or species habitat may occur within area
Southern Giant-Petrel, Southern Giant Petrel [1060]		
<a href="#">Phaethon lepturus</a>		Species or species habitat known to occur within area
White-tailed Tropicbird [1014]		
<a href="#">Thalassarche carteri</a>	Vulnerable	Species or species habitat may occur within area
Indian Yellow-nosed Albatross [64464]		
<a href="#">Thalassarche impavida</a>	Vulnerable	Species or species habitat may occur within area
Campbell Albatross, Campbell Black-browed Albatross [64459]		

Migratory Marine Species	Threatened Category	Presence Text
<a href="#">Anoxypristis cuspidata</a>		Species or species habitat likely to occur within area
Narrow Sawfish, Knife-tooth Sawfish [68448]		
<a href="#">Balaenoptera bonaerensis</a>		Species or species habitat likely to occur within area
Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		
<a href="#">Balaenoptera borealis</a>	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Sei Whale [34]		

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area	<a href="#">Eubalaena australis</a> as <a href="#">Balaena glacialis australis</a> Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area	<a href="#">Isurus oxyrinchus</a> Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	<a href="#">Isurus paucus</a> Longfin Mako [82947]		Species or species habitat likely to occur within area
<a href="#">Carcharhinus longimanus</a> Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area	<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding known to occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	<a href="#">Mobula alfredi</a> as <a href="#">Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	<a href="#">Mobula birostris</a> as <a href="#">Manta birostris</a> Giant Manta Ray [90034]		Species or species habitat known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	<a href="#">Orcaella heinsohni</a> Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area
<a href="#">Dugong dugon</a> Dugong [28]		Species or species habitat known to occur within area	<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area
			<a href="#">Pristis clavata</a> Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Pristis pristis</a> Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pristis zijsron</a> Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Rhincodon typus</a> Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Sousa sahalensis</a> as <a href="#">Sousa chinensis</a> Australian Humpback Dolphin [87942]		Species or species habitat likely to occur within area
<a href="#">Tursiops aduncus</a> (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area

#### migratory Terrestrial Species

<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat may occur within area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area

#### migratory Wetlands Species

<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area

#### Other Matters Protected by the EPBC Act

#### Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat may occur within area
<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat may occur within area
<a href="#">Ardenna carneipes</a> as <a href="#">Puffinus carneipes</a> Flesh-footed Shearwater, Fleishy-footed Shearwater [82404]		Species or species habitat likely to occur within area
<a href="#">Ardenna pacifica</a> as <a href="#">Puffinus pacificus</a> Wedge-tailed Shearwater [84292]		Breeding known to occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Callidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area	<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat likely to occur within area	<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bousbird [26021]	Endangered	Species or species habitat may occur within area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]	Vulnerable	Species or species habitat likely to occur within area	<a href="#">Pterodroma mollis</a> Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Fregata minor</a> Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area	<a href="#">Rostratula australis as Rostratula benghalensis (sensu lato)</a> Australian Painted Shipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat may occur within area overfly marine area	<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	<a href="#">Thalasseus bengalensis as Sterna bengalensis</a> Lesser Crested Tern [66546]		Breeding known to occur within area
<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	<b>Fish</b> <a href="#">Acentronura larsonae</a> Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
			<a href="#">Bulbonanicus brauni</a> Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area



Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Campichthys tricarinatus</a> Three-keel Pipefish [66192]		Species or species habitat may occur within area	<a href="#">Festucatelex scalaris</a> Ladder Pipefish [66216]		Species or species habitat may occur within area
<a href="#">Choeroichthys brachysoma</a> Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area	<a href="#">Filicampus tigris</a> Tiger Pipefish [66217]		Species or species habitat may occur within area
<a href="#">Choeroichthys latispinosus</a> Muiron Island Pipefish [66196]		Species or species habitat may occur within area	<a href="#">Hallicampus brocki</a> Brock's Pipefish [66219]		Species or species habitat may occur within area
<a href="#">Choeroichthys sullius</a> Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	<a href="#">Hallicampus gravi</a> Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
<a href="#">Corythoichthys flavofasciatus</a> Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area	<a href="#">Hallicampus nitidus</a> Glittering Pipefish [66224]		Species or species habitat may occur within area
<a href="#">Cosmocampus banneri</a> Roughridge Pipefish [66206]		Species or species habitat may occur within area	<a href="#">Hallicampus spinirostris</a> Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
<a href="#">Dorythamphus dactylophorus</a> Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area	<a href="#">Hallichthys taeniophorus</a> Ribbened Pipehorse, Ribbened Seadragon [66226]		Species or species habitat may occur within area
<a href="#">Dorythamphus excisus</a> Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area	<a href="#">Hippichthys penicillus</a> Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
<a href="#">Dorythamphus janssi</a> Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area	<a href="#">Hippocampus angustus</a> Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
<a href="#">Dorythamphus multiannulatus</a> Many-banded Pipefish [66717]		Species or species habitat may occur within area	<a href="#">Hippocampus histrix</a> Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
<a href="#">Dorythamphus negrosensis</a> Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area	<a href="#">Hippocampus kuda</a> Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Hippocampus planifrons</a> Flat-face Seahorse [66238]		Species or species habitat may occur within area	<a href="#">Dugong dugon</a> Dugong [28]		Species or species habitat known to occur within area
<a href="#">Hippocampus spinosissimus</a> Hedgehog Seahorse [66239]		Species or species habitat may occur within area	<b>Reptile</b>		
<a href="#">Hippocampus trimaculatus</a> Three-spot Seahorse. Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area	<a href="#">Alpsurus abraefrontalis</a> Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Micrognathus micronotopterus</a> Tidepool Pipefish [66255]		Species or species habitat may occur within area	<a href="#">Alpsurus duboisii</a> Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
<a href="#">Phoxocampus belcheri</a> Black Rock Pipefish [66719]		Species or species habitat may occur within area	<a href="#">Alpsurus foliosquama</a> Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Solegnathus hardwickii</a> Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area	<a href="#">Alpsurus laevis</a> Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
<a href="#">Solegnathus lettiensis</a> Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area	<a href="#">Alpsurus mosaicus</a> as <a href="#">Alpsurus eydouxii</a> Mosaic Sea Snake [87261]		Species or species habitat may occur within area
<a href="#">Solenostomus cyanopterus</a> Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	<a href="#">Alpsurus tenuis</a> Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area
<a href="#">Synnathoides biaculeatus</a> Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Trachyrhamphus bicoarctatus</a> Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Trachyrhamphus longirostris</a> Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area	<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
<b>Mammal</b>			<a href="#">Emydocephalus annulatus</a> Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Whales and Other Cetaceans	[Resource Information]
<a href="#">Ephalophis grevi</a> Mangrove Sea Snake [1127]		Species or species habitat may occur within area	Current Scientific Name Mammal	Type of Presence
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	<a href="#">Balaenoptera acutorostrata</a> Minke Whale [33]	Species or species habitat may occur within area
<a href="#">Hydrophis czeblukovi</a> Fine-spined Sea Snake [59233]		Species or species habitat may occur within area	<a href="#">Balaenoptera bonaerensis</a> Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]	Species or species habitat likely to occur within area
<a href="#">Hydrophis elegans</a> Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area	<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable Foraging, feeding or related behaviour likely to occur within area
<a href="#">Hydrophis kingii</a> as <a href="#">Disteira kingii</a> Spectacled Sea Snake [93511]		Species or species habitat may occur within area	<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]	Species or species habitat likely to occur within area
<a href="#">Hydrophis major</a> as <a href="#">Disteira major</a> Olive-headed Sea Snake [93512]		Species or species habitat may occur within area	<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered Migration route known to occur within area
<a href="#">Hydrophis ornatus</a> Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area	<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable Foraging, feeding or related behaviour likely to occur within area
<a href="#">Hydrophis peronii</a> as <a href="#">Acalyptophis peronii</a> Horned Sea Snake [93509]		Species or species habitat may occur within area	<a href="#">Delphinus delphis</a> Common Dolphin, Short-beaked Common Dolphin [60]	Species or species habitat may occur within area
<a href="#">Hydrophis platurus</a> as <a href="#">Pelamis platurus</a> Yellow-bellied Sea Snake [93517]		Species or species habitat may occur within area	<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered Species or species habitat likely to occur within area
<a href="#">Hydrophis stokesii</a> as <a href="#">Astrotia stokesii</a> Stokes' Sea Snake [93510]		Species or species habitat may occur within area	<a href="#">Feresa attenuata</a> Pygmy Killer Whale [61]	Species or species habitat may occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	<a href="#">Globicephala macrorhynchus</a> Short-finned Pilot Whale [62]	Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence	Current Scientific Name	Status	Type of Presence
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	<a href="#">Sousa sahulensis</a> Australian Humpback Dolphin [87942]		Species or species habitat likely to occur within area
<a href="#">Kogia breviceps</a> Pygmy Sperm Whale [57]		Species or species habitat may occur within area	<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
<a href="#">Kogia sima</a> Dwarf Sperm Whale [85043]		Species or species habitat may occur within area	<a href="#">Stenella coeruleoalba</a> Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
<a href="#">Lagenodelphis hosei</a> Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area	<a href="#">Stenella longirostris</a> Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding known to occur within area	<a href="#">Steno bredanensis</a> Rough-toothed Dolphin [30]		Species or species habitat may occur within area
<a href="#">Mesoplodon densirostris</a> Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area	<a href="#">Tursiops aduncus</a> Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
<a href="#">Orcaella heinsohni</a> Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area	<a href="#">Tursiops aduncus (Arafura/Timor Sea populations)</a> Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area	<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area
<a href="#">Peponocephala electra</a> Melon-headed Whale [47]		Species or species habitat may occur within area	<a href="#">Ziphius cavirostris</a> Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area
<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area	[ Resource Information ]		
<a href="#">Pseudorca crassidens</a> False Killer Whale [48]		Species or species habitat likely to occur within area	Zone & IUCN Categories Habitat Protection Zone (IUCN IV) Multiple Use Zone (IUCN VI)		
Habitat Critical to the Survival of Marine Turtles			Behaviour Presence		
Scientific Name			Scientific Name		

Scientific Name	Behaviour	Presence
Aug - Sep <u>Natorator depressus</u> Flatback Turtle [59257]	Nesting	Known to occur
Dec - Jan <u>Chelonia mydas</u> Green Turtle [1765]	Nesting	Known to occur
Nov-Feb <u>Caretta caretta</u> Loggerhead Turtle [1763]	Nesting	Known to occur
Nov - May <u>Eretmochelys imbricata</u> Hawksbill Turtle [1766]	Nesting	Known to occur

#### Extra Information

State and Territory Reserves [ <a href="#">Resource Information</a> ]		
Protected Area Name	Reserve Type	State
Muiron Islands	Nature Reserve	WA
Muiron Islands	Marine Management Area	WA

EPBC Act Referrals [ <a href="#">Resource Information</a> ]		
Title of referral	Reference	Referral Outcome Assessment Status
Gorgon Gas Development	2003/1294	Post-Approval
Project Highlelere Cable Lay and Operation	2022/09203	Completed

Action clearly unacceptable		
Title of referral	Reference	Referral Outcome Assessment Status
Highlands 3D Marine Seismic Survey	2012/6680	Completed
Controlled action <u>'Van Gogh' Petroleum Field Development</u>	2007/3213	Controlled Action Post-Approval
Construct and operate LNG & domestic gas plant including onshore and offshore facilities - Wheatston	2008/4469	Controlled Action Post-Approval
Develop Jansz-Is deepwater gas field in Permit Areas WA-18-R.	2005/2184	Controlled Action Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action <u>WA-25-R and WA-26-</u> Development of Coniston/Novara fields within the Exmouth Sub-basin	2011/5995	Controlled Action	Post-Approval
Development of Stybarrow petroleum field incl drilling and facility installation	2004/1469	Controlled Action	Post-Approval
Enfield full field development	2001/257	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval
Greater Enfield (Vincent) Development	2005/2110	Controlled Action	Post-Approval
Light Crude Oil Production	2001/365	Controlled Action	Post-Approval
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pluto Gas Project Including Site B	2006/2968	Controlled Action	Post-Approval
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
The Scarborough Project - FLNG & assoc subsea infrastructure, Carnarvon Basin	2013/6811	Controlled Action	Post-Approval
Vincent Appraisal Well	2000/22	Controlled Action	Post-Approval

Not controlled action <u>'Van Gogh' Oil Appraisal Drilling Program, Exploration Permit Area WA-155-P(1)</u>	2006/3148	Not Controlled Action	Completed
Bollinger 2D Seismic Survey 200km North of North West Cape WA	2004/1868	Not Controlled Action	Completed
Bultaco-2, Laverda-2, Laverda-3 and Montesa-2 Appraisal Wells	2000/103	Not Controlled Action	Completed
Carnarvon 3D Marine Seismic Survey	2004/1890	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b> Cazadores 2D seismic survey	2004/1720	Not Controlled Action	Completed
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703	Not Controlled Action	Completed
Controlled Source Electromagnetic Survey	2007/3262	Not Controlled Action	Completed
Development of Halvard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed
Exploration drilling well WA-155-P(1)	2003/971	Not Controlled Action	Completed
Exploration of appraisal wells	2006/3065	Not Controlled Action	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759	Not Controlled Action	Completed
Exploratory drilling in permit area WA-225-P	2001/490	Not Controlled Action	Completed
HCA05X Macedon Experimental Survey	2004/1926	Not Controlled Action	Completed
Hess Exploration Drilling Programme	2007/3566	Not Controlled Action	Completed
Infill Production Well (Griffin-9)	2001/417	Not Controlled Action	Completed
Jansz-2 and 3 Appraisal Wells	2002/754	Not Controlled Action	Completed
Klammer 2D Seismic Survey	2002/868	Not Controlled Action	Completed
Montesa-1 and Bultaco-1 Exploration Wells	2000/102	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline	2005/2033	Not Controlled Action	Completed
Wanda Offshore Research Project, 80 km north-east of Exmouth, WA	2018/8293	Not Controlled Action	Completed
Wheatstone 3D seismic survey, 70km north of Barrow Island	2004/1761	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b> "Kate" 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km	2005/2037	Not Controlled Action (Particular Manner)	Post-Approval
"Tourmaline" 2D marine seismic survey, permit areas WA-323-P, WA-330-P and WA-32	2005/2282	Not Controlled Action (Particular Manner)	Post-Approval
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D seismic surveys	2005/2151	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey	2012/6296	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey	2008/4281	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey over petroleum title WA-268-P	2007/3458	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, WA	2008/4428	Not Controlled Action (Particular Manner)	Post-Approval
Apache Northwest Shelf Van Gogh Field Appraisal Drilling Program	2007/3495	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Aperio 3D Marine Seismic Survey, WA</a>	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Artemis-1 Drilling Program, (WA-360-P)</a>	2010/5432	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA</a>	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Balhaves Condensate Field Development</a>	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Bonaventure 3D seismic survey</a>	2006/2514	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">CGGVERTAS 2010 2D Seismic Survey</a>	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Charon 3D Marine Seismic Survey</a>	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Coverack Marine Seismic Survey</a>	2001/399	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Cue Seismic Survey within WA-359-P, WA-361-P and WA-360-P</a>	2007/3647	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">CVG 3D Marine Seismic Survey</a>	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Deep Water Drilling Program</a>	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Deep Water Northwest Shelf 2D Seismic Survey</a>	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Draeck 3D Marine Seismic Survey, WA-205-P</a>	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Drilling 35-40 offshore exploration wells in deep water</a>	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Eendracht Multi-Client 3D Marine Seismic Survey</a>	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Enfield M3 &amp; Vincent 4D Marine Seismic Surveys</a>	2008/3981	Not Controlled Action (Particular Manner)	Completed
<a href="#">Enfield M3 4D, Vincent 4D &amp; 4D Line Test Marine Seismic Surveys</a>	2008/4122	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Enfield M4 4D Marine Seismic Survey</a>	2008/4558	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Enfield oilfield 3D Seismic Survey</a>	2006/3132	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Exmouth West 2D Marine Seismic Survey</a>	2008/4132	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Exploration drilling of Zeus-1 well</a>	2008/4351	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Foxhound 3D Non-Exclusive Marine Seismic Survey</a>	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L</a>	2010/5570	Not Controlled Action (Particular Manner)	Post-Approval



Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Geco Eagle 3D Marine Seismic Survey</a>	2008/3958	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Glencoe 3D Marine Seismic Survey WA-390-P</a>	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Guacamole 2D Marine Seismic Survey</a>	2008/4381	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Harmony 3D Marine Seismic Survey</a>	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Honeycombs MC3D Marine Seismic Survey</a>	2012/6368	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA</a>	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA</a>	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">John Ross &amp; Rosella Off Bottom Cable Seismic Exploration Program</a>	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Julimar Brunello Gas Development Project</a>	2011/5936	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Klimt 2D Marine Seismic Survey</a>	2007/3856	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey</a>	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Leopard 2D marine seismic survey</a>	2005/2290	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Lion 2D Marine Seismic Survey</a>	2007/3777	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Macedon Gas Field Development</a>	2008/4605	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Marine reconnaissance survey</a>	2008/4466	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Mummorah 2D seismic survey within permits WA-308/9-P</a>	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Ocean Bottom Cable Seismic Program, WA-264-P</a>	2007/3844	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Ocean Bottom Cable Seismic Survey</a>	2005/2017	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Orcus 3D Marine Seismic Survey in WA-450-P</a>	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Osprey and Dionysus Marine Seismic Survey</a>	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Palta-1 exploration well in Petroleum Permit Area WA-384-P</a>	2011/5871	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P</a>	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Pyrenees 4D Marine Seismic Monitor Survey, HCA12A</a>	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Pyrenees-Macedon 3D marine seismic survey</a>	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Rose 3D Seismic Program</a>	2008/4239	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Rydal-1 Petroleum Exploration Well, WA</a>	2012/6522	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Salsa 3D Marine Seismic Survey</a>	2010/5629	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Santos Winchester three dimensional seismic survey - WA-323-P &amp; WA-330-P</a>	2011/6107	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Skorpion Marine Seismic Survey WA</a>	2001/416	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Sovereign 3D Marine Seismic Survey</a>	2011/5861	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Stybarrow 4D Marine Seismic Survey</a>	2011/5810	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Stybarrow Baseline 4D marine seismic survey</a>	2008/4530	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Tortilla 2D Seismic Survey, WA</a>	2011/6110	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R</a>	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Undertake a three dimensional marine seismic survey</a>	2010/5679	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Vincent M1 and Enfield M5 4D Marine Seismic Survey</a>	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Warramunga Non-Inclusive 3D Seismic Survey</a>	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">West Anchor 3D Marine Seismic Survey</a>	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Westralia SPAN Marine Seismic Survey, WA &amp; NT</a>	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Wheatstone 3D MAZ Marine Seismic Survey</a>	2011/6058	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Wheatstone Iago Appraisal Well Drilling</a>	2008/4134	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Referral decision 3D Seismic Survey</a>	2008/4219	Referral Decision	Completed
<a href="#">Bianchi 3D Marine Seismic Survey, Carnarvon Basin, WA</a>	2013/7078	Referral Decision	Completed
<a href="#">CVG 3D Marine Seismic Survey</a>	2012/6270	Referral Decision	Completed
<a href="#">Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L</a>	2005/2370	Referral Decision	Completed
<a href="#">Rose 3D Seismic acquisition survey</a>	2008/4220	Referral Decision	Completed
<a href="#">Stybarrow Baseline 4D Marine Seismic Survey (Permit Areas WA-255-P, WA-32-L, WA-</a>	2008/4165	Referral Decision	Completed

## Key Ecological Features [\[ Resource Information \]](#)

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
<a href="#">Ancient coastline at 125 m depth contour</a>	North-west
<a href="#">Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula</a>	North-west
<a href="#">Continental Slope Demersal Fish Communities</a>	North-west
<a href="#">Exmouth Plateau</a>	North-west

## Biologically Important Areas

Scientific Name	Behaviour	Presence
<a href="#">Marine Turtles</a>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Interesting buffer	Known to occur
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Nesting	Known to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Interesting buffer	Known to occur
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Nesting	Known to occur
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Interesting buffer	Known to occur
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Interesting buffer	Known to occur

## Seabirds

<a href="#">Ardenna pacifica</a> Wedge-tailed Shearwater [84292]	Breeding	Known to occur
<a href="#">Sternula nereis</a> Fairy Tern [82949]	Breeding	Known to occur
<a href="#">Thalasseus bengalensis</a> Lesser Crested Tern [66546]	Breeding	Known to occur

## Sharks

Scientific Name	Behaviour	Presence
<a href="#">Rhincodon typus</a> Whale Shark [66680]	Foraging	Known to occur

## Whales

<a href="#">Balaenoptera musculus breviceauda</a> Pygmy Blue Whale [81317]	Distribution	Known to occur
<a href="#">Balaenoptera musculus breviceauda</a> Pygmy Blue Whale [81317]	Foraging	Known to occur
<a href="#">Balaenoptera musculus breviceauda</a> Pygmy Blue Whale [81317]	Migration	Known to occur
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Migration (north and south)	Known to occur

## Caveat

### 1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities, and
- other information that may be useful as an indicator of potential habitat value.

### 2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data 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.



Australian Government

Department of Climate Change, Energy,  
the Environment and Water

Appendix B - Hydrocarbon Social EMBA

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: 23-Jan-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

## Summary

### Matters of National Environmental 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.

<u>World Heritage Properties:</u>	1
<u>National Heritage Places:</u>	1
<u>Wetlands of International Importance (Ramsar)</u>	None
<u>Great Barrier Reef Marine Park:</u>	None
<u>Commonwealth Marine Area:</u>	2
<u>Listed Threatened Ecological Communities:</u>	None
<u>Listed Threatened Species:</u>	41
<u>Listed Migratory Species:</u>	58

### 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.

<u>Commonwealth Lands:</u>	None
<u>Commonwealth Heritage Places:</u>	None
<u>Listed Marine Species:</u>	96
<u>Whales and Other Cetaceans:</u>	30
<u>Critical Habitats:</u>	None
<u>Commonwealth Reserves Terrestrial:</u>	None
<u>Australian Marine Parks:</u>	2
<u>Habitat Critical to the Survival of Marine Turtles:</u>	4

### Extra Information

This part of the report provides information that may also be relevant to the area you have

<u>State and Territory Reserves:</u>	6
<u>Regional Forest Agreements:</u>	None
<u>Nationally Important Wetlands:</u>	None
<u>EPBC Act Referrals:</u>	123
<u>Key Ecological Features (Marine):</u>	4
<u>Biologically Important Areas:</u>	22
<u>Bioregional Assessments:</u>	None
<u>Geological and Bioregional Assessments:</u>	None

## Details

### Matters of National Environmental Significance

#### World Heritage Properties

<u>Name</u>	<u>State</u>	<u>Legal Status</u>	<u>[Resource Information]</u>
<a href="#">The Ningaloo Coast</a>	WA	Declared property	

#### National Heritage Places

<u>Name</u>	<u>State</u>	<u>Legal Status</u>	<u>[Resource Information]</u>
<u>Natural</u>	WA	Listed place	
<a href="#">The Ningaloo Coast</a>			

#### Commonwealth Marine Area

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

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

<u>Scientific Name</u>	<u>Threatened Category</u>	<u>Presence Text</u>
<b>BIRD</b>		

[Callidris acuminata](#)

Sharp-tailed Sandpiper [874]

Vulnerable

Species or species habitat known to occur within area

[Callidris canutus](#)

Red Knot, Knot [855]

Vulnerable

Species or species habitat likely to occur within area

[Callidris ferruginea](#)

Curlew Sandpiper [856]

Critically Endangered

Species or species habitat known to occur within area

[Charadrius leschenaultii](#)

Greater Sand Plover, Large Sand Plover

Vulnerable

Species or species habitat likely to occur within area

[877]

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Erythrorhynchus radiatus</a> Red Goshawk [942]	Endangered	Species or species habitat may occur within area	<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
<a href="#">Limosa lapponica menzibieri</a> Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area	<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	<b>FISH</b>		
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	<a href="#">Milyeringa veritas</a> Cape Range Cave Gudgeon, Blind Gudgeon [66676]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pezoporus occidentalis</a> Night Parrot [59350]	Endangered	Species or species habitat may occur within area	<a href="#">Thunnus maccoyii</a> Southern Bluefin Tuna [69402]	Conservation Dependent	Breeding known to occur within area
<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area	<b>MAMMAL</b>		
<a href="#">Phaethon rubricauda westralis</a> Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area	<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Pterodroma mollis</a> Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Breeding known to occur within area	<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
			<a href="#">Macrodermis gigas</a> Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
			<a href="#">Petrogale lateralis lateralis</a> Black-flanked Rock-wallaby, Moororong, Black-footed Rock Wallaby [66647]	Endangered	Species or species habitat known to occur within area



Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Rhinonicteris aurantia</a> (Pilbara form) Pilbara Leaf-nosed Bat [82790]	Vulnerable	Species or species habitat may occur within area	<a href="#">Prisits zjison</a> Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
<b>REPTILE</b>					
<a href="#">Alpysurus agraeifrontalis</a> Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area	<a href="#">Rhincodon typus</a> Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Alpysurus foliosuama</a> Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area	<a href="#">Sphyrna lewini</a> Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area	<b>Listed Migratory Species [Resource Information]</b>		
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding known to occur within area	<b>Migratory Marine Birds</b>	Threatened Category	Presence Text
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat likely to occur within area
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area	<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	<a href="#">Ardenna carneipes</a> Flesh-footed Shearwater, Fleeshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
<b>SHARK</b>					
<a href="#">Carcharias taurus</a> (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area	<a href="#">Ardenna pacifica</a> Wedge-tailed Shearwater [84292]		Breeding known to occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat likely to occur within area
<a href="#">Prisits clavata</a> Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area	<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
<a href="#">Prisits pristis</a> Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area	<a href="#">Fregata minor</a> Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat known to occur within area	<a href="#">Carcharhinus longimanus</a> Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
<a href="#">Sterna dougallii</a> Roseate Tern [817]		Breeding likely to occur within area	<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Sternula albifrons</a> Little Tern [82849]		Species or species habitat may occur within area	<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding known to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	<a href="#">Dermodochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
<a href="#">Anoxypristis cuspidata</a> Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area	<a href="#">Dugong dugong</a> Dugong [28]		Breeding known to occur within area
<a href="#">Balaenoptera bonaerensis</a> Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area	<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	<a href="#">Eubalaena australis</a> as <a href="#">Balaena glacialis australis</a> Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area	<a href="#">Isurus oxyrinchus</a> Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area	<a href="#">Isurus paucus</a> Longfin Mako [82947]		Species or species habitat likely to occur within area
			<a href="#">Lamna nasus</a> Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding known to occur within area	<a href="#">Sousa sahulensis</a> as <a href="#">Sousa chinensis</a> Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
<a href="#">Mobula alfredi</a> as <a href="#">Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area	<a href="#">Tursiops aduncus</a> ( <a href="#">Arafura/Timor Sea populations</a> ) Spotted Bottlenose Dolphin ( <a href="#">Arafura/Timor Sea populations</a> ) [78900]		Species or species habitat known to occur within area
<a href="#">Mobula birostris</a> as <a href="#">Manta birostris</a> Giant Manta Ray [90034]		Species or species habitat known to occur within area	<b>Migratory Terrestrial Species</b>		
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area	<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat may occur within area
<a href="#">Orcaella heinsohni</a> Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat likely to occur within area	<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area	<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area
<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area	<b>Migratory Wetlands Species</b>		
<a href="#">Pristis clavata</a> Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area	<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area
<a href="#">Pristis pristis</a> Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area	<a href="#">Callidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Pristis zijsron</a> Green Sawfish, Dindagubba, Narnowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area	<a href="#">Callidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Rhincodon typus</a> Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	<a href="#">Callidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
			<a href="#">Callidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
			<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Charadrius veredus</a> Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
<a href="#">Glaucola maldivarum</a> Oriental Pratincole [840]		Species or species habitat may occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area

### Other Matters Protected by the EPBC Act

Scientific Name	Threatened Category	Presence Text
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area
<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat likely to occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
<a href="#">Ardenna carneipes</a> as <a href="#">Puffinus carneipes</a> Flesh-footed Shearwater, Fleishy-footed Shearwater [82404]		Species or species habitat likely to occur within area
<a href="#">Ardenna pacifica</a> as <a href="#">Puffinus pacificus</a> Wedge-tailed Shearwater [84292]		Breeding known to occur within area
<a href="#">Bubulcus ibis</a> as <a href="#">Ardea ibis</a> Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
<a href="#">Callidris acuminata</a> Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Callidris canutus</a> Red Knot, Knot [855]	Vulnerable	Species or species habitat likely to occur within area overfly marine area
<a href="#">Callidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
<a href="#">Callidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
<a href="#">Calonectris leucomelas</a> Streaked Shearwater [1077]		Species or species habitat likely to occur within area
<a href="#">Chalcites osculans</a> as <a href="#">Chrysocolaptes osculans</a> Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Charadrius veredus</a> Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area	<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
<a href="#">Chroicocephalus novaehollandiae</a> as <a href="#">Larus novaehollandiae</a> Silver Gull [82326]		Breeding known to occur within area	<a href="#">Motacilla flava</a> Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
<a href="#">Fregata ariel</a> Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Fregata minor</a> Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area	<a href="#">Onychoprion fuscatus</a> as <a href="#">Sterna fuscata</a> Sooty Tern [90682]		Breeding known to occur within area
<a href="#">Glareola maldivarum</a> Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area	<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	<a href="#">Phaethon lepturus</a> White-tailed Tropicbird [1014]		Species or species habitat known to occur within area
<a href="#">Hirundo rustica</a> Barn Swallow [662]		Species or species habitat may occur within area overfly marine area	<a href="#">Phaethon lepturus fulvus</a> Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area	<a href="#">Pterodroma mollis</a> Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	<a href="#">Rostratula australis</a> as <a href="#">Rostratula benghalensis</a> ( <i>sensu lato</i> ) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	<a href="#">Sterna dougallii</a> Roseate Tern [817]		Breeding likely to occur within area
			<a href="#">Sternula albifrons</a> as <a href="#">Sterna albifrons</a> Little Tern [82849]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Sternula nereis</a> as <a href="#">Sternula nereis</a> Fairy Tern [82949]		Breeding known to occur within area	<a href="#">Corythoichthys flavofasciatus</a> Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	<a href="#">Cosmocampus banneri</a> Roughridge Pipefish [66206]		Species or species habitat may occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	<a href="#">Dorythamphus dactylophorus</a> Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
<a href="#">Thalasseus bengalensis</a> as <a href="#">Sterna bengalensis</a> Lesser Crested Tern [66546]		Breeding known to occur within area	<a href="#">Dorythamphus exoisis</a> Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	<a href="#">Dorythamphus janssi</a> Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
<b>Fish</b>					
<a href="#">Acentronura larsonae</a> Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area	<a href="#">Dorythamphus multiamulatus</a> Many-banded Pipefish [66717]		Species or species habitat may occur within area
<a href="#">Bulbonaricus brauni</a> Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area	<a href="#">Dorythamphus negrosensis</a> Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
<a href="#">Campichthys tricarinatus</a> Three-keel Pipefish [66192]		Species or species habitat may occur within area	<a href="#">Festucalex scalaris</a> Ladder Pipefish [66216]		Species or species habitat may occur within area
<a href="#">Choeroichthys brachysoma</a> Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area	<a href="#">Filicampus tigris</a> Tiger Pipefish [66217]		Species or species habitat may occur within area
<a href="#">Choeroichthys latispinosus</a> Muiron Island Pipefish [66196]		Species or species habitat may occur within area	<a href="#">Hallicampus brocki</a> Brock's Pipefish [66219]		Species or species habitat may occur within area
<a href="#">Choeroichthys sullius</a> Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	<a href="#">Hallicampus grayi</a> Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Halicampus nitidus</a> Glittering Pipefish [66224]		Species or species habitat may occur within area	<a href="#">Phoxocampus belcheri</a> Black Rock Pipefish [66719]		Species or species habitat may occur within area
<a href="#">Halicampus spinirostris</a> Spiny-snout Pipefish [66225]		Species or species habitat may occur within area	<a href="#">Solegnathus hardwickii</a> Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
<a href="#">Hallichthys taeniophorus</a> Ribbioned Pipehorse, Ribbioned Seadragon [66226]		Species or species habitat may occur within area	<a href="#">Solegnathus lettienis</a> Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
<a href="#">Hippichthys penicillus</a> Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	<a href="#">Solenostomus cyanopterus</a> Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
<a href="#">Hippocampus angustus</a> Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area	<a href="#">Syngnathoides biaculeatus</a> Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
<a href="#">Hippocampus histrix</a> Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area	<a href="#">Trachyrhamphus bicoarctatus</a> Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
<a href="#">Hippocampus kuda</a> Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area	<a href="#">Trachyrhamphus longirostris</a> Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
<a href="#">Hippocampus planifrons</a> Flat-face Seahorse [66238]		Species or species habitat may occur within area			
<a href="#">Hippocampus spinosissimus</a> Hedgehog Seahorse [66239]		Species or species habitat may occur within area	<b>Mammal</b> <a href="#">Dugong dugon</a> Dugong [28]		Breeding known to occur within area
<a href="#">Hippocampus trimaculatus</a> Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area	<b>Reptile</b> <a href="#">Alpysurus apraefrontalis</a> Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Micrognathus micronotopterus</a> Tidepool Pipefish [66255]		Species or species habitat may occur within area	<a href="#">Alpysurus duboisii</a> Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
			<a href="#">Alpysurus foliosuama</a> Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area



Scientific Name	Threatened Category	Presence Text	Scientific Name	Threatened Category	Presence Text
<a href="#">Alipysurus laevis</a> Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area	<a href="#">Hydrophis major</a> as <a href="#">Disteira major</a> Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
<a href="#">Alipysurus mosaicus</a> as <a href="#">Alipysurus eydouxii</a> Mosaic Sea Snake [87261]		Species or species habitat may occur within area	<a href="#">Hydrophis ornatulus</a> Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
<a href="#">Alipysurus tenuis</a> Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area	<a href="#">Hydrophis peronii</a> as <a href="#">Acalyptophis peronii</a> Horned Sea Snake [93509]		Species or species habitat may occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area	<a href="#">Hydrophis platurus</a> as <a href="#">Pelamis platurus</a> Yellow-bellied Sea Snake [93517]		Species or species habitat may occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding known to occur within area	<a href="#">Hydrophis stokesii</a> as <a href="#">Astrotia stokesii</a> Stokes' Sea Snake [93510]		Species or species habitat may occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
<a href="#">Eimydocephalus annulatus</a> Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area	<b>Whales and Other Cetaceans</b> [Resource Information]		
<a href="#">Ephalophis grevi</a> Mangrove Sea Snake [1127]		Species or species habitat may occur within area	Current Scientific Name	Status	Type of Presence
<a href="#">Eretmochelys imbricata</a> Hawksbill Turtle [1766]	Vulnerable	Species or species habitat may occur within area	Mammal		
<a href="#">Hydrophis czebulukovi</a> Fine-spined Sea Snake [59233]		Breeding known to occur within area	<a href="#">Balaenoptera acutorostrata</a> Minke Whale [33]		Species or species habitat may occur within area
<a href="#">Hydrophis elegans</a> Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area	<a href="#">Balaenoptera bonaerensis</a> Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
<a href="#">Hydrophis kingii</a> as <a href="#">Disteira kingii</a> Spectacled Sea Snake [93511]		Species or species habitat may occur within area	<a href="#">Balaenoptera borealis</a> Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
		Species or species habitat may occur within area	<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence	Current Scientific Name	Status	Type of Presence
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Migration route known to occur within area	<a href="#">Mesoplodon densirostris</a> Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
<a href="#">Balaenoptera physalus</a> Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	<a href="#">Orcaella heinsohni</a> Australian Snubfin Dolphin [81322]		Species or species habitat likely to occur within area
<a href="#">Delphinus delphis</a> Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	<a href="#">Peponocephala electra</a> Melon-headed Whale [47]		Species or species habitat may occur within area
<a href="#">Ereia attenuata</a> Pygmy Killer Whale [61]		Species or species habitat may occur within area	<a href="#">Physeter macrocephalus</a> Sperm Whale [59]		Species or species habitat may occur within area
<a href="#">Globicephala macrohynchus</a> Short-finned Pilot Whale [62]		Species or species habitat may occur within area	<a href="#">Pseudorca crassidens</a> False Killer Whale [48]		Species or species habitat likely to occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	<a href="#">Sousa sahulensis</a> Australian Humpback Dolphin [87942]		Species or species habitat known to occur within area
<a href="#">Kogia breviceps</a> Pygmy Sperm Whale [57]		Species or species habitat may occur within area	<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
<a href="#">Kogia sima</a> Dwarf Sperm Whale [85043]		Species or species habitat may occur within area	<a href="#">Stenella coeruleoalba</a> Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
<a href="#">Lagenodelphis hosei</a> Fraser's Dolphin, Sarawak Dolphin [71]		Species or species habitat may occur within area	<a href="#">Stenella longirostris</a> Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]		Breeding known to occur within area	<a href="#">Steno bredanensis</a> Rough-toothed Dolphin [30]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
<a href="#">Tursiops aduncus</a>		Species or species habitat likely to occur within area
Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		
<a href="#">Tursiops aduncus (Arafura/Timor Sea populations)</a>		Species or species habitat known to occur within area
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		
<a href="#">Tursiops truncatus s. str.</a>		Species or species habitat may occur within area
Bottlenose Dolphin [68417]		
<a href="#">Ziphius cavirostris</a>		Species or species habitat may occur within area
Cuvier's Beaked Whale, Goose-beaked Whale [56]		

[Resource Information]	
Australian Marine Parks	Zone & IUCN Categories
Park Name	Habitat Protection Zone (IUCN IV)
Gascoyne	
Gascoyne	Multiple Use Zone (IUCN VI)

[Resource Information]	
Habitat Critical to the Survival of Marine Turtles	Behaviour
Scientific Name	Presence
Aug - Sep	
<a href="#">Natator depressus</a>	
Flatback Turtle [59257]	Nesting
	Known to occur
Dec - Jan	
<a href="#">Chelonia mydas</a>	
Green Turtle [1765]	Nesting
	Known to occur
Nov-Feb	
<a href="#">Caretta caretta</a>	
Loggerhead Turtle [1763]	Nesting
	Known to occur
Nov - May	
<a href="#">Eretmochelys imbricata</a>	
Hawksbill Turtle [1766]	Nesting
	Known to occur

## Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	
Cape Range (South)	National Park	WA	
Muiron Islands	Nature Reserve	WA	
Muiron Islands	Marine Management Area	WA	
Ningaloo	Marine Park	WA	
Nynguulu (Ningaloo) Coastal Reserve	5(1)(h) Reserve	WA	
Serrurier Island	Nature Reserve	WA	

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	
<a href="#">Gorgon Gas Development</a>	2003/1294		Post-Approval	
<a href="#">Project Highclere Cable Lay and Operation</a>	2022/09203		Completed	
<b>Action clearly unacceptable</b>				
<a href="#">Highlands 3D Marine Seismic Survey</a>	2012/6680	Action Clearly Unacceptable	Completed	
<b>Controlled action</b>				
<a href="#">Van Gogh Petroleum Field Development</a>	2007/3213	Controlled Action	Post-Approval	
<a href="#">Construct and operate LNG &amp; domestic gas plant including onshore and offshore facilities - Wheatston</a>	2008/4469	Controlled Action	Post-Approval	
<a href="#">Develop Jansz-Lo deepwater gas field in Permit Areas WA-18-R, WA-25-R and WA-26-</a>	2005/2184	Controlled Action	Post-Approval	
<a href="#">Development of Coniston/Novara fields within the Exmouth Sub-basin</a>	2011/5995	Controlled Action	Post-Approval	
<a href="#">Development of Stybarrow petroleum field incl drilling and facility installation</a>	2004/1469	Controlled Action	Post-Approval	
<a href="#">Enfield full field development</a>	2001/257	Controlled Action	Post-Approval	

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Controlled action</b> <a href="#">Equus Gas Fields Development Project, Carnarvon Basin</a>	2012/6301	Controlled Action	Completed
<a href="#">Gorgon Gas Development 4th Train Proposal</a>	2011/5942	Controlled Action	Post-Approval
<a href="#">Greater Enfield (Vincent) Development</a>	2005/2110	Controlled Action	Post-Approval
<a href="#">Light Crude Oil Production</a>	2001/365	Controlled Action	Post-Approval
<a href="#">Pluto Gas Project</a>	2005/2258	Controlled Action	Completed
<a href="#">Pluto Gas Project Including Site B</a>	2006/2968	Controlled Action	Post-Approval
<a href="#">Pyrenees Oil Fields Development</a>	2005/2034	Controlled Action	Post-Approval
<a href="#">The Scarborough Project - FLNG &amp; assoc subsea infrastructure, Carnarvon Basin</a>	2013/6811	Controlled Action	Post-Approval
<a href="#">Vincent Appraisal Well</a>	2000/22	Controlled Action	Post-Approval
<b>Not controlled action</b>			
<a href="#">Van Gogh' Oil Appraisal Drilling Program, Exploration Permit Area WA-155-P(1)</a>	2006/3148	Not Controlled Action	Completed
<a href="#">Bollinger 2D Seismic Survey 200km North of North West Cape WA</a>	2004/1868	Not Controlled Action	Completed
<a href="#">Bultaco-2, Laverda-2, Laverda-3 and Montesa-2 Appraisal Wells</a>	2000/103	Not Controlled Action	Completed
<a href="#">Carnarvon 3D Marine Seismic Survey</a>	2004/1890	Not Controlled Action	Completed
<a href="#">Cazadores 2D seismic survey</a>	2004/1720	Not Controlled Action	Completed
<a href="#">Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for</a>	2004/1703	Not Controlled Action	Completed
<a href="#">Controlled Source Electromagnetic Survey</a>	2007/3262	Not Controlled Action	Completed
<a href="#">Development of Halyard Field off the west coast of WA</a>	2010/5611	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b> <a href="#">Exploration drilling well WA-155-P(1)</a>	2003/971	Not Controlled Action	Completed
<a href="#">Exploration of appraisal wells</a>	2006/3065	Not Controlled Action	Completed
<a href="#">Exploration Well in Permit Area WA-155-P(1)</a>	2002/759	Not Controlled Action	Completed
<a href="#">Exploratory drilling in permit area WA-225-P</a>	2001/490	Not Controlled Action	Completed
<a href="#">HCA05X Macedon Experimental Survey</a>	2004/1926	Not Controlled Action	Completed
<a href="#">Hess Exploration Drilling Programme</a>	2007/3566	Not Controlled Action	Completed
<a href="#">Improving rabbit biocontrol: releasing another strain of RHDV, sthnm two thirds of Australia</a>	2015/7522	Not Controlled Action	Completed
<a href="#">Infill Production Well (Griffin-9)</a>	2001/417	Not Controlled Action	Completed
<a href="#">Jansz-2 and 3 Appraisal Wells</a>	2002/754	Not Controlled Action	Completed
<a href="#">Klammer 2D Seismic Survey</a>	2002/868	Not Controlled Action	Completed
<a href="#">Montesa-1 and Bultaco-1 Exploration Wells</a>	2000/102	Not Controlled Action	Completed
<a href="#">Project Highclere Geophysical Survey</a>	2021/9023	Not Controlled Action	Completed
<a href="#">Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline</a>	2005/2033	Not Controlled Action	Completed
<a href="#">Wanda Offshore Research Project, 80 km north-east of Exmouth, WA</a>	2018/8293	Not Controlled Action	Completed
<a href="#">Wheatstone 3D seismic survey, 70km north of Barrow Island</a>	2004/1761	Not Controlled Action	Completed
<b>Not controlled action (particular manner)</b> <a href="#">'Kate' 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km</a>	2005/2037	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">'Tourmaline' 2D marine seismic survey, permit areas WA-323-P, WA-330-P and WA-32</a>	2005/2282	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b> "Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D seismic surveys	2005/2151	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey	2012/6296	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey	2008/4281	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey over petroleum title WA-268-P	2007/3458	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13 offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, WA	2008/4428	Not Controlled Action (Particular Manner)	Post-Approval
Apache Northwest Shelf Van Gogh Field Appraisal Drilling Program	2007/3495	Not Controlled Action (Particular Manner)	Post-Approval
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
<b>Not controlled action (particular manner)</b>			
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081	Not Controlled Action (Particular Manner)	Post-Approval
Bahaves Condensate Field Development	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
Bonaventure 3D seismic survey	2006/2514	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
Coverack Marine Seismic Survey	2001/399	Not Controlled Action (Particular Manner)	Post-Approval
Cue Seismic Survey within WA-359-P, WA-361-P and WA-360-P	2007/3647	Not Controlled Action (Particular Manner)	Post-Approval
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Drilling Program	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">Drilling 35-40 offshore exploration wells in deep water</a>	2008/4461	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Eendracht Multi-Client 3D Marine Seismic Survey</a>	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Enfield M3 &amp; Vincent 4D Marine Seismic Surveys</a>	2008/3981	Not Controlled Action (Particular Manner)	Completed
<a href="#">Enfield M3 4D, Vincent 4D &amp; 4D Line Test Marine Seismic Surveys</a>	2008/4122	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Enfield M4 4D Marine Seismic Survey</a>	2008/4558	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Enfield oilfield 3D Seismic Survey</a>	2006/3132	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Exmouth West 2D Marine Seismic Survey</a>	2008/4132	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Exploration drilling of Zeus-1 well</a>	2008/4351	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Foxhound 3D Non-Exclusive Marine Seismic Survey</a>	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L</a>	2010/5570	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Geco Eagle 3D Marine Seismic Survey</a>	2008/3958	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Glencoe 3D Marine Seismic Survey WA-390-P</a>	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b>			
<a href="#">Guacamole 2D Marine Seismic Survey</a>	2008/4381	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Harmony 3D Marine Seismic Survey</a>	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Honeycombs MC3D Marine Seismic Survey</a>	2012/6368	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA</a>	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA</a>	2013/7093	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">John Ross &amp; Rosella Off Bottom Cable Seismic Exploration Program</a>	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Julimar Brunello Gas Development Project</a>	2011/5936	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Klimt 2D Marine Seismic Survey</a>	2007/3856	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey</a>	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Leopard 2D marine seismic survey</a>	2005/2290	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Lion 2D Marine Seismic Survey</a>	2007/3777	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Macedon Gas Field Development</a>	2008/4605	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Marine reconnaissance survey</a>	2008/4466	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Munmorah 2D seismic survey within permits WA-308/9-P</a>	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Ocean Bottom Cable Seismic Program WA-264-P</a>	2007/3844	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Ocean Bottom Cable Seismic Survey</a>	2005/2017	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Orcus 3D Marine Seismic Survey in WA-450-P</a>	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Osprey and Dionysus Marine Seismic Survey</a>	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Palla-1 exploration well in Petroleum Permit Area WA-384-P</a>	2011/5871	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P</a>	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Pyrenees 4D Marine Seismic Monitor Survey HCA12A</a>	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Pyrenees-Macedon 3D marine seismic survey</a>	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Rose 3D Seismic Program</a>	2008/4239	Not Controlled Action (Particular Manner)	Post-Approval
Title of referral Not controlled action (particular manner)	Reference	Referral Outcome	Assessment Status
<a href="#">Rydal-1 Petroleum Exploration Well WA</a>	2012/6522	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Salsa 3D Marine Seismic Survey</a>	2010/5629	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Santos Winchester three dimensional seismic survey - WA-323-P &amp; WA-330-P</a>	2011/6107	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Skorpion Marine Seismic Survey WA</a>	2001/416	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Sovereign 3D Marine Seismic Survey</a>	2011/5861	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Stybarrow 4D Marine Seismic Survey</a>	2011/5810	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Stybarrow Baseline 4D marine seismic survey</a>	2008/4530	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Tortilla 2D Seismic Survey WA</a>	2011/6110	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Triton 3D Marine Seismic Survey WA-2-R and WA-3-R</a>	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Undertake a three dimensional marine seismic survey</a>	2010/5679	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Vincent M1 and Enfield M5 4D Marine Seismic Survey</a>	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval



Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action (particular manner)</b> <a href="#">Warramunga Non-Inclusive 3D Seismic Survey</a>	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">West Anchor 3D Marine Seismic Survey</a>	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Westralia SPAN Marine Seismic Survey, WA &amp; NT</a>	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Wheatstone 3D MAZ Marine Seismic Survey</a>	2011/6058	Not Controlled Action (Particular Manner)	Post-Approval
<a href="#">Wheatstone Jago Appraisal Well Drilling</a>	2008/4134	Not Controlled Action (Particular Manner)	Post-Approval
<b>Referral decision</b> <a href="#">3D Seismic Survey</a>	2008/4219	Referral Decision	Completed
<a href="#">Bianchi 3D Marine Seismic Survey, Carnarvon Basin, WA</a>	2013/7078	Referral Decision	Completed
<a href="#">CVG 3D Marine Seismic Survey</a>	2012/6270	Referral Decision	Completed
<a href="#">Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L</a>	2005/2370	Referral Decision	Completed
<a href="#">Rose 3D Seismic acquisition survey</a>	2008/4220	Referral Decision	Completed
<a href="#">Stybarrow Baseline 4D Marine Seismic Survey (Permit Areas WA-255-P, WA-32-L, WA-</a>	2008/4165	Referral Decision	Completed

### **Key Ecological Features** [\[ Resource Information \]](#)

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
<a href="#">Ancient coastline at 125 m depth contour</a>	North-west
<a href="#">Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula</a>	North-west

Name	Region
<a href="#">Continental Slope Demersal Fish Communities</a>	North-west
<a href="#">Exmouth Plateau</a>	North-west

### **Biologically Important Areas**

Scientific Name	Behaviour	Presence
<a href="#">Dugong</a>		
<a href="#">Dugong dugon</a>		
<a href="#">Dugong [28]</a>	Breeding	Known to occur
<a href="#">Dugong dugon</a>		
<a href="#">Dugong [28]</a>	Calving	Known to occur
<a href="#">Dugong dugon</a>		
<a href="#">Dugong [28]</a>	Foraging (high density seagrass beds)	Known to occur
<a href="#">Dugong dugon</a>		
<a href="#">Dugong [28]</a>	Nursing	Known to occur
<b>Marine Turtles</b>		
<a href="#">Caretta caretta</a>		
<a href="#">Loggerhead Turtle [1763]</a>	Interesting buffer	Known to occur
<a href="#">Caretta caretta</a>		
<a href="#">Loggerhead Turtle [1763]</a>	Nesting	Known to occur
<a href="#">Chelonia mydas</a>		
<a href="#">Green Turtle [1765]</a>	Interesting buffer	Known to occur
<a href="#">Chelonia mydas</a>		
<a href="#">Green Turtle [1765]</a>	Nesting	Known to occur
<a href="#">Eretmochelys imbricata</a>		
<a href="#">Hawksbill Turtle [1766]</a>	Interesting buffer	Known to occur
<a href="#">Eretmochelys imbricata</a>		
<a href="#">Hawksbill Turtle [1766]</a>	Nesting	Known to occur
<a href="#">Natator depressus</a>		
<a href="#">Flatback Turtle [59257]</a>	Interesting buffer	Known to occur

Scientific Name	Behaviour	Presence
<a href="#">Nator depressus</a>		
Flatback Turtle [59257]	Nesting	Known to occur
<b>Seabirds</b>		
<a href="#">Ardenna pacifica</a>		
Wedge-tailed Shearwater [84292]	Breeding	Known to occur
<a href="#">Sterna dougalli</a>		
Roseate Tern [817]	Breeding	Known to occur
<a href="#">Sternula nereis</a>		
Fairy Tern [82949]	Breeding	Known to occur
<a href="#">Thalasseus bengalensis</a>		
Lesser Crested Tern [66546]	Breeding	Known to occur
<b>Sharks</b>		
<a href="#">Rhincodon typus</a>		
Whale Shark [66680]	Foraging	Known to occur
<a href="#">Rhincodon typus</a>		
Whale Shark [66680]	Foraging (high density prey)	Known to occur
<b>Whales</b>		
<a href="#">Balaenoptera musculus brevicauda</a>		
Pygmy Blue Whale [81317]	Distribution	Known to occur
<a href="#">Balaenoptera musculus brevicauda</a>		
Pygmy Blue Whale [81317]	Foraging	Known to occur
<a href="#">Balaenoptera musculus brevicauda</a>		
Pygmy Blue Whale [81317]	Migration	Known to occur
<a href="#">Megaptera novaeangliae</a>		
Humpback Whale [38]	Migration (north and south)	Known to occur

## Caveat

### 1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wellands 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.

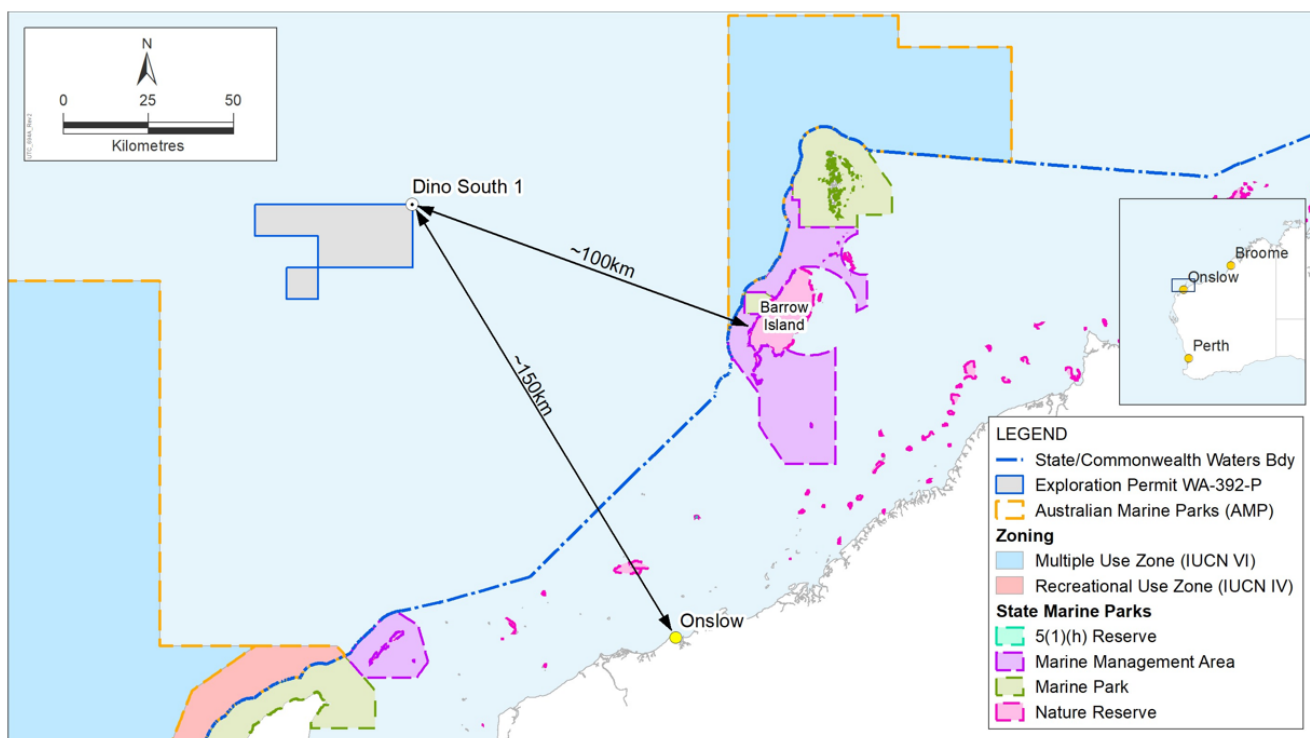
Please feel free to provide feedback via the [Contact us](#) page.

## appendix c consultation material

# dino south-1 exploration drilling

## environment plan stakeholder consultation

May 2022



### overview

Chevron Australia is planning to conduct exploration drilling within the Northern Carnarvon Basin off the northwest coast of Western Australia during 2023.

The proposed exploration well, Dino South-1, is targeting a dry gas reservoir within exploration permit WA-392-P in Commonwealth waters.

### location and water depth

The proposed Dino South-1 exploration well is located ~150 km northwest of Onslow, and ~100 km west of Barrow Island, in water depths of ~954 m and at the coordinates in the following table.

Latitude (WGS 84)	Longitude (WGS 84)
-20.499	114.417

An Operational Area, with a 5 km radius around the location of the Dino South-1 exploration well, has been set and all petroleum activities will be undertaken within this Operational Area

### schedule and duration

Exploration drilling activities are scheduled to commence during Q2/Q3 2023, subject to approvals and drill rig availability.

The drilling and associated activities are estimated to take ~50 days to complete. Activities will be conducted 24 hours/day and 7 days/week.

### activity summary

The petroleum activity includes:

- MODU positioning and general operations

- drilling
- formation evaluation
- well plug and abandonment
- field support (general vessel, helicopter, and ROV operations).

A semi-submersible mobile offshore drilling unit (MODU) will be used for the exploration drilling at Dino South-1, with up to two vessels supporting the activities. The MODU will be positioned using a mooring system. General operational activities occurring at the MODU include bunkering, bulk transfers of materials or supplies, solids control, and use of the helipad for personnel transfers.

Well design and drilling methods will be defined within the Well Operations Management Plan. The exploration drilling may use several types of drill fluids including seawater with high-viscosity gel sweeps, water-based muds, non-aqueous drill fluids, and/or potassium chloride. A blowout preventer will be installed after the top-hole section has been completed.

A standard data acquisition program is planned for formation evaluation, including mudlogging and logging while drilling.

Following completion of the drilling and evaluation activities, the Dino South-1 well will be permanently plugged and abandoned, and the wellhead removed.

### **exclusion zone**

A 500 m safety exclusion zone will be requested around the MODU for the duration of the exploration drilling activities.

### **approvals process**

Petroleum activities in Commonwealth waters are regulated by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Before petroleum activities can take place, Chevron Australia must develop an Environment Plan which will be assessed by NOPSEMA in accordance with the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations (2009).

The Environment Plan will describe the environment in which the petroleum activity takes place, an assessment of the potential environmental impacts and risks arising from the activity, and the identification of control measures to manage environmental impacts and risks to acceptable levels that are as low as reasonably practicable.

The Environment Plan is also required to describe how relevant stakeholders, whose interests, functions or activities may be affected, have been identified, engaged and consulted. The Environment Plan must include how feedback has been considered and addressed.

### **commercial fishing**

Chevron Australia recognises the commercial fishing sector is an important and relevant stakeholder group whose members may be affected by the exploration drilling.

Chevron Australia is committed to engaging early and working proactively with the commercial fishing sector and will provide responses to any stakeholders that identify an interest in our planned activities.

### **implications for stakeholders**

Chevron Australia define an aspect as an element of an activity that has the potential to interact with the environment. Relevant potential impacts and risks are identified for each of these aspects and evaluated in detail within the Environment Plan. Control measures are assigned to each aspect to eliminate, prevent, reduce, or mitigate consequences associated with each identified environmental impact and risk.

The aspects and the proposed control measures to be implemented during exploration drilling are summarised in the following table.

Further details will be provided in the Environment Plan and will incorporate feedback generated during the consultation process.

Aspect	Proposed control measures
Physical presence	<ul style="list-style-type: none"> <li>• Marine safety information to be issued via AUSCOAST and/or Notice to Mariners prior to commencing activities.</li> <li>• Relevant stakeholders will be advised of the commencement of activities and any relevant exclusion zone information.</li> <li>• Vessels will meet the crew competency, navigation equipment, and radar requirements of Chevron Australia's Marine, Safety Reliability and Efficiency (MSRE) process.</li> <li>• In accordance with <i>EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</i>, vessels will implement caution and no approach zones, where practicable.</li> </ul>
Seabed disturbance	<ul style="list-style-type: none"> <li>• Mooring analysis will be undertaken before MODU anchoring, as per the requirements of API RP 2SK (Design and analysis of stationkeeping systems for floating structures).</li> <li>• Monitoring of mooring line tension as per the requirements of ISO 19901-7:2013 (Stationkeeping systems for floating offshore structures and mobile offshore units)</li> <li>• Vessels will meet the crew competency, navigation equipment, and radar requirements of Chevron Australia's MSRE process.</li> </ul>
Air emissions	<ul style="list-style-type: none"> <li>• Vessels will comply with the requirements of Marine Order 97 (MARPOL 73/78 Annex VI), including: <ul style="list-style-type: none"> <li>• sulfur content of fuel oils</li> <li>• nitrous oxides emissions limits</li> <li>• having a valid International Air Pollution Prevention Certificate</li> <li>• having a valid Ship Energy Efficiency Management Plan (appropriate to vessel class).</li> </ul> </li> </ul>
Underwater sound	<ul style="list-style-type: none"> <li>• In accordance with <i>EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans</i>, vessels will implement caution and no approach zones, where practicable.</li> </ul>
Invasive marine pests	<ul style="list-style-type: none"> <li>• Vessels will meet the requirements of Chevron Australia's Quarantine Procedure for Marine Vessels.</li> <li>• Ballast water exchanges will be managed in accordance with the Australian Ballast Water Management Requirements.</li> <li>• Vessels will comply with the requirements of Marine Order 98 in relation to anti-fouling systems.</li> <li>• Where required, vessel pre-arrival information will be reported through the Maritime Arrivals Reporting System as per the Commonwealth <i>Biosecurity Act 2015</i>.</li> </ul>
Planned discharge (MODU and vessel operations)	<ul style="list-style-type: none"> <li>• Vessels will comply with the requirements of Marine Order 96 (MARPOL 73/78 Annex IV) in relation to sewage discharge.</li> <li>• Vessels will comply with the requirements of Marine Order 95 (MARPOL 73/78 Annex V) in relation to food waste discharge.</li> <li>• Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to oily bilge water discharges.</li> </ul>
Planned discharges (drilling)	<ul style="list-style-type: none"> <li>• Hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment prior to commencement of activities, as per Chevron Australia's Hazardous Materials Management Procedure.</li> <li>• Discharges of drilling fluids and cuttings will be managed in accordance with Chevron Australia's Well Fluid Field Guidelines Offshore.</li> <li>• Drilling and cementing procedures will be in place prior to commencement of activities.</li> <li>• Critical equipment will be maintained in accordance with manufacturers specifications.</li> </ul>
Unplanned release (waste)	<ul style="list-style-type: none"> <li>• Vessels will comply with the requirements of Marine Order 95 (MARPOL 73/78 Annex V) in relation to managing waste offshore.</li> </ul>
Unplanned release (minor loss of containment)	<ul style="list-style-type: none"> <li>• Vessels will meet the requirements of Chevron Australia's MSRE process, including the pre-mobilisation inspections of equipment, couplings, containment, and bunkering procedures.</li> <li>• Hazardous materials that could be discharged to the environment will undergo a detailed environmental assessment prior to commencement of activities, as per Chevron Australia's Hazardous Materials Management Procedure.</li> <li>• Critical equipment will be maintained in accordance with manufacturers specifications.</li> <li>• Bulk transfers of drilling fluids to be undertaken in accordance with Chevron Australia's Well Fluid Field Guidelines Offshore.</li> </ul>



Aspect	Proposed control measures
	<ul style="list-style-type: none"> <li>Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to having an approved Ship Oil Pollution Emergency Plan in place.</li> </ul>
Unplanned release (vessel spill)	<ul style="list-style-type: none"> <li>Vessels will meet the crew competency, navigation equipment, and radar requirements of Chevron Australia's MSRE process.</li> <li>Marine safety information to be issued via AUSCOAST and/or Notice to Mariners prior to commencing activities.</li> <li>Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to having an approved Ship Oil Pollution Emergency Plan in place.</li> <li>Emergency response implemented in accordance with the response arrangements and strategies detailed in Chevron Australia's Oil Pollution Emergency Plan.</li> <li>Where required, operational and scientific monitoring undertaken in accordance with Chevron Australia's Operational and Scientific Monitoring Plan.</li> </ul>
Unplanned release (loss of well control)	<ul style="list-style-type: none"> <li>A NOPSEMA-accepted Well Operations Management Plan will be in place prior to the commencement of activities.</li> <li>Certifications as required by Chevron Australia's Wellsafe Standard Operating Procedure will be in place prior to commencement of activities.</li> <li>A blowout preventer will be installed and tested.</li> <li>Critical equipment will be maintained in accordance with manufacturers specifications.</li> <li>Emergency response (including source control) implemented in accordance with the response arrangements and strategies detailed in Chevron Australia's Oil Pollution Emergency Plan.</li> <li>Where required, operational and scientific monitoring undertaken in accordance with Chevron Australia's Operational and Scientific Monitoring Plan.</li> </ul>

**providing feedback**

Feedback from stakeholders on potential or perceived impacts associated with Chevron Australia's activities will be carefully considered and assessed.

Please note Chevron Australia is required to include stakeholder feedback and Chevron Australia's response to that feedback, in the Environment Plan.

If feedback is identified as sensitive by a stakeholder, Chevron Australia will make this known to NOPSEMA in order for the information to remain confidential.

Feedback can be directed to:

Jeff Hunter  
HSE - Regulatory Affairs Advisor  
[abuenvplaninfo@chevron.com](mailto:abuenvplaninfo@chevron.com)  
(08) 9216 4525

relevant persons information

# dino south-1 exploration drilling

Chevron Australia is planning to conduct exploration drilling within the Northern Carnarvon Basin off the northwest coast of Western Australia between 2023 and 2025, to search for and confirm new gas resources.

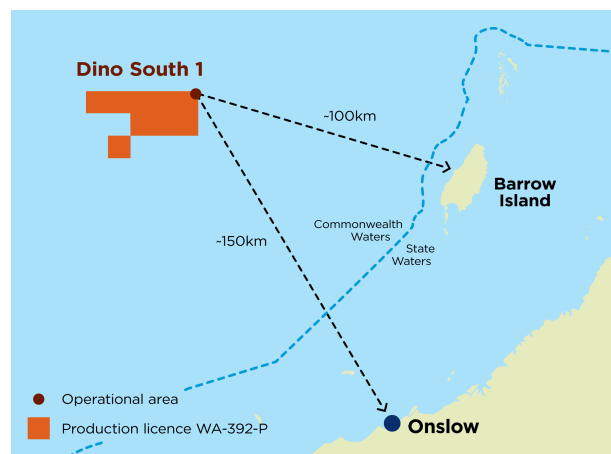
The proposed exploration well, Dino South-1, is targeting a dry gas reservoir within exploration permit WA-392-P in Commonwealth waters.

## location and water depth



The proposed well is located approximately 150 kilometres northwest of Onslow, and approximately 100 kilometres west of Barrow Island, at -20.499 latitude and 114.417 longitude, at a depth of approximately 954 meters.

All activities will be undertaken within a five-kilometre radius of the well.



[Jump to detailed maps below](#)

## schedule and duration

Drilling is scheduled to commence between 2023 and 2025, subject to approvals and drill rig availability. Activities will be conducted 24/7 for up to approximately 50 days.

## activity summary

A mobile offshore drilling unit (MODU) will drill a well below the seabed. It may be supported by up to three vessels.

The well will be drilled and a casing will be cemented into the ocean floor. The well is then drilled deeper from inside the casing. Following the shallow hole drilling a wellhead is installed on the seabed to support the deeper casings.

A blow-out preventer will be installed on top of the wellhead to enable control and monitoring of the well during drilling operations and to prevent an uncontrolled water, oil or gas flow out of the well.

A marine riser will be installed to provide a physical connection between the well and the MODU.

The process of drilling and casing the hole continues until the target gas reservoir of the well is reached.

Upon reaching the target gas reservoir, experts will evaluate the geological formation.

Once these activities are completed, the well will be plugged with cement at various depths and the wellhead will be removed below the seabed.

## EMBA – environment that may be affected

Drilling activities will have the potential for environment interactions, known as 'aspects'.

All planned aspects can result in environmental impacts and changes to the environment and may present environmental risks within the operational area, with the exception of underwater sound emission, which could extend approximately 14 kilometres from the source.

Unplanned releases and events may occur while conducting activities.

The size of the 'environment that may be affected', also known as an 'EMBA' is based on an emergency condition's worst case environmental scenario, which in this case is an unplanned spill event from a loss of well control.

The EMBA has been defined through combining 300 simulations of loss of well control under three different hydrological and meteorological conditions. [Figure 2](#) shows the EMBA.

Control measures to prevent this event are in place, but Chevron Australia is required to assess this highly unlikely scenario.

In this scenario, cultural, ecological and social values and sensitivities may be exposed to hydrocarbons. These are considered environmental risks because they are not

planned to occur.

[Table 1](#) lists the potential environmental impacts, risks and control measures.

## marine exclusion zone

A 500-metre safety exclusion zone will be requested around the drilling unit for the duration of the exploration drilling activities.

## approvals process

Petroleum activities in Commonwealth waters are regulated by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). Before petroleum activities can take place, Chevron Australia must develop an Environment Plan which will be assessed by NOPSEMA in accordance with the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations (2009). These regulations require Chevron Australia to consult with relevant persons whose functions, interests and activities may be affected by the petroleum activity.

The Environment Plan will describe the environment in which the petroleum activity takes place, provide an assessment of the potential environmental impacts and risks arising from the activity, and identify control measures to manage environmental impacts and risks to acceptable levels that are as low as reasonably practicable.

The environment plans outline how Chevron Australia has engaged with 'relevant persons', whose interests, functions, and activities may be affected and how their feedback has been considered and addressed.

Exploratory drilling environment plans must be submitted to NOPSEMA and published on its website for a 30-day public comment period.

Chevron Australia welcomes feedback from relevant persons prior to the public comment period to ensure feedback is incorporated into the draft environment plan before it is submitted to NOPSEMA and published on NOPSEMA's website.

## impacts, risks and proposed controls

Summary of impacts/risks and key proposed controls – view [Table 1](#).

## your feedback

We are committed to engaging with Traditional Owners and Custodians, commercial fishers, recreational groups and other relevant individuals and organisations, as required by regulation.

We are seeking your feedback if you consider your **functions, interests or activities** may be affected based on the information outlined in [table 1](#).

Let us know if you consider there are any control measures we could implement to eliminate, reduce or avoid an effect.

You can contact us tollfree at **1800 225 195** or leave feedback online below.

If a relevant person asks that their feedback be treated as confidential, Chevron Australia will make this known to NOPSEMA and the information will be kept confidential.

To begin providing feedback for **Dino South-1**, select a feedback category

## what's next

Your feedback during the consultation period will be considered and incorporated into the environment plan.

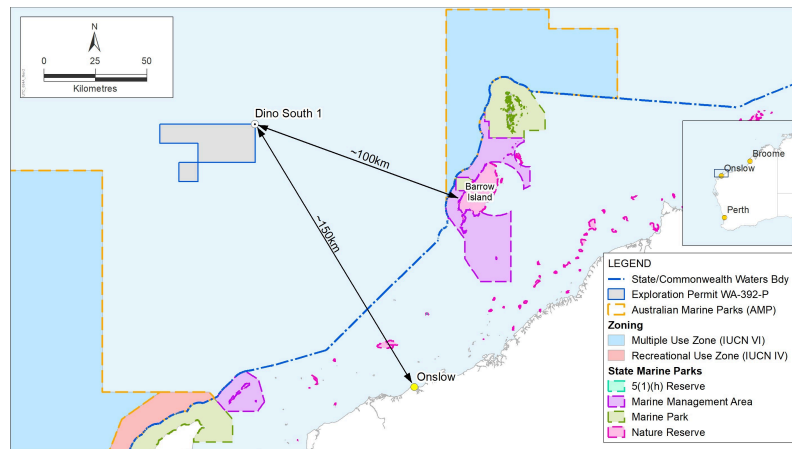
We commit to keeping you informed and providing responses to any relevant person who so requests.

# privacy notice

If you choose to provide feedback on this proposal, Chevron Australia will collect your name and contact details, in addition to your comments, for the purposes of maintaining contact with you and inclusion of your feedback in our submission to NOPSEMA. Provision of this information is purely voluntary, however if you choose not to provide it, we may not be able to contact you in the future regarding your submission. Chevron may transfer your information to NOPSEMA, if required and if you do not identify it as sensitive, and to other Chevron affiliates including our head office based in the United States. For further information regarding how we protect your personal information, and your rights, please refer to our [privacy notice](#).

## further information

### detailed maps and tables



**Figure 1:** Location of Dino South-1

**Figure 2:** Dino-South EMBA.

**Table 1:** Summary of impacts/risks and key proposed controls – [view here](#).

# resources

[Consultation in the course of preparing an environment plan - NOPSEMA](#)



[Environment plan content requirements - NOPSEMA](#)



[Environmental requirements - NOPSEMA](#)



[Offshore Petroleum Greenhouse Gas Storage \(Environment\) Regulations](#)



[NOPSEMA Assessment Process Environment Plans](#)



[Chevron Operational Excellence Management System \(OEMS\)](#)



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# environment plans

## seeking relevant persons' input

Chevron has been part of Australian energy since 1952 and over the past 70 years we've changed as the world's energy needs have changed.

Chevron Australia Pty Ltd (Chevron Australia) is planning several offshore petroleum activities and wish to consult with people and organisations whose functions, interests or activities may be affected.

We will use feedback we receive from relevant persons to enhance the environment plans for the activities, which will need to be reviewed and accepted by Australia's offshore energy regulator NOPSEMA.

Below is a list of the activities that can help you identify if you are a relevant person:

**Jansz-lo subsea compression.** Installation of a subsea compression station and associated infrastructure about 200 km off the northwest coast of Western Australia in about 1,350 m of water. Planned for mid-2024 to mid-2026.

**Gorgon umbilical.** Works on a control and electrical umbilical between the existing facility on Barrow Island and Gorgon gas field 65 km northwest of the island in about 200 m of water. Planned for late 2023/early 2024 to mid-2024.

**Wheatstone 4D-seismic survey.** The use of sound energy to develop a high-quality image of geological features in the Wheatstone and Iago gas fields about 150 km northwest of Dampier in 80 to 1,140 m of water. Planned for late 2023/early 2024.

**Dino South and Wheatstone Deep exploration wells.** Drilling an exploration well, about 150 km northwest of Onslow in 954 m of water, and a second one about 175 km northwest of the Port of Dampier in about 220 m of water. Planned for 2023 to 2025.

**Wheatstone well intervention and infill drilling.** Drilling up to seven new wells and repairs, maintenance and data acquisition at nine existing production wells in the Wheatstone and Iago fields, about 165 km northwest of Western Australia in 118 to 229 m of water. Planned for 2024 to 2028.

**Wheatstone-2 and Gorgon and Jansz wellhead decommissioning.** Decommissioning five wellheads by leaving them in place. The first is about 174 km northwest of the Port of Dampier in 213 m of water. The second is about 70 km northwest of Barrow Island in 258 m of water. The last three are 130 to 150 km northwest of Barrow Island in 1,313 to 1,347 m of water.

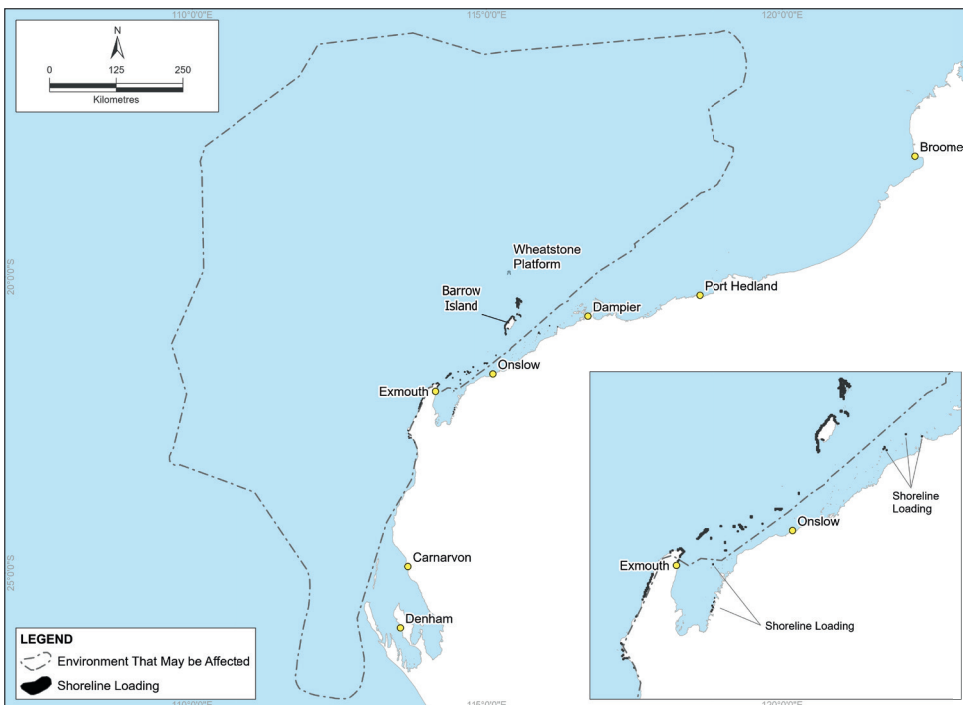
### the environment that may be affected

We have assessed the planned impacts and unplanned risks from our proposed activities on the environment, including air and water quality, seabed habitat, marine fauna, and socioeconomic and cultural features.

The map shows a composite of the environments that may be affected by highly unlikely emergency conditions, including potential impacts to some shoreline from hydrocarbon loading. This is based on modelling for all the activities.

Chevron Australia has systematic control measures to prevent and mitigate emergencies and to reduce the impact of planned activities on the environment.

We are seeking your input on whether your functions, interests or activities may be affected within this area. These may include spiritual and cultural connection to land and sea country, commercial and recreational fishing, tourism, and local communities.



### contact us

We are committed to meaningful consultation and providing information for people to make informed assessments. Please contact us by **Friday 10 March** to be included in consultations.

Visit [australia.chevron.com/feedback](https://australia.chevron.com/feedback), phone **1800 225 195** or use the **QR code** to provide feedback.



Chevron Australia Pty Ltd  
(Chevron Australia)  
ABN 29 086 197 757

(Chevron Australia LinkedIn post)



**Chevron Australia** · Following



19,376 followers

6mo


We are planning several offshore petroleum activities and wish to consult with people and organisations whose functions, interests or activities may be affected.

A list of activities and anticipated project dates that can help you identify if you are a relevant person can be accessed here > <https://lnkd.in/gYkp-cxq>

## seeking relevant persons' input



The feedback we receive will be used to enhance environment plans for our activities, which will need to be reviewed and accepted by Australia's offshore energy regulator NOPSEMA.

 [Redacted] Admin · March 2 · 🌐

**Chevron Environmental Plans Information Session – Seeking Input on Offshore Petroleum Activities**

Chevron invites the community of Onslow for a briefing on our proposed offshore petroleum activities.

We are seeking your input on whether your functions, interests or activities may be affected. These may include spiritual and cultural connection to land and sea country, commercial and recreational fishing, tourism, and local communities.

This is an opportunity to assist you to make an informed assessment on our activities. We will use feedback received to enhance the environment plans for the activities.

A list of the activities and the environment that may be affected is available here: <https://bit.ly/3EOxlmn>

To request more information, to arrange a meeting or to identify as a Relevant Person, please contact [feedback@chevron.com](mailto:feedback@chevron.com)

**seeking relevant persons' input**

**tuesday 14 march  
6.30pm  
onslow sports club**



**the human energy company**

[View insights](#) 127 post reach >

 [Redacted] Admin · March 14 · 🌐

**Join Chevron tonight** for a briefing on our proposed offshore petroleum activities.

We are seeking your input on whether your functions, interests or activities may be affected. We will use feedback received to enhance the environment plans for the activities.

Any queries, please email: [feedback@chevron.com](mailto:feedback@chevron.com)

**seeking relevant persons' input**

**tuesday 14 march  
6.30pm  
onslow sports club**



**the human energy company**

[View insights](#) 111 post reach >

**From:** Onslow Chamber of Commerce & Industry <[secretary@onslowcci.com.au](mailto:secretary@onslowcci.com.au)>

**Sent:** Monday, March 13, 2023 1:01 PM

[View this email in your browser](#)



## What's On



### **Chevron Seeks Input on Offshore Petroleum Activities**

**Date:** Tuesday 14th March 2023

**Time:** 6:30pm

**Venue:** Onslow Sports Club

Chevron Australia invites the community of Onslow for a briefing on their proposed offshore petroleum activities.

They are seeking your input on whether your functions, interests or activities may be affected. These may include spiritual and cultural connection to land and sea country, commercial and recreational fishing, tourism, and local communities.

This is an opportunity to assist you to make an informed assessment on Chevron's activities. They will use feedback they receive to enhance the environment plans for the activities.

A list of the activities and the environment that may be affected is

## appendix d summary of relevant persons consultation

**Table D-1: Summary of relevant persons objections/claims and titleholder response**

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Apache Fishing Charters	4/05/2023	CN-000383	Email	CAPL advised the Apache Fishing Charters had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Apache Fishing Charters that they welcome meaningful feedback.	No objection or claim raised.		
Apache Fishing Charters	07/11/2023	OB-000910	Phone	Apache Fishing Charters stated that they never received notification of activities.	Engagement materials to be provided.	<b>Claim has merit:</b> CAPL acknowledge that further engagement is required.	No change made to the EP. CAPL resent the written notice.
Apache Fishing Charters	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Aquaculture Council of WA	10/01/2023	CN-000106	Email	CAPL advised the Aquaculture Council of Western Australia (ACWA) had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. ACWA would be pleased to meet with CAPL, and a meeting was organised.	No objection or claim raised.		
Aquaculture Council of WA	09/02/2023	OC-000296	Virtual Meeting	CAPL spoke with a representative from the ACWA to provide an overview of CAPL's new approach to consultation along with an update on CAPL's Environment Plans. CAPL were asked to present the same information to the ACWA board.	No objection or claim raised.		
Aquaculture Council of WA	21/04/2023	OC-000307	Face-to-face	CAPL presented on the current activities and consultation process to the ACWA board. ACWA mentioned various areas that their members may be interested and concerned about. The ACWA was appreciative of CAPL's approach and will revert back to CAPL with any questions they may have.	No objection or claim raised.		
Aquaculture Council of WA	01/05/2023	OC-000424	Email	CAPL thanked the ACWA for their support and engagement in the preparation of the Environment Plan. CAPL advised that if the ACWA had any objections or questions about the activity before CAPL submitted the Environment Plan to NOPSEMA, CAPL welcomed them. ACWA confirmed CAPL's activity information was presented at the board meeting and there were no concerns raised but noted there are some operators in the vicinity that may be relevant and asked what licences CAPL has engaged directly. APL confirmed they have engaged WAFIC and asked ACWA to identify additional contacts CAPL should contact.	No objection or claim raised.		
Aquaculture Council of WA	04/05/2023	OC-000455	Email	ACWA identified additional relevant persons CAPL should engage with regarding their Environment Plans. ACWA thanked CAPL for getting in touch. CAPL engaged with ACWA and acknowledged their intentions to contact the referenced relevant persons and thanked ACWA for their assistance. ACWA shared CAPL's written notice on the activity to Maxima Pearling on CAPL's behalf for introduction.	No objection or claim raised.		
Archipelago Adventures	04/05/2023	CN-000384	Email	CAPL advised the Archipelago Adventures had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Archipelago Adventures that they welcome meaningful feedback.	No objection or claim raised.		
Archipelago Adventures	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Ashburton Anglers	08/05/2023	CN-000400	Email	CAPL sent a formal written notification advising Ashburton Anglers they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Ashburton Anglers that they welcome meaningful feedback.	No objection or claim raised.		
Ashburton Anglers	07/11/2023	OC-000911	Phone	CAPL attempted to contact Ashburton Anglers via a number found online. A message was left, explained this was a follow up via phone regarding CAPL activities and informed Ashburton Anglers we would send a follow up email.	No objection or claim raised.		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Ashburton Anglers	29/11/2023	OC-000961	Email	CAPL sent a final close out email stating they have made several attempts to make contact via email / telephone regarding the opportunity to consult on our proposed activities. To date CAPL have not received a reply from the organisation.  CAPL would still welcome the opportunity to engage with you for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Australian Communications and Media Authority (ACMA)	08/05/2023	CN-000402	Email	CAPL sent a formal written notification advising ACMA that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified ACMA that they welcome meaningful feedback.	No objection or claim raised.		
Australian Communications and Media Authority (ACMA)	15/05/2023	OB-000880	Email	ACMA provided a response and raised the presence of subsea marine cables within the vicinity of CAPL Activities. ACMA encouraged Chevron Australia to engage with the operators of any submarine cables in the vicinity of its activities, and recommended contacting AHO.  ACMA stated that they do not require any further information from Chevron Australia in relation to these activities at the current time.	1 AMCA raised the presence of subsea marine cables within the vicinity of CAPL Activities.  2 ACMA identified relevant organisations to contact, including AHO and cable operators.	<b>Claims have merit:</b> 1 The presence of subsea marine cables within the region should be considered within the EP. 2 The identified stakeholders have the potential to be impacted by CAPL activities on the North West Shelf, therefore it is reasonable and appropriate to conduct engagement.	No action required. Submarine cables are already identified in Section 4.4.6.  Further engagement with AHO was conducted.
Australian Conservation Foundation (ACF)	31/03/2023	CN-000163	Email	CAPL used webform to request the contact email in order to supply Environment Plan information to the ACF.  CAPL responded to the email sent by ACF and advised that the ACF had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified ACF that they welcome meaningful feedback	No objection or claim raised.		
Australian Conservation Foundation (ACF)	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Australian Council of Prawn Fisheries (ACPF) Ltd.	04/05/2023	CN-000388	Email	CAPL advised the ACPF had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the ACPF that they welcome meaningful feedback.	No objection or claim raised.		
Australian Council of Prawn Fisheries (ACPF) Ltd.	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Australian Fisheries Management Authority (AFMA)	26/05/2022	CN-000073	Email	CAPL advised that AFMA had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and notified AFMA that they welcome meaningful feedback.  AFMA confirmed receipt of email and had no specific comments on the proposal. AFMA advised that it is important to consult with all fisheries who have entitlements to fish within the proposed area. AFMA provided website links to their website to identify relevant fishing industry associations and concession holders.	AFMA suggested engaging with operators who have entitlements to fish within the proposed area.	<b>Claim has merit:</b> As the activities have the potential to impact fishers, it is fair and reasonable to engage with fishers within the area.	No action required. Over the course of consultation, relevant fishing industry associations and fishery businesses were engaged with.
Australian Fisheries Management Authority (AFMA)	15/02/2023	CN-000214	Email	CAPL sent a formal written notification advising AFMA they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified AFMA that they welcome meaningful feedback.  AFMA provided other relevant industry associations CAPL should consult with, CAPL confirmed they have been engaging with WAFIC closely and subsequently have reach out to the Northern Prawn Fishery and Commonwealth Fishery Association (CFA).	No objection or claim raised.		
Australian Fisheries Management Authority (AFMA)	07/07/2023-16/10/2023	OC-000906	Email	CAPL responded to AFMA and informed them they were consulting with WAFIC and Commonwealth fisheries on CAPL activities.	No objection or claim raised.		
Australian Hydrographic Office (AHO)	26/05/2022	CN-000072	Email	CAPL advised that the Australian Hydrographic Office (AHO) had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and notified the AHO that they welcome meaningful feedback.  AHO acknowledged receipt of the information sheet and email. AHO notified CAPL that the	No objection or claim raised.		



Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				information and data provided will be registered, assessed, prioritised and validated in preparation for updating Navigational Charting products.			
Australian Hydrographic Office (AHO)	08/05/2023	CN-000416	Email	CAPL sent a formal written notification advising AHO that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the AHO that they welcome meaningful feedback.  AHO acknowledged receipt of email and notified CAPL that the data supplied will now be registered, assessed, prioritised and validated in preparation for updating our Navigational Charting products.	No objection or claim raised.		
Australian Institute of Marine Science (AIMS)	04/05/2023	CN-000387	Email	CAPL sent a formal written notification advising AIMS that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified AIMS that they welcome meaningful feedback.	No objection or claim raised.		
Australian Institute of Marine Science (AIMS)	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Australian Marine Conservation Society (AMCS)	10/02/2023	CN-000226	Email	CAPL advised the AMCS had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the AMCS that they welcome meaningful feedback.  CAPL followed up with AMCS to ensure they received the formal notification regarding CAPL's activity.	No objection or claim raised.		
Australian Marine Conservation Society (AMCS)	27/03/2023	OC-000160	Phone	CAPL called AMCS to confirm receipt of formal notifications for CAPL's Environment Plan and proposed activity.  AMCS confirmed they will reach out to CAPL if they have any comments or concerns.	No objection or claim raised.		
Australian Marine Conservation Society (AMCS)	04/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Australian Marine Oil Spill Response Centre (AMOSC)	04/05/2023	CN-000385	Email	CAPL sent a formal written notification advising AMOSC that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified AMOSC that they welcome meaningful feedback.	No objection or claim raised.		
Australian Maritime Safety Authority (AMSA)	26/05/2022	CN-000078	Email	CAPL advised that The Australian Maritime Safety Authority (AMSA) had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and notified AMSA that they welcome meaningful feedback.  AMSA notified CAPL that the Nautical Advice inbox is no longer monitored and that all future correspondence should be directed to the NavSafety@amsa.gov.au.	No objection or claim raised.		
Australian Maritime Safety Authority (AMSA)	15/02/2023	CN-000537	Email	CAPL sent a formal written notification advising AMSA that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified AMSA that they welcome meaningful feedback.  AMSA requested shapefiles for the CAPL activities to allow for AIS data analysis. CAPL provided the requested shapefiles.	No objection or claim raised.		
Australian Maritime Safety Authority (AMSA)	3/07/2023	OB-000718	Email	AMSA requested information from CAPL regarding their upcoming activities for data analysis. CAPL responded and sent through the requested information.  AMSA thanked CAPL for the information and advised that their activities would take place within chartered shipping fairways. AMSA requested details on how CAPL would mitigate the risk of collision with these areas.  AMSA also advised CAPL of standard practice requirements regarding notification to Joint Rescue Coordination Centre for promulgation of radio-navigation warnings 24-48 hours before operations commence. The JRCC will need to be advised of when operations start and end.  AMSA also notified CAPL that AHO should be contacted before operations commence to notify mariners.	AMSA raised the following: 1. Mitigation of risk of collision within chartered shipping fairways 2. Requirement to notify JRCC before operations commence 3. Requirement to notify AHO before operations commence to notify mariners.	<b>Claims have merit:</b> All vessel collision, notification and lighting requirements are commonplace and industry standard. All claims are fair and reasonable for this offshore activity, and should be captured within the EP.	ALARP decision context justification' revised to include statement regarding receipt of one claim. No change to previous decision context (i.e. still Decision Context A).  'External context' (within 'Determination of acceptability') for Section 7.1 has been

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				AMSA advised that all vessels exhibit appropriate lights and shapes to reflect the nature of operations – and comply with the International Rules for Preventing Collisions at Sea (COLREGs), in particular, the use of appropriate lights and shapes to reflect the nature of operations (e.g. restricted in the ability to manoeuvre). Vessels should also ensure their navigation status is set correctly in the ship's AIS unit.	4. Lighting requirements comply with regulations		updated with a summary of claim and response. OA for DS-1 is not with AMSA NWS shipping fairways; notifications to AMSA JRCC and AHO are standard and included as both a control in Section 7.1 and notifications Table 8-5. Vessels are required to operate in accordance with any Class, Flag or Port State laws and regulations. This includes the use of appropriate signals to reflect nature of vessel operations.
Australian Maritime Safety Authority (AMSA)	14/07/2023	OB-000719	Email	CAPL responded to AMSA previous email regarding risk of collision mitigation measures: <ul style="list-style-type: none"> <li>• Relevant persons engagement</li> <li>• Maritime safety information</li> <li>• Marine Standards</li> </ul> CAPL advised AMSA that they intended to notify AHO of operations. AMSA responded to CAPL thanking them for providing their mitigation measures. AMSA additionally stated that their main concern is where the activities occur within chartered shipping fairways and that they would like to understand what the activities within the fairways entail, timeframe, specific risk mitigation for each activity. AMSA reiterated that these areas were higher risk due to the high density of shipping traffic. AMSA requested a Teams call to further discuss.	AMSA requested further details for planned activities within chartered shipping fairways (such as timeframes and specific risk mitigation for each activity) in regards to collision risk.	<b>Claims have merit:</b> As a relevant person it is fair and reasonable for AMSA to request further information, and consultation is on going. However for this activity, no planned activities occur within shipping fairways.	No change made to the EP. No planned activities occur within shipping fairways. Clarification was provided to AMSA.
Australian Maritime Safety Authority (AMSA)	27/09/2023	OC-000739	Email	CAPL responded to AMSA and enquired as to which activities concerned them so that CAPL may gather the correct people to further discuss in a call.	No objection or claim raised.		
Australian Maritime Safety Authority (AMSA)	24/10/2023	OB-000863	Email	AMSA noted several activities will occur within the chartered shipping fairways and requested further information around what the activities within the shipping fairways entail and over what time frame these activities would take place. AMSA also enquired about specific risk mitigation measures for these activities in higher-traffic areas.	AMSA requested further information around what the activities within the shipping fairways entail and over what time frame these activities would take place. AMSA also enquired about specific risk mitigation measures for these activities in higher-traffic areas.	<b>Claims have merit:</b> As a relevant person it is fair and reasonable for AMSA to request further information, and consultation is ongoing. However for this activity, no planned activities occur within shipping fairways.	No change made to the EP. No planned activities occur within shipping fairways.
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	19/05/2022	OC-000071	Email	CAPL requested information as to who the correct person is to send information to at ASBTIA. ASBTIA requested that they be removed from the ongoing consultation due to them not having a direct interest in the location of the activity. ASBTIA raised importance of appropriate and timely response in a spill scenario. ASBTIA identified Tuna Australia as a potential relevant person.	1. ASBTIA raised importance of appropriate and timely response in a spill scenario. 2. Identified Tuna Australia as a potential relevant person, on the basis that members/fishers in that association are potentially active on the North West shelf.	<b>Claims has merit:</b> 1. The EMBA overlaps with the Southern Blue Tuna spawning area, and a spill event has the potential to impact this receptor. As such, this is considered a reasonable claim. 2. Claim has merit: the identified stakeholder Tuna Australia has the potential to be impacted by CAPL activities on the North West Shelf, therefore it is reasonable and appropriate to conduct engagement.	No change made to the EP. The spawning area of Southern Blue Tuna is included in the EP in Section 4.4.1.1, and considered as a receptor in Section 7. The additional relevant person identified (Tuna Australia) was engaged with.
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	10/03/2023	CN-000404	Email	CAPL re-engaged ASBTIA with the updated and additional information regarding the activity and sought confirmation that ASBTIA would still like to be removed from the consultation list. No response was received.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	09/02/2023	CN-000321	Email	CAPL advised that the BAC had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified BAC that they welcome meaningful feedback.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	22/02/2023	OC-000323	Email	CAPL advised that they are interested in speaking to a representative of BAC about CAPL's activities.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	13/03/2023	OC-000322	Email	CAPL engaged with BAC to express their gratitude for BAC's continued partnership. CAPL also indicated intention to present to the Directors of Baiyungu and asked for further information.	No objection or claim raised.		

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Baiyungu Aboriginal Corporation	15/03/2023	OC-000232	Email	CAPL and BAC organised a meeting for CAPL to present on the upcoming activities along with explore possible opportunities for the Traditional Owners in regards to ranger programs, protection areas and other programs that may have impacts on country. A meeting was organised.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	30/03/2023	OC-000245	Face-to-face	CAPL met with the BAC Board of Directors at Cardabia Station to present the details of CAPL's upcoming offshore activities and the identified risks and impacts. CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. BAC did not identify any additional relevant persons to consult. CAPL sought feedback on areas of significance and cultural values including sea country and underwater cultural heritage. Protecting land and sea country is a significant focus of the BAC and they are interested in collaborating with CAPL to protect it.	Protecting land and sea country is a significant focus of BAC and they are interested in collaborating with CAPL to protect it.	<b>Claim has merit:</b> Although not a specific claim or objective, the request for CAPL to further engage with BAC to identify collaboration opportunities has merit.	The EP was revised to include Table 4-14, which includes specific responses from First Nations consultation in regard to cultural values or features. Ongoing engagement with this stakeholder is taking place. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies. An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Baiyungu Aboriginal Corporation	04/04/2023	OC-000242	Phone	BAC enquired if CAPL have engaged Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC), CAPL confirmed they met with the NTGAC Board in March and have a further meeting with NTGAC organised for September. CAPL reiterated their interest to meet with the Baiyungu board again and to maintain momentum on discussions.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	02/05/2023	OC-000357	Email	CAPL contacted BAC to confirm they have no specific objections and claims regarding the activity. CAPL reiterated with BAC that this has not just been a one-off engagement and CAPL are committed to ongoing consultation.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	09/05/2023	OC-000421	Phone	CAPL contacted BAC to confirm they have no specific objections and claims regarding the activity. BAC confirmed that there were no issues or objections with respect to the Environment Plan and look forward to ongoing consultations and discussions.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	10/05/2023	OB-000525	Email	CAPL advised BAC of the completion of the consultation timeframe regarding CAPL Environment Plans and provided the following summary: <ul style="list-style-type: none"> <li>The Baiyungu coastal area, sea country, and adjacent islands are highly valuable to the Baiyungu people. Impact on these areas from a planned or unplanned event may cause harm to the cultural landscape, individuals, and the community.</li> </ul> Based on the current activity proposal, BAC, as representatives for the Baiyungu people has not expressed objections to the planned activities discussed in the consultation process. BAC requests CAPL to formalise continued engagement and support in relation to the Environment Plans and related activities to assist in properly performing its duties in advocating for and protecting rights and interests on Baiyungu country, including to inform emergency response planning. CAPL sent through a summary of engagements with BAC for confirmation. BAC advised CAPL that it is not their role to provide a formal response and advised CAPL to engage with NTGAC. CAPL explained that they are consulting with the NTGAC/YAC, and have erred on the side of caution by consulting with individual corporations in parallel to NTGAC to ensure that all relevant knowledge holders have the opportunity to participate. BAC indicated that there were additional angles for the BAC to consider. A meeting was arranged to discuss further.	BAC requests CAPL's continued engagement and support in relation to the Environment Plans and related activities to assist in properly performing its duties in advocating for and protecting rights and interests on Baiyungu country, including to inform emergency response planning.	<b>Claim has merit:</b> Although not a specific claim or objective, the request for CAPL to further engage with BAC on EP's to assist in performing its duties has merit given they are considered relevant to this Activity. In addition to this, the consideration of how BAC can support / inform emergency response planning has merit .	Ongoing engagement with BAC is taking place. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies. An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Baiyungu Aboriginal Corporation	21/06/2023	OC-000562	Virtual Meeting	CAPL met with BAC to discuss ongoing consulting and relationship, as well as introduction of the OPP. BAC advised that they support opportunities to continue to build the relationship between CAPL and BAC and were grateful for receipt of information on the Chevron Community Spirit Grant. BAC advised CAPL that it may wish to also engage with the DBCA who in partnership with Baiyungu people have joint management of the Ningaloo Coast. CAPL confirmed that DBCA has been consulted on the proposed activities. BAC supported CAPL approach of continuing to engage with NTGAC and BAC on Engagement Plan and OPP.	No objection or claim raised.		

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Baiyungu Aboriginal Corporation	7/08/2023	OC-000594	Email	CAPL extended solicitation of EOI for BAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with BAC further.	No objection or claim raised.		
Baiyungu Aboriginal Corporation	09/10/2023-09/10/2023	OC-000826	Email	BAC sent an invitation for CAPL to attend a BAC event in Fremantle.	No objection or claim raised.		
Baiyungu Aboriginal Corporation				<p>To summarise consultation with BAC to date:</p> <ul style="list-style-type: none"> <li>CAPL commenced consultation with BAC on 9<sup>th</sup> February 2023 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>CAPL has met with BAC representatives in 2 face-to-face meetings and maintained contact through email and telephone correspondence.</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>CAPL has considered feedback provided by BAC during consultation, including information on BAC's functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>On 10th May 2023, CAPL emailed BAC with a summary of the outcomes of consultation undertaken to date. BAC has not raised any further objections or claims relating to the activity scope and as CAPL has provided a reasonable period and sufficient information to BAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</li> </ul> <p>CAPL will continue to engage BAC as part of its ongoing consultation as outlined in Section 8.3.4.1 of the EP</p>			
Blue Horizon Charters	04/05/2023	CN-000386	Email	CAPL sent a formal written notification advising Blue Horizon Charters advising that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Blue Horizon Charters that they welcome meaningful feedback.	No objection or claim raised.		
Blue Horizon Charters	07/11/2023	OB-000912	Email	Blue Horizon Charters was not aware of CAPL activity overview email and asked for it to be resent.	Engagement materials to be provided.	<b>Claim has merit:</b> CAPL acknowledge that further engagement is required.	No change made to the EP. CAPL resent the written notice.
Blue Horizon Charters	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Blue Juice Charters	04/05/2023	CN-000389	Email	CAPL sent a formal written notification advising Blue Juice Charters advising that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Blue Juice Charters that they welcome meaningful feedback.	No objection or claim raised.		
Blue Juice Charters	07/11/2023	OC-000913	Phone	CAPL called Blue Juice Charters in an attempt to engage, no answer or voicemail provided.	No objection or claim raised.		
Blue Juice Charters	23/11/2023	OC-000961	Email	CAPL sent a final close out email stating they have made several attempts to make contact via email / telephone regarding the opportunity to consult on our proposed activities. To date CAPL have not received a reply from the organisation. CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Blue Lightning Fishing Charters	26/05/2022	CN-000075	Email	CAPL provided details of the drilling activities along with the activity information sheet and welcomed feedback. Blue Lightning Fishing Charters sent an automated email reply, stating they will reply to emails as soon as they can.	No objection or claim raised.		
Blue Lightning Fishing Charters	04/05/2023	CN-000390	Email	CAPL sent a formal written notification advising Blue Lightning Fishing Charters advising that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Blue Lightning Fishing Charters that they welcome meaningful feedback.	No objection or claim raised.		
Blue Lightning Fishing Charters	07/11/2023	OB-000914	Phone	CAPL called to close out consultation. Blue Lightning Fishing Charters was not aware of any emails and asked for the email to be resent.	Engagement materials to be provided.	<b>Claim has merit:</b>	No change made to the EP. CAPL resent the written notice.



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						CAPL acknowledge that further engagement is required.	
Blue Lightning Fishing Charters	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Bluesun2 Boat Charters	04/05/2023	CN-000391	Email	CAPL sent a formal written notification advising Bluesun2 Boat Charters advising that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Bluesun2 Boat Charters that they welcome meaningful feedback.	No objection or claim raised.		
Bluesun2 Boat Charters	23/11/2023	OC-000961	Email	CAPL sent a final close out email stating they have made several attempts to make contact via email / telephone regarding the opportunity to consult on our proposed activities. To date CAPL have not received a reply from the organisation. CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Boating Industry Association WA	04/05/2023	CN-000392	Email	CAPL sent a formal written notification advising Boating Industry Association WA advising that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Boating Industry Association WA that they welcome meaningful feedback.	No objection or claim raised.		
Boating Industry Association WA	07/11/2023	OB-000915	Phone	CAPL called to close out consultation. Boating Industry Association WA was not aware of any emails and asked for the email to be resent.	Engagement materials to be provided.	<b>Claim has merit:</b> CAPL acknowledge that further engagement is required.	No change made to the EP. CAPL resent the written notice.
Boating Industry Association WA	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
BP	17/02/2023	CN-000209	Email	CAPL advised that BP had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified BP that they welcome meaningful feedback.	No objection or claim raised.		
BP	28/09/2023-03/10/2023	OC-000891	Email	BP requested all further engagements go through a different point of contact and provided an email. CAPL responded that they had updated the system. BP new point of contact identified themselves as the new focal point of consultation.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	07/09/2022	OC-000477	Phone	CAPL provided an initial conversation about the new Environment Plan consultation requirements. BTAC agreed to meet when CAPL had further information to share.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	11/11/2022-16/11/2022	OC-000478	Email	CAPL emailed BTAC an overview of their presentation about decommissioning and requested a meeting to discuss the upcoming activities in 2023. CAPL advised BTAC of the requirements for Environment Plan Consultation following the court case and the importance of the consultation approach. CAPL identified some of the new regulation requirements and informed BTAC of their four upcoming Environment Plans in the immediate future. CAPL informed BTAC of their intentions to have a focused conversation around visibility of the various projects which require consultation, discuss and agree on the method to apply and identify relevant persons, and how the consultation should occur. This ensures relevant people receive the information and have the opportunity to provide feedback. BTAC and CAPL discussed consultation date(s) for early 2023 to present the information in detail and define timeframe and methods of gathering feedback. CAPL indicated that they would take BTAC guidance on what the best forum to achieve these goals would be. BTAC responded and a meeting was organised.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	17/11/2022-23/12/2022	OC-000479	Email	BTAC provided CAPL with a report, and shapefiles on surveys undertaken on Barrow Island in June 2022.	No objection or claim raised.		

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				The email chain continues with CAPL requesting to set up two meetings with BTAC regarding confirmation of the cultural heritage work plan for 2023 and upcoming activities and the best way to develop a consultation plan with BTAC. CAPL representative thanked BTAC for the work they have accomplished together and expressed appreciation of the relationship they have developed. BTAC acknowledged the email and provides suggested meeting dates.			
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	13/12/2022	OC-000480	Face-to-face	CAPL met with BTAC to discuss cultural heritage planning for 2023. During the meeting CAPL raised the need to meet and develop a consultation approach for Environment Plans with BTAC. BTAC expressed concerns about the pressures the PBCs are under due to demands from the resource industry and how the requirements would strain the PBCs abilities. CAPL acknowledged the challenges and concerns of BTAC and informed them that CAPL does not mean to impose another process but sees this as an opportunity to work together to design a process to assist BTAC and CAPLs needs. CAPL had previously created a draft copy and timeline for consultation and invited BTAC to provide comments. BTAC expressed their positive experience with CAPL and requested to reconvene in January to delve deeper into this process. It was noted that CAPL would remain flexible, considering the expectations of BTAC and the Thalanyji community regarding the consultation. CAPL also expressed their willingness to present the project activities at a BTAC board meeting and engage with common law holders. CAPL offered to facilitate the community's input into the consultation process and provide an opportunity to provide feedback on the values and sensitivities within the proposed project areas.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	13/01/2023	OC-000249	Face-to-face	CAPL met with the Chair of the BTAC to present an overview of the consultation process for CAPL's upcoming offshore activities. CAPL sought feedback on areas of significance and cultural values including sea country and underwater cultural heritage. CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. BTAC provided details of other relevant persons in neighbouring PBCs.	BTAC identified local relevant persons for CAPL to consider engaging with.	<b>Claim has merit:</b> CAPL acknowledge the potential relevant people identified by BTAC and that engagement with these stakeholders is required.	No change made to the EP. The individuals provided by BTAC were Yinggarda, Malgana, Thalanyji and Baiyungu people. CAPL has engaged the PBCs that represent these groups and each PBC confirmed that it was appropriate to consult at PBC level and direct engagement with individuals was not required
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	15/01/2023	OC-001009	Face-to-face	CAPL met with BTAC CEO and discussed: <ul style="list-style-type: none"> <li>Resourcing</li> <li>EP Stakeholder Consultation</li> <li>Cultural Awareness Training</li> </ul> CAPL requested a meeting to discuss consultation and for BTAC to consider how they want to structure consultation process and payment.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	16/01/2023	OC-001010	Email	BTAC emailed CAPL family details of other PBC's discussed in meeting on 13 January 2023	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	03/02/2023-21/02/2023	CN-000484	Email	CAPL provided BTAC with the formal 2023 written notice of the upcoming activities and provided a link to their website for further information regarding the activity. CAPL outlined the timeline of the consultation period and requested guidance on the next steps to ensure the right people received the information and are able to provide informed feedback. CAPL acknowledged the additional pressure this puts on BTAC and offered to assist monetarily for an independent environmental consultant to review the information for BTAC. CAPL also prepared to compensate Board sitting fees should BTAC prefer to meet CAPL representatives to discuss further. BTAC acknowledged receipt of CAPLs email and confirmed they would provide feedback soon. BTAC identified the extensive and ongoing engagement through this new process and offered to develop or enter into some form of "consultation agreement" regarding offshore proposals. CAPL responded with an affirmative approach and would welcome the opportunity to design the consultation process together. A discussion about timelines ensued in the email chain. CAPL also offered to present to the BTAC board about the upcoming activities. Both parties began drafting an agreement in parallel. BTAC asked how CAPL were engaging with other PBCs which CAPL answered.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	03/02/2023	OC-000481	Face-to-face	CAPL and BTAC held a meeting to discuss the environmental planning consultation requirements of the Commonwealth. During the meeting, CAPL provided an overview of the proposed activities and directed BTAC to CAPL's public website for detailed information, including project overviews, potential impacts, and risks. CAPL explained the process of identifying Relevant Persons and stated that BTAC had been identified as a Relevant Person.	No objection or claim raised.		

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				<p>CAPL expressed their intentions to seek feedback from the Thalanyji community regarding any concerns related to the proposed projects, taking into account Thalanyji's values and sensitivities within and around the EMBA.</p> <p>CAPL advised that they aimed to work with BTAC to co-design the consultation process, without imposing a process on the PBC. The goal was to develop a consultation process that would meet the needs of both parties.</p> <p>BTAC identified themselves as a relevant person and committed to providing a written response to CAPL's request in the upcoming days.</p>			
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	16/02/2023	OC-000979	Phone	<p>CAPL provided BTAC with the opportunity to visit Barrow Island. BTAC discussed it will be raised as an agenda item during the next board meeting.</p>	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	20/02/2023	OC-000980	Email	<p>BTAC sent CAPL minutes from phone meeting on the 16/02/2023.</p>	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	27/02/2023-10/03/2023	OB-000482	Email	<p>BTAC responded to CAPL written notice regarding the 8 upcoming environment plans.</p> <p>BTACs letter requests further engagement with CAPL to understand the projects in order to protect Thalanyji interests, obtain a deeper understanding of the project, ensure management measure are in place and to involve BTAC members in ongoing monitoring and management of risks from the activities.</p> <p>BTAC informed CAPL of the Thalanyji peoples deep connection to sea country north of Onslow, extending out into the east islands off the coast of the Pilbara including the Montebello Islands, Barrow Island and Mackerel Islands.</p> <p>1. Values and definition and management</p> <p>BTAC explained that they have not yet developed their values regarding Sea Country beyond their own culture and seek CAPL's assistance and support to develop anthropological and ethnographic team to define and articulate our values on Sea Country in a way that industry can understand. That way future management and protection of the values can be taken care of.</p> <p>2. Information and understanding</p> <p>BTAC are seeking support from CAPL to obtain appropriate independent technical support to review the proposals and provide BTAC and its members with feedback on the project risks to Sea Country and potential management controls that could be developed to protect their values and interests.</p> <p>3. Emergency response planning and capability</p> <p>BTAC acknowledge that there is still a risk with devastating impacts to the environment and values and sensitivities. BTAC acknowledges the importance of emergency responses are developed and locally provided to be able to respond to the potential actions that may impact their interests. BTAC also encourages CAPL and other industry to be active in BTACs ranger program and b participants in response planning and management activities. This would enhance the security of the Thalanyji people's interests.</p> <p>4. Ongoing engagement, consultation and cost recovery</p> <p>BTAC acknowledges the importance of ongoing consultation regarding offshore projects and the strain on their resources. BTAC proposes to enter into a consultation or engagement framework which ensures BTAC can be properly resources financially and intellectually to participate in the consultation and management planning processes for the activities.</p> <p>CAPL responded to BTACs letter and requested a meeting to go through the points raised to ensure BTACs values be respected and heard. CAPL recommended that the framework and plan be constructed in parallel with the current environmental approval consultation.</p>	<p>The Thalanyji peoples deep connection to sea country north of Onslow, extending out into the East Islands off the coast of the Pilbara including the Montebello Islands, Barrow Island and Mackerel Islands.</p> <p>BTAC raised the following topics:</p> <ol style="list-style-type: none"> <li>1. Values and definition and management</li> <li>2. Information and understanding</li> <li>3. Emergency response planning and capability</li> <li>4. Ongoing engagement, consultation and cost recovery</li> </ol>	<p><b>Claim has merit:</b></p> <p>Given BTAC's claim connection to Pilbara islands they are considered relevant.</p> <p>CAPL acknowledge the Thalanyji peoples deep connection to sea country north of Onslow, extending out into the Bast Islands off the coast of the Pilbara including the Montebello Islands, Barrow Island and Mackerel Islands. Although not a specific claim or objective, this must be acknowledged and considered in the EP.</p> <p>All topics raised during this engagement are considered to have merit, and require consideration and a response.</p>	<p>Ongoing engagement with BTAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and BTAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions.</p> <p>Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies.</p> <p>An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.</p>
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	30/03/2023-03/04/2023	OC-000538	Email	<p>Consultants to BTAC reached out to CAPL to discuss CAPL's upcoming activities and to organise a meeting.</p>	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	12/04/2023	OC-000483	Face-to-face	<p>CAPL and consultants to BTAC - representing BTAC's interests, met up to discuss the next steps in relation to BTAC providing feedback on CAPLs Environment Plan consultation. BTAC requested the draft statements or principles specifically tailored to BTAC or the Thalanyji people and for a summary of consultation.</p>	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	13/04/2023-08/05/2023	OC-000486	Email	<p>The new BTAC representative wrote a formal notice that they would be point of contact for BTAC. BTAC and CAPL discussed a number of matters including CAPLs consultation of environment plans for offshore activities consistent with NOPSEMA's guidelines.</p> <p>BTAC emailed a summary of the face to face discussed had on the 12th of April.</p> <p>BTAC will provide a formal response for the written notice soon. BTAC also requested any drafted consultation and engagement documents from CAPL.</p>	<ol style="list-style-type: none"> <li>1. The significance of Thalanyji coastal area, sea country, and adjacent islands was noted</li> <li>2. BTAC requests CAPL to formalise continued engagement</li> </ol>	<p><b>Claim has merit:</b></p> <p>1. Given BTAC's claim connection to Pilbara islands they are considered relevant.</p> <p>CAPL acknowledge the Thalanyji peoples deep connection to sea country north of</p>	<p>Ongoing engagement with BTAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and BTAC, and once finalised will be implemented. The Engagement Plan will capture opportunities</p>



Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				<p>CAPL sent through the consultation guideline draft on the 24th of April to BTAC for review. CAPL informed BTAC that if they would like to provide comments or discuss any of the items let CAPL know. CAPL also re-informed BTAC of their intention to sit down and present / discuss with BTAC ongoing consultation framework and how they can support each other. CAPL requested some dates to set up a meeting.</p> <p>Based on these discussions, CAPL note:</p> <ul style="list-style-type: none"> <li>The significance of Thalanyji coastal area, sea country, and adjacent islands.</li> <li>BTAC requests CAPL to formalise continued engagement and support in relation to the Environment Plans</li> <li>The expectations is that CAPL will provide an annual update, or as otherwise requested, to the BTAC board or common law holders of CAPL's activities in the EMBA.</li> <li>BTAC can at any time make direct representations to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) about the nature of BTAC's interests and values and how they may be affected by CAPL's activities.</li> </ul> <p>CAPL followed up with BTAC on the 4th of May to see if they had any further queries on the Draft plan CAPL sent through and to inform BTAC that they are working on the engagement plan and are interested in getting BTACs involvement.</p> <p>BTAC informed CAPL that they would provide some edits to the document and that they were very interested in working on the framework together for ongoing consultation.</p> <p>BTAC sent through there edits to the Draft consultation plan. CAPL acknowledged receipt of email and informed BTAC that they would review and send back with any additional comments..</p>	Subject to CAPL formalising ongoing engagement and consultation with BTAC about the proposed activities under an agreement within a reasonable timeframe, BTAC is agreeable in-principle to CAPL including this consultation summary in its Environment Plans. BTAC expects that CAPL will provide an annual update, or as otherwise requested, to the BTAC board or common law holders of CAPL's activities in the EMBA	Onslow, extending out into the Bast Islands off the coast of the Pilbara including the Montebello Islands, Barrow Island and Mackerel Islands. Although not a specific claim or objective, this must be acknowledged and considered in the EP. 2. CAPL acknowledge BTAC's request formalise continued engagement and support in relation to the Environment Plans, and the expectation for annual updates. As a relevant person, this is reasonable and appropriate.	for collaboration and knowledge sharing, and the type and frequency of interactions. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies. An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	10/05/2023	OC-000589	Phone	BTAC contacted CAPL following email correspondence to discuss edits made to the document post review. CAPL confirmed they would send through a revised copy to BTAC.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	16/05/2023-18/05/2023	OC-000556	Email	<p>CAPL reached out to BTAC to see if any further comments were received regarding the Draft plan. BTAC sent through an updated version of the plan and stated that BTACs position is agreeable in-principle to this consultation summary on the understanding that Chevron intends to formalise ongoing consultation and engagement at some point in the near future.</p> <p>CAPL thanked BTAC for the update and inquired if BTAC had any time to discuss and work on the engagement plan together. BTAC responded affirmatively and informed that the engagement plan would need to be endorsed by the CEO and reflect the position conveyed by BTAC to date. A meeting was organised to meet and discuss further.</p> <p>CAPL provided BTAC with the Draft Engagement Plan and the EP Consultation Statement for review.</p>	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	19/05/2023	OC-000985	Face-to-face	CAPL met with BTAC for monthly breakfast meeting. CAPL reminded BTAC about the EP progress and asked BTAC to raise any objections or claims.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	24/05/2023	OC-000555	Face-to-face	CAPL met with BTAC to finalise BTAC's formal response to consultation. BTAC agreed to suggested changes by CAPL and requested a final copy. The engagement plan was discussed for ongoing consultation and interactions between CAPL and BTAC.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	26/05/2023	OC-001030	Email	CAPL provided final copy of Consultation draft summary and statements agreed upon in meeting between RFF/BTAC and Chevron on 24 May 2023. CAPL provided a copy of the draft engagement plan.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	7/06/2023	OC-001014	Email	CAPL sent through Underwater Cultural heritage plan to BTAC and advised they would be interested in working with BTAC on this. BTAC confirmed receipt of information regarding UCH on EP	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	8/06/2023	OC-001013	Email	CAPL emailed BTAC with consultation summary and draft engagement plan. CAPL requested opportunity to work through engagement plan.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	03/07/2023-04/07/2023	OB-000579	Email	<p>BTAC reviewed the consultation document and accepted the minor changes they also noted the engagement plan is a useful starting point but requires a bit more work and sent through their edits with the main points addressed below:</p> <p>BTAC thanked CAPL for consulting about their upcoming activities and acknowledged the plans sit outside the Wheatstone agreement.</p> <p>BTAC reframed the background and objectives, and raised their key issues and comments regarding ongoing engagement and the formalised engagement plan.</p> <p>The BTC representative proposed to forward a simple letter to formalise BTCs progressing meaning consultation with CAPL in relation to activities under environment plans.</p>	Concerns raised about ongoing engagement and the formalised engagement plan.	<b>Claim has merit:</b> CAPL acknowledge BTAC's concerns for continued engagement. As a relevant person, this is reasonable and appropriate.	Ongoing engagement with BTAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and BTAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions.

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				CAPL responded to the email and informed BTAC they would review the document and comments in preparation for the next meeting.			Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies.  An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	06/07/2023	OC-000978	Email	BTAC sent CAPL a letter thanking CAPL for the invitation to visit Barrow Island and that the senior BTAC executive team were interested in attending the trip.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	13/07/2023-13/07/2023	OC-000582	Email	BTAC followed up with CAPL by email following their morning meeting outlining the take away actions for BTAC. CAPL responded with their own actions and agreed outcomes. Both organisations were happy to discuss and continue engagement.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	13/07/2023	OC-000581	Face-to-face	CAPL met with BTAC to continue discussions around EP consultations and OPP, and progress latest version of the engagement plan.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	07/08/2023-07/08/2023	OC-000603	Email	CAPL extended solicitation of EOI for BTAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with BTAC further.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	15/08/2023-15/08/2023	OC-000618	Email	CAPL and BTAC discussion relating to ongoing consultation. CAPL advised BTAC that it was still waiting for feedback from BTAC on comments on version 3 of the engagement plan. CAPL advised of desire to be involved in sea country ethnographic project and BTAC confirmed requirement for agreement to be in place.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	15/08/2023-15/08/2023	OC-000619	Phone	CAPL and BTAC had discussion to clarify aspects of the draft Engagement plan. CAPL reiterated support to stand up a group within BTAC to handle consultations with a view that they develop fluency around engagements. BTAC advised that there were some minor changes that they will be sharing via email and that they were happy with the progress being made.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	25/08/2023	OC-000974	Face-to-face	CAPL met with BTAC for monthly breakfast meeting. CAPL reminded BTAC about the EP progress and asked BTAC to raise any objections or claims.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	30/08/2023	OC-000975	Face-to-face	CAPL met with new BTAC CEO to discuss EP consultation process.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	04/09/2023-04/09/2023	OC-000634	Email	CAPL contacted BTAC via email to follow up on endorsement of draft engagement plan.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	10/10/2023-10/10/2023	OC-000825	Email	CAPL provided BTAC with a signed acceptance of their cost recovery budget for consultations.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	4/12/2023	OB-000976	Phone	BTAC contacted CAPL to express concerns that BTAC have not been properly consulted on the EP's. CAPL assured BTAC that CAPL have been consulting with BTAC since November 2022 on the EP's and have provided BTAC with all relative information on EP activities and have asked BTAC on multiple occasions to meet with the BTAC Board of Directors and Elders council. CAPL also offered to facilitate a briefing session later in the week to discuss consultation process and progress.	Raised concern about not being properly consulted on the EPs.	<b>Claims have merit:</b> As a relevant person, CAPL acknowledges the concerns raised.	No change made to the EP. A response to the objection and claims raised was provided.  Ongoing engagement with BTAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and BTAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions.

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Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	4/12/2023	OC-000977	Email	CAPL sent BTAC the letter previously sent by BTAC to CAPL on approved summary of consultation for CAPL EP's. CAPL also offered the opportunity to discuss the planned activities within the EPs.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	5/12/2023	OB-000981	Email	BTAC sent CAPL a written summary letter of concerns that BTAC have not be properly consulted on EP activities to date. BTAC invited CAPL to present at Board meeting in January 2024 to discuss the following: <ul style="list-style-type: none"> <li>activity overview for CAPL EPs to be submitted to NOPSEMA</li> <li>risks and mitigation measures associated with CAPL activities</li> <li>the engagement plan/proposed future consultation, and</li> <li>settle the engagement plan and framework agreement.</li> </ul>	Raised concern about quality of consultation, requested further information regarding activities, risks and mitigation measures, and raised the need to finalise engagement plan.	<b>Claims have merit:</b> As a relevant person, CAPL acknowledges the concerns raised.	No change made to the EP. A response to the objection and claims raised was provided.  Ongoing engagement with BTAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and BTAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions.
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	07/12/2023-07/12/2023	OC-000983	Face-to-face	CAPL met with BTAC to discuss finalisation of overarching relationship (engagement plan) agreement. This will include formalising social benefits, resourcing and the implementation of a Cultural Mapping Program.  CAPL provided an update on progress for procedure development for Underwater Cultural Heritage.  BTAC requested CAPL present at January board meeting to update on progress of offshore activities and submitted Environment Plans. BTAC confirmed that there were no concerns in regards to the Environment Plans submitted.  BTAC requested an additional meeting on 21 December to prepare for the presentation to the board in January 2024.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	08/12/2023-08/12/2023	OC-000987	Email	CAPL provided a refreshed consultation summary to BTAC for review	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	11/12/2023-11/12/2023	OC-001005	Phone	CAPL contacted BTAC to confirm BTAC has had more consultation time than any other stakeholder (14 months) and is yet to come back with any substantive comments around the planned activities.  CAPL confirmed with BTAC that it would be re-submitting EP to NOPSEMA this week.  CAPL advised that consultation with BTAC, as guided by RFF, has focused purely on the engagement plan despite numerous offers by Chevron to visit Barrow Island, present to the Board or to members during the past 14 months.  CAPL confirmed that it was happy to present to the BTAC Board in January 2024 on our next lot of planned activities, and to the February Common Law Holders meeting.  CAPL reiterated that it is happy to provide support to BTAC to be able to help understand its planned activities.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	11/12/2023-11/12/2023	OB-001007	Email	BTAC via their consultants provided comments to updated consultation summary to reflect additional steps since initial consultation summary was co-designed and agreed in May 2023.  BTAC via their consultants also provided Land Access Heritage Agreement Template.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	12/12/2023-12/12/2023	OC-001006	Email	CAPL provided BTAC with an updated consultation response and statements from the original consultation summary co-designed with BTAC at the close of consultation in May 2023	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	15/12/2023	OC-001017	Email	CAPL provided detailed summary of consultation and engagements between 2022 and 2023 to BTAC via email.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	15/12/2023-15/12/2023	OC-001008	Phone	CAPL followed up with BTAC by phone to discuss 12 December correspondence.  BTAC advised that they will formally respond to CAPL email by COB 15 December 2023.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	17/12/2023	OB-001020	Email	BTAC responded to CAPL letter. BTAC thanked CAPL for draft engagement agreement. BTAC stated that they have limited resources, and in order to undertake effective consultation, two matters must be satisfied: <ul style="list-style-type: none"> <li>Consultation must satisfy the requirements of Regulation 11A as explained in Santos NA Barossa Pty Ltd v Tipakalippa.</li> <li>BTAC's members and other Native Title holders need sufficient and timely information in relation to the proposals in the EPs.</li> </ul>	Raised concern about quality of consultation, raised need for technical advice and support, and raised the need to finalise engagement plan.  BTAC request that this engagement be included in the EP submission and provide BTAC a copy of your submission to NOPSEMA for BTAC's record.	<b>Claims have merit:</b> As a relevant person, CAPL acknowledges the objection and claims raised.	No change made to the EP. A response to the objection and claims raised will be provided to BTAC through ongoing engagement. A further meeting has been planned with BTAC for this purpose.

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				<p>BTAC outlined requirements to facilitate adequate consultation with itself and its members.</p> <p>BTAC set out an action plan to provide feedback and meet the requirements noted raised.</p> <p>BTAC expressed that the conditions raised must be met before providing commentary to CAPL for EPs.</p> <p>BTAC requested a copy of the submission to NOPSEMA for BTAC's record.</p>			<p>CAPL will provide a copy of the latest revision of the EP, as submitted to NOPSEMA.</p> <p>A formal Engagement Plan is also being co-designed by CAPL and BTAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions.</p>
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	18/12/2023	OC-001029	Phone	<p>CAPL contacted BTAC to discuss comments in letter 17 December 2023 and set a time to meet in the week commencing 18 December 2023 to plan for meetings in January 2024.</p> <p>Meeting confirmed for 9am 19 December 2023</p>	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	19/12/2023	OC-001039	Meeting	<p>CAPL met with BTAC to discuss plans for 2024.</p> <p>CAPL reiterated the NOPSEMA Environment Plan process to BTAC. CAPL confirmed that following consultation period in early 2023, the EP was submitted to NOPSEMA. CAPL explained that the EP will continue to evolve through requests for information and changes in concert with NOPSEMA.</p> <p>In reference to BTAC letter received on 17 December, CAPL advised that the reason why conversations since June had been focused on the development of an engagement plan between CAPL and BTAC was because we had closed consultation and developed a consultation summary with BTAC to include in the submitted EP in May.</p> <p>BTAC expressed their appreciation for CAPL being proactive and driving the development of the engagement plan well in advance of other operators.</p> <p>CAPL confirmed support for an independent environmental specialist to review activity information sheets, not the EP.</p> <p>BTAC thanked CAPL for providing the draft consultation/framework agreement and advised it was reviewing it. CAPL expressed that it was important for it to demonstrate that CAPL was compensating people fairly for their time and input into the development of environment plans.</p> <p>BTAC expressed an interest in CAPL presenting information on current activities at the January Board Meeting.</p> <p>CAPL accepted invitation to present to BTAC board in January 2024 but requested to use this as an opportunity to get the input of the BTAC board and introduce the opportunity to work with the board to co-design ongoing consultation.</p> <p>CAPL requested that there be a separate 1/2 day workshop with the board before or after their February 2024 board meeting focused on designing on-going consultation.</p> <p>BTAC via their consultants requested that board meeting be used to finalise the engagement agreement. CAPL advised that it would like for the board to be involved in designing the agreement for how BTAC and CAPL work together in addition to future consultation.</p> <p>BTAC advised that it would be the board, rather than a separate working group, that would be responsible for future consultations.</p> <p>CAPL expressed desire to work with BTAC to help develop fluency around its work so that BTAC was in a better position to understand and contribute to the enhancement of environment plans in the future.</p> <p>BTAC to confirm times and locations for meetings in January and February.</p>	BTAC expressed interest in CAPL presenting at its board meeting and finalising the engagement agreement.	<p><b>Claim has merit:</b></p> <p>As a relevant person CAPL acknowledges BTAC's claim.</p>	<p>No changes made to the EP. CAPL will continue to consult BTAC as per its request in accordance with CAPL's ongoing consultation arrangements.</p>
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	19/12/2023	OC-001040	Email	<p>BTAC sent an email follow up after meeting CAPL confirming next steps.</p> <p>Subject to confirmation by the board, CAPL will be invited to present to the common law holders at the next meeting.</p>	BTAC confirmed interest in CAPL presenting at its board meeting, finalising the relationship agreement and engaging an environmental consultant to provide independent advice	<p><b>Claim has merit.</b></p> <p>As a relevant person CAPL acknowledges BTAC's claim.</p>	<p>No changes made to the EP. CAPL will continue to consult BTAC as per its request in accordance with CAPL's ongoing consultation arrangements.</p>
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	21/12/2023	OC-001042	Email	<p>CAPL responded to BTAC email from 19 December.</p> <p>CAPL confirmed that it appreciated the opportunity to provide clarification on the consultation process and confirm the close of consultation with BTAC in May 2023 before our EP's were submitted to NOPSEMA in June.</p> <p>CAPL confirmed support for BTAC to engage an independent environment specialist to review future information sheets.</p> <p>CAPL accepted invitation to meet the board in February 2024.</p>	No objection or claim raised.		



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Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	22/12/2023-22/12/2023	OC-001043	Phone	CAPL contacted BTAC by phone to discuss plan to meet in preparation for the board meeting in January and February.	No objection or claim raised.		
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)				<p>To summarise consultation with BTAC to date:</p> <ul style="list-style-type: none"> <li>CAPL commenced consultation and discussions relating to the EP with BTAC on 7th September 2022. Information sheets were provided at this time.</li> <li>CAPL provided BTAC with an introductory email and link to the Consultation Hub on CAPL's website on 3 February 2023</li> <li>CAPL has met with BTAC representatives in 6 face-to-face meetings and maintained contact through email and telephone correspondence.</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>CAPL has considered feedback provided by BTAC during consultation, including information on BTAC's functions, interests and activities within the EMBA and all claims raised have been addressed in the EP as outlined above</li> <li>On 16th May, BTAC emailed CAPL with a summary of the outcomes of consultation undertaken to date to close consultation. BTAC had a period of over three months for consultation, which is CAPL maintains is a reasonable period consistent with section 6.2.3 of the EP.</li> <li>On 4th December, BTAC contacted CAPL to express concerns that BTAC have not been properly consulted on the EP's. CAPL responded with a detailed summary of consultation and engagements between 2022 and 2023 to BTAC and also met with BTAC on 19 December 2023 to assert CAPL has provided a reasonable period and sufficient information.</li> <li>CAPL co-designed consultation with BTAC, BTAC requested the consultation be undertaken through its consultants, and Chevron undertook the consultation in accordance with that co-designed method for 2023. In 2023 Chevron made repeated offers to brief the Board and/or Common Law Holders and BTAC did not take up those invitations. If BTAC now wishes the consultation to occur differently in 2024, CAPL and BTAC can co-design consultation for 2024, but it is CAPL's view that such change in methodology does not render the 2023 consultation incomplete or invalid.</li> <li>CAPL has provided a reasonable period and sufficient information to BTAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities because CAPL has allowed a 3-month period for consultation and provided written and verbal information on the activity, the risks and impacts of the activity, and the EMBA. CAPL asserts it has discharged its obligations under regulation 11A.</li> </ul> <p>CAPL will continue to engage BTAC as part of its ongoing consultation, including progressing cultural mapping, as outlined in Section 8.3.4.1 of the EP</p>			
Cape Conservation Group	10/02/2023	CN-000158	Email	CAPL advised the Cape Conservation Group had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Cape Conservation Group that they welcome meaningful feedback.	No objection or claim raised.		
Cape Conservation Group	17/02/2023	OC-000306	Phone	CAPL spoke with Cape Conservation Group about CAPL's want to engage with them in Exmouth and discuss preferred methods of communication. Cape Conservation group confirmed they would share CAPL's details.	No objection or claim raised.		
Cape Conservation Group	11/05/2023	OC-000527	Email	CAPL reached out to the Cape Conservation Group to see if they had any feedback on the activity and confirmed that the Cape Conservation Group has not expressed specific concerns or objections to the planned activity. The Cape Conservation Group advised CAPL of their views, expressed their concern of CAPL's activities regarding fossil fuel extraction and global scientific advice, and informed CAPL of their decision not to participate in the consultation process. CAPL responded to Cape Conservation Group acknowledging their views and that CAPL will be happy to arrange a meeting to discuss CAPL's activities at any time.	Broad objection to continued extraction of oil and gas resources	<b>Claim has merit:</b> Although not a specific claim or objective, the project does support oil and gas activities, and Cape Conservation Group are entitled to express their opinion as a relevant person.	No change made to the EP.
Cape Immersion Tours	20/02/2023	CN-000208	Email	CAPL advised that Cape Immersion Tours had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Cape Immersion Tours that they welcome meaningful feedback.	No objection or claim raised.		
Cape Immersion Tours	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		

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Cape Immersion Tours	07/11/2023	OB-000916	Phone	CAPL called to close out consultation. Cape Immersion Tours was not aware of any emails and asked for the email to be resent.	Engagement materials to be provided.	<b>Claim has merit:</b> CAPL acknowledge that further engagement is required.	No change made to the EP. CAPL resent the written notice.
Cape Immersion Tours	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Care For Hedland Environmental Association	08/02/2023	CN-000100	Email	Upon Care for Hedland (CFH) self-identifying themselves, CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the CFH that they welcome meaningful feedback. CFH requested to be included in the consultation process. CAPL notified CFH that further engagement would commence shortly.	No objection or claim raised.		
Care For Hedland Environmental Association	08/02/2023	OC-000140	Email	CAPL organised a meeting with CFH to provide information about upcoming activities.	No objection or claim raised.		
Care For Hedland Environmental Association	22/02/2023	OC-000259	Virtual Meeting	CAPL spoke with CFH and provided an overview of their current consultation hub and update on their Environment Plan. CFH nominated themselves as Relevant Person. CFH have been undergoing a turtle monitoring program over the past 20 years, CFH would be interested in a collaboration with CAPL with marine turtles being their primary interest. CFH confirmed they will meet with the committee and revert back with any additional questions they may have for CAPL.	No objection or claim raised.		
Care For Hedland Environmental Association	11/05/2023	OB-000508	Email	CFH advised CAPL that they did not have any specific concerns regarding the activities. CFH advised that they did however, have general concerns around the potential and need to mitigate impacts to marine turtles as Port Hedland's Flatback Turtle population is genetically linked to Barrow Island/North West Shelf population.	No specific concerns, just general concerns around potential and need to mitigate impacts to marine turtles. Port Hedland's Flatback turtles are genetically linked to the Barrow Island/North West Shelf population.	<b>Claim has merit:</b> Marine turtles identified as a particular value or sensitivity and may be impacted by the activities. Given their interest in monitoring of turtle populations, Chevron must consider if the activities impact on their monitoring program.	No change made to the EP. Threatened and/or migratory marine turtles with the potential to be present within the EMBA are discussed in Section 4.3.3.2 of the EP, and are considered in the Risk Assessment (Section 7). This engagement was closed out with CFH.
Care For Hedland Environmental Association	15/06/2023-19/07/2023	OB-000647	Email	CAPL continued consultation with CFH and sent through a written notice of the upcoming OPP activity. CAPL informed CFH that the risk and impacts would be similar to the Environment Plans. CFH advised that the flatback turtles that nest in Port Hedland have been genetically linked to Barrow Island and the NWS Flatback turtle population. CFH sent through the details of the chairperson for CAPL to contact and discuss further opportunities with Care for Hedland. A meeting was held between CFH and CAPL representatives on the 18th July. CAPL sent a summary email following the face to face meeting highlighting the information regarding the Chevron Community Spirit grant and turtle monitoring opportunities with Pendoley Environmental. CAPL advised that if CFH has any questions about the EP and OPP please don't hesitate to ask.	No objection or claim raised.		
Care For Hedland Environmental Association	16/06/2023-26/06/2023	OC-000732	Email	CAPL responded to CFH and advised that they would be interested in discussing the turtle monitoring with CFH further. CFH responded advising they were looking forward to future discussions. CAPL and CFH discussed arrangements for a face to face meeting on the 18th or 19th of July.	No objection or claim raised.		
Care For Hedland Environmental Association	18/07/2023-18/07/2023	OC-000584	Face-to-face	CAPL met with CFH in Port Hedland to discuss Environment Plans, OPP, Chevron Community Spirit Grant and Turtle Monitoring Opportunities.	No objection or claim raised.		
Care For Hedland Environmental Association	19/07/2023	OC-000740	Email	CAPL sent a follow up email post meeting to thank CFH for their time and sent through links for the Chevron Community Spirit Fund and turtle monitoring programs. CAPL advised if CFH has any further questions about CAPL activities they should get in touch.	No objection or claim raised.		
Carnarvon Chamber of Commerce Inc.	10/01/2023	CN-000882	Email	CAPL advised the Carnarvon Chamber of Commerce of CAPLs intentions of releasing information regarding their upcoming activities and identified CCCI as a possibly relevant stakeholder. CCCI advised CAPL they were happy to have a meeting or meet in person. CAPL offered to have a conversation over the phone in the first instance.	No objection or claim raised.		

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Carnarvon Chamber of Commerce Inc.	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Carnarvon Energy	14/02/2023	CN-000217	Email	CAPL advised that Carnarvon Energy had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Carnarvon Energy that they welcome meaningful feedback.	No objection or claim raised.		
Carnarvon Energy	28/09/2023-02/10/2023	OC-000785	Email	Carnarvon Energy thanked CAPL for providing information regarding their environment plans and stated that they have no further request for any information.	No objection or claim raised.		
Centre for Whale Research Western Australia (CWR)	10/02/2023	CN-000409	Email	CAPL advised the CWR had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Centre for Whale Research that they welcome meaningful feedback. CAPL followed up to ensure that they received the formal notification regarding CAPL's activities.	No objection or claim raised.		
Centre for Whale Research Western Australia (CWR)	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email. CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
City of Karratha (Pilbara)	19/12/2022	OC-000131	Email	CAPL advised the City of Karratha had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. CAPL organised to present to Council.	No objection or claim raised.		
City of Karratha (Pilbara)	31/01/2023	OC-000290	Face-to-face	CAPL met with the City of Karratha to provide an overview of their new approach to consultation along with an update on their Environment Plans. CAPL requested time to speak to the City of Karratha council on their Environment Plans.	No objection or claim raised.		
City of Karratha (Pilbara)	01/02/2023	OC-000130	Email	CAPL thanked the City of Karratha for their time and participation regarding CAPL's consultation process. CAPL confirmed they would like the opportunity to present to the Council Briefing. CAPL provided a list of other organisations they are currently consulting and asked if the City of Karratha could provide relevant ENGOs CAPL should proactively engage.	No objection or claim raised.		
City of Karratha (Pilbara)	06/02/2023	CN-000369	Email	CAPL advised the City of Karratha had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified City of Karratha that they welcome meaningful feedback. CAPL requested that this activity overview be shared at the EDM, and would be in Karratha/Roebourne in the future and would be available for further discussion.	No objection or claim raised.		
City of Karratha (Pilbara)	15/02/2023	OC-000135	Email	CAPL engaged with the City of Karratha to discuss the most efficient method to inform the community of CAPL's activities.	No objection or claim raised.		
City of Karratha (Pilbara)	20/02/2023	OC-000258	Virtual Meeting	CAPL met with the City of Karratha Council. CAPL provided an overview of their new online consultation hub and update on their Environment Plans. The City of Karratha Council complemented the level of detail by CAPL and posed a question on well decommissioning and seismic activities. CAPL informed the City of Karratha Council of the preventative measures that are in place as safeguards. CAPL offered to answer any further questions that may arise.	No objection or claim raised.		
City of Karratha (Pilbara)	20/02/2023	OC-000301	Email	CAPL reached out to the City of Karratha to thank them for their hospitality and to communicate their ongoing commitment to consultation.	No objection or claim raised.		
City of Karratha (Pilbara)	04/05/2023	OC-000454	Email	CAPL reached out to the City of Karratha to provide any feedback they may have on the activity.	No objection or claim raised.		
Commonwealth Fisheries Association (CFA)	14/03/2023	CN-000192	Email	CAPL sent a formal written notification advising CFA that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the CFA that they welcome meaningful feedback.	No objection or claim raised.		



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Commonwealth Fisheries Association (CFA)	07/11/2023	OB-000917	Phone	CFA advised they were consulted "out" and were not responding to consultation emails. They recommended that a hub to protect fishers interests be created as they don't have the capacity. CFA stated that they believe industry should find a better way to consult.	CFA raised the need to protect fisher's interests, and that consultation practises could be improved.	<b>Claim has merit:</b> CAPL activities do have the potential to impact fishers, and acknowledge CFA's comment on the consultation process.	No change made to the EP. The presence of fishing activities within the region are described in Section 4, and potential impacts and risks to fishing activities are assessed in Section 7.
Commonwealth Fisheries Association (CFA)	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Conservation Council of WA (CCWA)	10/02/2023	CN-000225	Email	CAPL advised that the CCWA had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the CCWA that they welcome meaningful feedback. CAPL followed up to confirm if email was received.	No objection or claim raised.		
Conservation Council of WA (CCWA)	27/03/2023	OC-000159	Phone	CAPL contacted CCWA to confirm receipt of formal notification. CCWA confirmed that they would forward on to the appropriate representatives.	No objection or claim raised.		
Conservation Council of WA (CCWA)	11/05/2023	OC-000532	Email	CAPL reached out to the CCWA to provide any feedback they may have on the activity. CAPL confirmed that the CCWA has not expressed specific concerns or objections to the planned activity. CCWA advised CAPL of their intention and interest in providing feedback on the Environment Plans and activities. CAPL informed CCWA that consultation had been finalised but, if they could provide their feedback as soon as possible, CAPL would possibly be able to consider the feedback and include it in the Environment Plans. CAPL welcomed the opportunity to meet with CCWA to discuss ongoing consultation for future activities.	CCWA advised CAPL of their intention and interest in providing feedback on the Environment Plans and activities.	<b>Claim has merit:</b> CCWA has been identified as a relevant person, and have indicated their intention to provide feedback. As such, they should have an opportunity to provide feedback.	No change made to the EP. Additional engagement with CCWA took place.
Conservation Council of WA (CCWA)	9/08/2023	OC-000612	Virtual Meeting	CAPL met with CCWA on Teams following requested for engagement and discussion on Environment Plans. CCWA advised that they have been overwhelmed for consultation requests and requested that early engagement would support them to be able to provide meaningful feedback. CAPL and CCWA agreed that it was important to focus on opportunities for positive engagement and collaboration around data and research gaps. CCWA advised that they would follow up with any further questions but are interested in meeting in person in Perth in a few week's time.	No objection or claim raised.		
Conservation Council of WA (CCWA)	15/08/2023-15/08/2023	OC-000617	Email	CAPL wrote to CCWA to capture notes and discussions following the recent meeting with reiteration of a desire to meet in person and build a relationship.	No objection or claim raised.		
Conservation Council of WA (CCWA)	31/08/2023-31/08/2023	OC-000630	Phone	CAPL contacted CCWA via phone and left a voicemail in order to arrange a meeting.	No objection or claim raised.		
Conservation Council of WA (CCWA)	18/09/2023-18/09/2023	OC-000660	Email	CAPL contacted CCWA to reiterate its interest in meeting in person following the virtual meeting held in August.	No objection or claim raised.		
Conservation Council of WA (CCWA)	20/09/2023-20/09/2023	OC-000714	Email	CAPL responded to CCWA and requested to meet online in order to suit CCWA team members. CAPL proposed a meeting in the week commencing the 2nd of October 2023.	No objection or claim raised.		
Conservation Council of WA (CCWA)	19/10/2023-19/10/2023	OC-000847	Email	CAPL wrote to CCWA in response to comments made in an online article regarding Barrow Island. CAPL offered CCWA opportunity to meet in order to be further briefed on our environmental management of Barrow Island and the issues raised.	No objection or claim raised.		
Conservation Council of WA (CCWA)	19/10/2023-19/10/2023	OC-000848	Email	CCWA responded to CAPL email seeking clarification around quarantine incursions on Barrow Island and whether CAPL has details on the species of scale insects and earwigs that have been detected. CCWA said they were keen to know about the changes CAPL will be making to improve its biosecurity management and the measures it will apply to control any pest species that have been released into the Barrow Island environment.	<ol style="list-style-type: none"> <li>CCWA requested further information regarding quarantine incursions on Barrow Island and biosecurity management.</li> <li>CCWA queried CAPL on the species of scale insects and earwigs that have been detected.</li> </ol>	<b>Claim has merit</b> <ol style="list-style-type: none"> <li>Biosecurity risks are relevant to offshore activities, and as a relevant person it is fair and reasonable to provide CCWA with further information.</li> </ol> <b>Claim does not have merit.</b> <ol style="list-style-type: none"> <li>This activity is limited to an offshore location, and insects and earwigs are not relevant to the Operational Area or EMBA.</li> </ol>	No change made to the EP. Additional engagement with CCWA took place.

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Conservation Council of WA (CCWA)	19/10/2023-19/10/2023	OC-000849	Email	CAPL provided CCWA a link to the Gorgon Environment Performance Report highlighting the page which included the information she requested.  CAPL again extended offer to arrange a meeting with our Environment and Quarantine team to provide a briefing on biosecurity management.	No objection or claim raised.		
Conservation Council of WA (CCWA)	19/10/2023-19/10/2023	OC-000850	Email	CCWA advised that they would review the Gorgon Environmental Report and will revert next week.	No objection or claim raised.		
Conservation Council of WA (CCWA)	19/10/2023-27/11/2023	OB-000959	Email	CCWA thanked CAPL for their response, and raised additional questions regarding onshore invasive species, quarantine procedures and baseline studies on Barrow Island.	CCWA raised multiple queries in regard to onshore invasive species, quarantine procedures and baseline studies on Barrow Island.	<b>Claims do not have merit:</b> While CAPL acknowledge the significance and merit of the claims raised, this activity is limited to an offshore location. As such, the claims are not relevant to this activity scope.	
Coral Bay Progress Association	03/01/2023	OC-000113	Email	The Shire of Carnarvon provided CAPL with a contact at the Coral Bay Progress Association for CAPL to contact. CAPL advised the Coral Bay Progress Association had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. A meeting was organised.	No objection or claim raised.		
Coral Bay Progress Association	06/02/2023	CN-000114	Email	CAPL advised the Coral Bay Progress Association had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Coral Bay Progress Association that they welcome meaningful feedback.	No objection or claim raised.		
Coral Bay Progress Association	27/02/2023	OC-000265	Phone	CAPL spoke with the representatives from the Coral Bay Progress Association. Coral Bay Progress Association advised that they would discuss the Environment Plans during an internal meeting and revert back to CAPL with any comments or questions.	No objection or claim raised.		
Coral Bay Progress Association	02/03/2023	OC-000292	Virtual Meeting	CAPL met with the Coral Bay Progress Association to provide an overview of their new approach to consultation along with an update on their Environment Plans.	No objection or claim raised.		
Coral Bay Progress Association	10/05/2023	OC-000439	Email	CAPL reached out to the Coral Bay Progress Association to provide any feedback they may have on the activity. CAPL confirmed that the Coral Bay Progress Association has not expressed specific concerns or objections to the planned activity.	No objection or claim raised.		
Coral Bay Progress Association	07/08/2023	OC-000068	Phone	CAPL called to follow up their recent meeting to understand whether there was interest in meeting up. Coral Bay Progress Association confirmed that CAPL's Environment Plan information had been shared but there has been no interest in engaging further at this point.	No objection or claim raised.		
Coral Futures Corporation	04/05/2023	CN-000399	Email	CAPL advised that Coral Futures Corporation had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Coral Futures Corporation that they welcome meaningful feedback. Coral Futures Corporation responded to CAPL and wish to be included in the continuing consultation process regarding the activity. Coral Futures has planned an aquaculture project in the zone of the CAPL's planned activity and seek to understand the potential impacts (if any) and risks that may arise and have potential for impact from CAPL's proposed activity, including air and water quality, seabed habitat, and marine fauna. A meeting was organised.	No objection or claim raised.		
Coral Futures Corporation	11/05/2023	OB-000428	Virtual Meeting	CAPL presented to Coral Futures Corporation who have an aquaculture license in state waters near Dampier to grow coral. Coral Futures Corporation would like to be advised of ongoing activities from CAPL and be included in emergency notifications. Coral Features Corporation sent a follow up email thanking CAPL for their time, and expressed interest in further engagement.	Coral Futures Corporation requested ongoing engagement and notification in the event of an emergency.	<b>Claim has merit:</b> Coral Futures Corporation have planned activities within the region, given their location (and the nature of emergency conditions), their request to be notified in the event of an emergency and receive ongoing consultation has merit.	Table 8-5 and Section 8.3.4.2 in the EP have been revised to include incident notifications to relevant persons.  Notification in the event of an emergency is covered under existing ongoing consultation requirements for 'potentially affected persons' in Table 8-5 of the Implementation Strategy.
Cruise Lines International Association	29/09/2023	CN-000800	Email	CAPL reached out to the Cruise Lines International Association as a potential relevant person, as suggested by Tourism WA. CAPL provided an overview of the CAPL activities in a factsheet, and advised that they were happy to discuss further.	No objection or claim raised.		
Cygnets Bay Pearl Farm	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.	No objection or claim raised.		

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				CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.			
Cygnets Bay Pearl Farm	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	No objection or claim raised.		
Cygnets Bay Pearl Farm	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Department of Agriculture, Fisheries and Forestry - Fishing impacts (DAFF)	15/02/2023	CN-000215	Email	CAPL sent a formal written notification advising DAFF that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the DAFF that they welcome meaningful feedback.	No objection or claim raised.		
Department of Biodiversity, Conservation and Attractions (DBCA)	26/05/2022	CN-000076	Email	CAPL advised the DBCA that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity in a factsheet. CAPL notified DBCA that they welcome meaningful feedback.  DBCA acknowledged receipt of the information for CAPL's upcoming activities. DBCA has no comments in relation to their responsibilities under the Conservation and Land Management Act 1984 and Biodiversity Conservation Act 2016 based on the information sheet provided to DBCA.	No objection or claim raised.		
Department of Biodiversity, Conservation and Attractions (DBCA)	24/01/2023	OC-000108	Email	The Shire of Carnarvon provided a contact at DBCA for CAPL to contact to organise a time to discuss the upcoming activity. CAPL advised that the DBCA had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. DBCA acknowledged that the location of the activity is relevant to the DBCA. The DBCA advised they added CAPL's information on the activity to the committees agenda that is scheduled for 2 May 2023. Post this meeting the DBCA will be in contact with CAPL to address likely impacts (if any) to the outstanding universal value of the Ningaloo Coast World Heritage Area. CAPL indicated their intention to continue to engage and requested to meet in person.	No objection or claim raised.		
Department of Biodiversity, Conservation and Attractions (DBCA)	15/02/2023	CN-000109	Email	CAPL sent a follow up email providing an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified DBCA that they welcome meaningful feedback. Additional contacts within DBCA was provided to CAPL to provide consultation in the area of Ningaloo Coast and Shark Bay World Heritage Areas. CAPL expressed their intention to continue engagement, and requested additional contacts at the DBCA and whether an in person meeting was possible.	No objection or claim raised.		
Department of Biodiversity, Conservation and Attractions (DBCA)	24/02/2023	OC-000267	Virtual Meeting	CAPL met with the representatives from DBCA Exmouth and provided an overview of their new approach to consultation along with an update on their Environment Plans. Discussion focused around EMBA map and shoreline loading queries. DBCA Exmouth advised CAPL of the importance of engagement with the World Heritage Committees and NOPSEMA guidelines and sensitivities relevant to World Heritage Areas.	DBCA Exmouth advised CAPL of the importance of engagement with the World Heritage Committees and NOPSEMA guidelines and sensitivities relevant to World Heritage Areas.	The claim has merit: There are World Heritage Areas within the region. As such the request to engage with the World Heritage Committee has merit.	No change made to the EP. Additional engagement with The Heritage Advisory Committee (NCWHAC) took place. World Heritage Properties are described in Section 4.6 of the EP.
Department of Biodiversity, Conservation and Attractions (DBCA)	11/05/2023	OC-000456	Email	CAPL reached out to DBCA to provide any feedback they may have on the activity. CAPL confirmed that DBCA has not expressed specific concerns or objections to the planned activity. DBCA Exmouth contacted CAPL and notified them that all queries regarding Environment Plans and consultation on proposals should be sent to a separate branch of DBCA. CAPL sent the email to the appropriate inbox DBCA Exmouth pointed CAPL to.	No objection or claim raised.		
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	16/05/2023-08/06/2023	CN-000547	Email	CAPL advised DCCEEW that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and advised that they welcome meaningful feedback. DCCEEW advised CAPL of the requirements regarding Underwater Cultural Heritage (UCH) and its importance to Aboriginal Corporations and people. CAPL acknowledged the email and informed DCCEEW that they are aware and understand the importance of UCH and have been engaging accordingly to ensure they meet the requirements and engage with the appropriate corporations.	1. The Department recommends engaging a suitably qualified and experienced maritime or underwater archaeologist for advice on how to mitigate risks associated with protected underwater cultural heritage (UCH). 2. The Department recommends undertaking a Desktop UCH Assessment	<b>Claims have merit:</b> All claims made by DCCEEW were considered relevant given CAPL's understanding of the legislation, recent focus and activity location.	Section 7.3 was revised to reflect engagement with DCCEEW. 'ALARP decision context justification' was revised to include statement regarding receipt of one claim. No change to previous decision context (i.e. still Decision Context A).

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
					<p>3. A detailed UCH resource assessment should be undertaken, including a description, risks and mitigation measures</p> <p>4. Noted adverse impacts include directly or indirectly disturbing or otherwise damaging protected UCH or causing the removal of protected UCH</p> <p>5. Raised the UCH Act and associated obligations</p> <p>6. Noted that potential impacts to First Nations UCH should be considered.</p> <p>7. Requested the inclusion of Underwater Cultural Heritage team in ongoing consultation process in relation to activities that have the potential to impact UCH.</p>		<p>'External context' (within 'Determination of acceptability') for Section 7.3 has been updated with a summary of claim and response.</p> <p>Table 8-5 has been revised to capture engagement requirements with DCCEEW regarding UCH.</p> <p>Table 8-13 has been revised to include the UCH Act notification requirements.</p> <p>No additional changes made to the EP. As discussed in Section 4.6.2 Underwater cultural heritage, a desktop UCH assessment was undertaken, and no UCH was identified within the EMBA. The risks to UCH area assessed in 7.3 Seabed Disturbance.</p>
Department of Climate Change, Energy, the Environment and Water - Director of National Parks (DNP)	15/02/2023	CN-000194	Email	<p>CAPL sent a follow up email providing an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the DNP that they welcome meaningful feedback.</p> <p>DNP confirmed that they wish to be consulted as a relevant person, and to direct consultation to marineparksauthorisations@dcceew.gov.au</p>	DNP confirmed that they wish to be consulted as a relevant person, and to direct consultation to marineparksauthorisations@dcceew.gov.au	<b>Claim has merit:</b> Activity occurs within the Montebello Marine Park, and DNP is a relevant person. Directing consultation to marineparksauthorisations@dcceew.gov.au is a reasonable and appropriate request.	No change made to the EP. Additional engagement with DCCEEW took place.
Department of Defence (DoD)	14/02/2023	CN-000220	Email	<p>CAPL advised that DoD had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the DoD that they welcome meaningful feedback.</p>	No objection or claim raised.		
Department of Defence (DoD)	16/03/2023	OC-000368	Email	<p>CAPL acknowledged receipt of DoD response. CAPL understands that the activity areas are located in the North-West Exercise Area (NWXA) and have checked where known unexploded ordnance (UXO) are using the UXO map UXO Map (whereisuxo.org.au) and there are no known UXOs present within the proposed operational area's for the activities consulted on, however CAPL note that there may be UXOs present on and in the sea floor. CAPL confirmed they will contact the Australian Hydrographic Service 3-weeks prior to any activities occurring. CAPL requested further clarification and understanding of where the restricted airspace is within the vicinity of the activity areas.</p> <p>DoD responded providing a map of restricted airspace.</p>	No objection or claim raised.		
Department of Energy, Mines, Industry Regulation and Safety (WA DEMIRS)	22/06/2022	CN-000123	Email	<p>CAPL provided details of the activity along with the activity information sheet.</p> <p>DEMIRS acknowledged receipt of the information sent by CAPL for the proposed activity.</p> <p>DEMIRS has reviewed the information sheet and stated that they do not require any further information.</p> <p>DEMIRS requested that CAPL provides a pre-start notification confirming the start date of the proposed activity and a cessation notification to DEMIRS upon completion of the activity.</p> <p>DEMIRS also provided the Consultation Guidance Note for reporting incidents that could potentially impact on any land or water under State jurisdiction.</p>	<p>1 DEMIRS requested that CAPL provides a pre-start notification confirming the start date of the proposed activity and a cessation notification to DEMIRS upon completion of the activity.</p> <p>2 DEMIRS provided the Consultation Guidance Note for reporting incidents that could potentially impact on any land or water under State jurisdiction.</p>	<b>Claims have merit:</b> 1. As a relevant person and regulatory body, it is fair and reasonable to provide DEMIRS with commencement and completion notification. 2. CAPL acknowledge the reporting requirements required under relevant guidelines.	No action required. Commencement and completion notification to DEMIRS is already captured in Table 8-13 of the EP. Incident reporting requirement are already captured in Section 8.4.2 of the EP.
Department of Energy, Mines, Industry Regulation and Safety (WA DEMIRS)	09/05/2023	CN-000510	Email	<p>CAPL sent a formal written notification advising DEMIRS that they have been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and advised DEMIRS that CAPL welcome meaningful feedback.</p>	No objection or claim raised.		
Department of Primary Industries and Regional Development (WA DPIRD): Fisheries	08/05/2023	CN-000453	Email	<p>CAPL advised DPIRD that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified DPIRD that they welcome meaningful feedback.</p>	No objection or claim raised.		
Department of Transport (DoT) - Maritime	26/05/2022	CN-000503	Email	<p>CAPL engaged with the Department of Transport - Marine Pollution (DoT) regarding: Dino South-1 and Wheatstone Deep-1 Exploration Drilling activities.</p>	If there is a risk of a spill impacting State waters from the proposed activities, the Department of Transport should be	<b>Claim has merit:</b>	No action required. Reporting requirement to DoT for spills potentially affecting State waters



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Environmental Emergency Response (MEER) - Marine Pollution				DoT advised CAPL that if there is a risk of a spill impacting State waters from the proposed activities, please ensure that the Department of Transport is consulted as outlined in the Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020)	consulted as outlined in the Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020)	CAPL acknowledge that the activity has the potential to result in a spill that impacts state waters, and that DOT must be consulted in accordance with the Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020).	is already included in Section 8.4.2 (table 8-12).
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	15/02/2023	CN-000168	Email	CAPL sent a follow up email advising DoT that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Department of Transport that they welcome meaningful feedback. DoT notified CAPL that if there is a risk of a spill impacting State waters from the proposed activities that DoT Oil Spill Response Unit is consulted as outlined in the Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020). CAPL sent a follow up asking DoT to confirm that contacts within DoT had been engaged with. DoT confirmed that key contacts had been engaged with.	No objection or claim raised.		
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	17/08/2023	OC-000735	Email	DoT requested that information as outlined in the DoT Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020). CAPL sent through consultation information in accordance with the guidance note to DoT.	No objection or claim raised.		
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	27/09/2023	OC-000734	Email	DoT requested further information to address the requirements of the Industry Guidance Note and CAPL responded in accordance with DoT's request.	No objection or claim raised.		
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	12/12/2023	OB-001032	Email	DoT thanked CAPL for their email, and requested spill EMBA figures for potential spill scenarios, and timeframes for potential impacts to state waters.	DoT requested further information.	<b>Claim has merit:</b> As a relevant person, DOT's request for further information is considered fair and reasonable	No change made to the EP. CAPL provided a response to DOT's queries and closed out this engagement.
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	20/12/2023	OC-001085	Email	CAPL responded and thanked the DOT for their comments regarding three Environment Plans.	No objection or claim raised.		
Department of Transport (DoT) - Maritime Environmental Emergency Response (MEER) - Marine Pollution	18/01/2024	OC-001092	Email	DoT responded with thanks and no further comments.	No objection or claim raised.		
Department of Water & Environmental Regulation (DWER)	15/02/2023	CN-000210	Email	CAPL sent a formal written notification advising DWER had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified DWER that they welcome meaningful feedback	No objection or claim raised.		
Ebb and Flow / Glass Bottom Boats	20/02/2023	CN-000206	Email	CAPL advised Glass Bottom Boats had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Glass Bottom Boats that they welcome meaningful feedback.	No objection or claim raised.		
Ebb and Flow / Glass Bottom Boats	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans.	No objection or claim raised.		

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				CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.			
Eni Australia	14/02/2023	CN-000190	Email	CAPL advised that Eni Australia had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Eni Australia that they welcome meaningful feedback. Eni Australia responded that they have received the email and have no concerns regarding the activity at this stage.	No objection or claim raised.		
Environmental Protection Authority (EPA)	08/05/2023	CN-000431	Email	CAPL advised that the EPA had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the EPA that they welcome meaningful feedback.  EPA acknowledged the email and did not provide any comments.	It is noted that CAPL is in regular contact with DWER EPA Services and no additional feedback has been provided. No changes to the EP or activity were made.		
Exmouth Chamber of Commerce and Industry (ECCI)	20/12/2022	OC-000174	Email	CAPL advised the ECCI had been identified as a relevant person with functions, interests or activities that may be affected by the activity. ECCI were pleased to hear from CAPL for early consultation and relationship building. A meeting was arranged.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	05/01/2023	OC-000172	Email	CAPL thanked the ECCI for their time. CAPL requested community engagement group contacts for continued consultation and funding opportunities. ECCI provided details as requested.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	05/01/2023	OC-000542	Virtual Meeting	CAPL discussed the upcoming Environment Plan consultation for the activity and CAPL's membership with ECCI had been identified as a relevant person.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	24/01/2023	OC-000171	Email	ECCI in partnership with Tourism WA provided CAPL with contacts for relevant persons within the region as well as sponsorship opportunities to support the community.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	24/01/2023	OC-000283	Face-to-face	CAPL met with representatives from ECCI in Exmouth. ECCI provided advice on local relevant persons that CAPL should be engaging.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	06/02/2023	CN-000110	Email	CAPL sent a follow up email providing an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Exmouth Chamber of Commerce and Industry that they welcome meaningful feedback. ECCI organised for CAPL's activity information to be sent out via the Exmouth Chamber of Commerce EDM.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	13/02/2023	OC-000112	Email	CAPL assisted ECCI with first aid training through CAPL's relationship with St John Ambulance. CAPL passed on the email address and contact details for a local company that can run the first aid classes for ECCI.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	23/02/2023	OC-000261	Virtual Meeting	CAPL met with the ECCI to understand potential opportunities for engagement and support.	No objection or claim raised.		
Exmouth Chamber of Commerce and Industry (ECCI)	27/02/2023	OC-000299	Phone	CAPL spoke with ECCI about possible sponsorship and engagement opportunities.	No objection or claim raised.		
Exmouth Dive & Whalesharks Ningaloo	09/01/2023	OC-000173	Email	CAPL advised that Exmouth Dive & Whaleshark Ningaloo had been identified. CAPL identified Exmouth Dive & Whaleshark Ningaloo as a relevant person with functions, interests or activities that may be affected by the activity and CAPL contacted them to confirm their contact details for consultation. Exmouth Dive & Whaleshark Ningaloo responded to confirm this.	No objection or claim raised.		
Exmouth Dive & Whalesharks Ningaloo	20/02/2023	CN-000204	Email	CAPL sent formal written notification advising Exmouth Dive & Whalesharks Ningaloo had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Exmouth Dive & Whalesharks Ningaloo that they welcome meaningful feedback.	No objection or claim raised.		

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Exmouth Dive & Whalesharks Ningaloo	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email. CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Exmouth Dive & Whalesharks Ningaloo	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	No objection or claim raised.		
Exmouth Dive & Whalesharks Ningaloo	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Exmouth Gulf Task Force - DWER	13/02/2023	CN-000069	Email	CAPL advised that the Exmouth Gulf Task Force had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Exmouth Gulf Task Force that they welcome meaningful feedback. Exmouth Gulf Task Force acknowledged receipt of email and that the Exmouth Gulf Taskforce will consider this at the next meeting.	No objection or claim raised.		
Exmouth Gulf Task Force - DWER	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email. CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Exmouth Gulf Task Force - DWER	06/09/2023-06/09/2023	OC-000636	Email	CAPL contacted Exmouth Gulf Task Force to follow up on earlier correspondence to confirm whether there was an interest in meeting to discuss our EP and OPP information. No response was received from Exmouth Gulf Task force and as such consultation was closed out.	No objection or claim raised.		
Exxon Mobil	14/02/2023	CN-000191	Email	CAPL advised that Exxon Mobil had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Exxon Mobil that they welcome meaningful feedback. CAPL sent a follow up email to confirm whether the email was received.	No objection or claim raised.		
Exxon Mobil	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Gascoyne Junction Community Resource Centre (GJCRC)	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Gascoyne Junction Community Resource Centre (GJCRC)	08/11/2023	OB-000918	Phone	CAPL called to close out consultation. GJCRC was not aware of any emails and asked for the email to be resent.	Engagement materials to be provided.	Claim has merit: CAPL acknowledge that further engagement is required.	No change made to the EP. CAPL resent the written notice.
Gascoyne Junction Community Resource Centre (GJCRC)	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		



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Greenpeace	10/02/2023	CN-000224	Email	CAPL advised that Greenpeace had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Greenpeace that they welcome meaningful feedback. CAPL sent a follow up email to confirm whether the email was received.	No objection or claim raised.		
Greenpeace	03/07/2023-21/08/2023	OC-000620	Email	Greenpeace provided confirmation via email to CAPL that emails concerning OPP and EP's had been forwarded to Greenpeace office of the CEO	No objection or claim raised.		
Greenpeace	31/08/2023-31/08/2023	OC-000631	Phone	CAPL contacted Greenpeace by telephone in relation to its current EP's requesting an opportunity to engage with the office of the CEO. Greenpeace Operator advised that she would pass the message on.	No objection or claim raised.		
Greenpeace	06/09/2023-06/09/2023	CN-000639	Email	CAPL contacted Greenpeace requesting opportunity to meet to discuss offshore activities and investments in net zero and lower carbon operations.	No objection or claim raised.		
Greenpeace	04/10/2023-04/10/2023	OC-000816	Email	Greenpeace confirmed opportunity to speak with their CEO via email and offered virtual or in person meeting .	No objection or claim raised.		
Greenpeace	04/10/2023-04/10/2024	OC-000817	Email	CAPL responded to Greenpeace to confirm availability to meet virtually and in person.	No objection or claim raised.		
Greenpeace	07/11/2023	OC-000905	Email	CAPL followed up asking if Greenpeace were available to meet next week.	No objection or claim raised.		
Greenpeace	23/11/2023	OB-000943	Email	Greenpeace provided feedback regarding CAPL activities. Greenpeace requested all consultation be conducted in writing but would like to have the CEO of Greenpeace and CAPL meet and discuss future business. Greenpeace requested confirmation that Greenpeace is considered to be a 'relevant person' on the Plans, and requested further information regarding: <ul style="list-style-type: none"> <li>greenhouse gas emissions fit within state and national carbon budgets</li> <li>mitigation measures of the greenhouse gas emissions emitted</li> <li>full modelling reports commissioned for the EPs</li> <li>information about worst case scenario hydrocarbon spill scenarios, including impacts to fauna and protected areas.</li> </ul>	Greenpeace requested further engagement to discuss CAPL activities and further information.	<b>Claims have merit:</b> As a relevant person, the request for further information and engagement is considered fair and reasonable.	No change made to the EP. Further engagement with Greenpeace has taken place, and information was provided on all points raised. Engagement with Greenpeace is ongoing.
Greenpeace	04/12/2023-04/12/2023	OC-000964	Email	CAPL provided a response to Greenpeace. CAPL confirmed that Greenpeace remains a 'relevant person', and provided further information on all points raised by Greenpeace. Greenpeace thanked CAPL for its email responding to GP's email from the 23 November 2023 and discussed reaching out in early 2024 to set up meeting with CAPL MD with GP CEO	No objection or claim raised.		
Greenpeace	11/04/2024	001261	Email	CAPL provided relevant sections of the Exploration EPs to Greenpeace. CAPL noted that Greenpeace has had no comments on our previous Environment Plans but reserves the right to provide further comments. CAPL noted it would be happy to incorporate any comments Greenpeace may have on the Exploration EPs.	No objection or claim raised.		
Image Dive and Charters	04/05/2023	CN-000393	Email	CAPL advised that Image Dive and Charters had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Image Dive and Charters that they welcome meaningful feedback.	No objection or claim raised.		
Image Dive and Charters	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email. CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Image Dive and Charters	08/11/2023	OC-000925	Phone	CAPL called the stakeholder to close out consultation regarding CAPL activities. Image Dive and charters stated they did not have any comments and would prefer email notifications for future correspondence.	No objection or claim raised.		
Image Dive and Charters	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		

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International Fund for Animal Welfare (IFAW) - Oceania	10/02/2023	CN-000377	Email	CAPL advised that the IFAW had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified IFAW that they welcome meaningful feedback. CAPL sent a follow up email to confirm whether the email was received.	No objection or claim raised.		
International Fund for Animal Welfare (IFAW) - Oceania	13/03/2023	OB-000380	Email	IFAW emailed CAPL regarding significant concerns about the impact of oil and gas exploration on the marine environment. IFAW underwater noise pollution objected to seismic surveying in Biologically Important Areas at times when whales are present in these areas. CAPL thanked IFAW for the email and for highlighting their concerns. CAPL provided a response to the concerns raised.	1 IFAW raised significant concerns about the impact of oil and gas exploration on the marine environment, 2 IFAW underwater noise pollution objected to seismic surveying in Biologically Important Areas at times when whales are present in these areas. 3 IFAW raised impact of seismic testing on fisheries and the marine environment	<b>Claim has merit:</b> 1. CAPL acknowledge concerns raised regarding the impact of oil and gas exploration to the marine environment. <b>Claims do not have merit:</b> 2/3. While CAPL acknowledges the IFAW's objections and concerns regarding seismic activities, they are out of scope for this activity.	No change made to the EP. The EP includes a description of the existing environment (Section 4) and a risk assessment (Section 7) to address impacts and risks to the marine environment, including a demonstration that risks are of a defined acceptable level. CAPL provided a response to IFAW on the concerns raised.
Jadestone Energy	14/02/2023	CN-000189	Email	CAPL advised that Jadestone Energy had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Jadestone Energy that they welcome meaningful feedback. CAPL sent a follow up email to confirm whether the email was received.	No objection or claim raised.		
Jadestone Energy	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Jadestone Energy	08/11/2023	OC-000919	Phone	CAPL called to close out consultation. Jadestone did not answer and no voicemail option was available.	No objection or claim raised.		
Jadestone Energy	29/11/2023	OC-000961	Email	CAPL sent a final close out email stating they have made several attempts to make contact via email / telephone regarding the opportunity to consult on our proposed activities. To date CAPL have not received a reply from the organisation. CAPL would still welcome the opportunity to engage with you for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Karratha & Districts Chamber of Commerce and Industry (KDCCI)	22/12/2022	OC-000115	Email	CAPL advised the KDCCI had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. KDCCI acknowledged and appreciated CAPL reaching out and a meeting was organised. CAPL provided a link to their website for further information regarding the activity.	No objection or claim raised.		
Karratha & Districts Chamber of Commerce and Industry (KDCCI)	31/01/2023	OC-000288	Face-to-face	CAPL met with KDCCI in Karratha. CAPL provided an overview of their new approach to consultation along with an update on their Environment Plans. KDCCI offered to share CAPL's information sheet with their members.	No objection or claim raised.		
Karratha & Districts Chamber of Commerce and Industry (KDCCI)	13/02/2023	CN-000410	Email	CAPL advised the KDCCI had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. KDCCI acknowledged and appreciated CAPL reaching out and a meeting was organised. CAPL provided a link to their website for further information regarding the activity.	No objection or claim raised.		
Karratha & Districts Chamber of Commerce and Industry (KDCCI)	13/02/2023	OC-000304	Phone	CAPL spoke with KDCCI regarding details of CAPL's advert to include in the KDCCI newsletter.	No objection or claim raised.		
Karratha & Districts Chamber of Commerce and Industry (KDCCI)	22/02/2023	OC-000117	Email	KDCCI advertised CAPL's Environment Plan information sheet in their newsletter.	No objection or claim raised.		

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Karratha & Districts Chamber of Commerce and Industry (KDCCI)	03/03/2023	OC-000520	Email	KDCCI offered the opportunity for CAPL to present to their board regarding the upcoming activities. A time was organised.	No objection or claim raised.		
Karratha & Districts Chamber of Commerce and Industry (KDCCI)	16/05/2023	OC-000534	Virtual Meeting	CAPL presented to the KDCCI board on CAPL's upcoming activities. The KDCCI board confirmed CAPL's Environment Plan information was shared via email to their membership on CAPL's behalf in February. No feedback, objections or claims were raised.	No objection or claim raised.		
Karratha Tourism and Visitor Centre	08/02/2023	CN-000231	Email	CAPL advised that the Karratha Visitor Centre had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Karratha Visitor Centre that they welcome meaningful feedback.	No objection or claim raised.		
Karratha Tourism and Visitor Centre	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email.  CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Kato Energy / Kato NWS Pty Ltd	14/02/2023	CN-000216	Email	CAPL advised that Kato Energy had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Kato Energy that they welcome meaningful feedback.	No objection or claim raised.		
Kato Energy / Kato NWS Pty Ltd	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email.  CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Kato Energy / Kato NWS Pty Ltd	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	No objection or claim raised.		
Kato Energy / Kato NWS Pty Ltd	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).  CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Kufpec	14/02/2023	CN-000417	Email	CAPL advised that Kufpec had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Kufpec that they welcome meaningful feedback.	No objection or claim raised.		
Kufpec	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email.  CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Live Ningaloo	09/01/2023	OC-000181	Email	CAPL advised that Live Ningaloo had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL confirmed contact details for future consultation.	No objection or claim raised.		
Live Ningaloo	20/02/2023	CN-000201	Email	CAPL sent a formal written notification advising Live Ningaloo that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Live Ningaloo that they welcome meaningful feedback.	No objection or claim raised.		
Live Ningaloo	11/05/2023	OC-000444	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email.	No objection or claim raised.		

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Mackerel Islands & Onslow Beach Resort	26/05/2022	CN-000074	Email	CAPL provided details of the activity along with the activity information sheet. Mackerel Islands & Onslow Beach Resort sent an automated email response, stating that they have limited opportunity to respond to emails.	No objection or claim raised.		
Mackerel Islands & Onslow Beach Resort	20/02/2023	CN-000207	Email	CAPL sent a formal written notification advising Mackerel Islands & Onslow Beach Resort had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Mackerel Islands & Onslow Beach Resort that they welcome meaningful feedback.	No objection or claim raised.		
Mahi Mahi Charters	04/05/2023	CN-000394	Email	CAPL sent a formal written notification advising Mahi Mahi Fishing Charters had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Mahi Mahi Fishing Charters that they welcome meaningful feedback.	No objection or claim raised.		
Mahi Mahi Charters	08/11/2023	OC-000923	Phone	CAPL called Mahi Mahi to close out consultation regarding CAPL activities. The voicemail advised that the stakeholder office was closed till end of December. CAPL left a message confirming a close out email would be sent through	No objection or claim raised.		
Mahi Mahi Charters	29/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	22/08/2023-22/08/2023	OC-000623	Phone	CAPL received a voicemail from a self-identified relevant person (SIRP) advising that they were interested in having a conversation with CAPL. CAPL returned the phone call leaving a voicemail.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	23/08/2023-23/08/2023	OC-000626	Phone	The SIRP contacted CAPL via phone to identify themselves as a Traditional Custodian for Mardathoonera and therefore a Relevant Person for ongoing consultation. CAPL confirmed that it would welcome the opportunity to meet with the SIRP to discuss its activities.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	28/08/2023-28/08/2023	OC-000629	Phone	CAPL confirmed meeting time and location in Karratha on Wednesday 30 August 2023 with SIRP.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	04/09/2023-30/08/2023	OC-000632	Face-to-face	CAPL met with SIRP and representatives for an introductory meeting in Karratha. SIRP and representatives confirmed significance and importance of Barrow Island and their interest in CAPL's offshore activities. CAPL confirmed that it would provide a number of available dates for a visit to Barrow Island. CAPL confirmed that it would treat SIRP and people as Relevant Persons for the purposes of developing its Environment Plans. CAPL committed to confirming availability to meet again in Karratha in the week commencing the 11th of September.	CAPL confirmed that it would be able to work with SIRP as a relevant person.	<b>Claim has merit:</b> As a relevant person, it is fair and reasonable to provide ongoing engagement	Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies.  An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Mardathoonera Cultural Heritage Pty Ltd	04/09/2023-04/09/2023	OC-000635	Phone	CAPL contacted SIRP to arrange meetings in Karratha on the 12th and 14th of September. Two separate meetings confirmed.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	08/09/2023-08/09/2023	OC-000640	Phone	CAPL confirmed in person meeting in Karratha on Tuesday 12 September with SIRP. CAPL confirmed intent to discuss current EP activities and OPP.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	12/09/2023-12/09/2023	OC-000646	Face-to-face	CAPL confirmed that it would be able to work with SIRP to design how we consult on current and future activities.	CAPL confirmed that it would be able to work with SIRP to design how we consult on current and future activities.	<b>Claim has merit:</b> As a relevant person, it is fair and reasonable to provide ongoing engagement	Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies.  An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which



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							further describes ongoing engagement.
Mardathoonera Cultural Heritage Pty Ltd	15/09/2023-15/09/2023	OC-000662	Phone	CAPL spoke with SIRP in regard to coordinating next meeting with a CAPL General Manager. SIRP proposed availability in the week commencing 18 September and potentially week commencing 25 September. SIRP advised that she would confirm availability either today (14 September) or 18 September.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	18/09/2023-18/09/2023	OC-000661	Phone	CAPL contacted SIRP to arrange next meeting for consultation and left a voicemail.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	19/09/2023-19/09/2023	OC-000713	Phone	SIRP contacted CAPL advising that they would not be available to meet again until after 27 September. CAPL reiterated that it was looking forward to meeting again.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	29/09/2023-29/09/2023	OC-000766	Phone	CAPL left voicemail for SIRP to arrange meeting in Karratha	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	29/09/2023-29/09/2023	OC-000768	Phone	CAPL spoke with SIRP over the phone. SIRP advised that they will confirm availability for in person meeting later today or on Monday.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	02/10/2023-02/10/2023	OC-000818	Phone	CAPL confirmed availability to travel to BWI with SIRP via text message after call went to voicemail. SIRP advised that they would come back to confirm. SIRP advised that earliest time available to meet in Karratha to discuss activities with her legal representation would be after October 2.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	06/10/2023-06/10/2023	OC-000822	Phone	CAPL attempted contact with SIRP to confirm details for meeting in KTA and visit to BWI.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	13/10/2023-13/10/2023	OC-000827	Phone	CAPL contacted SIRP by telephone and left a voicemail message requesting call back to confirm meeting in Karratha on the 26th of October and visit to Barrow Island in November	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	13/10/2023-13/10/2023	OC-000828	Phone	CAPL sent SIRP text message requesting call to: <ul style="list-style-type: none"> <li>Confirm meeting in Karratha on 26 October 2023 to discuss Gorgon Umbilical EP</li> <li>Confirm that WHS 4D Seismic EP had been deferred</li> <li>Confirm arrangements for Barrow Island Visit</li> </ul> CAPL provided link to Gorgon Umbilical EP information sheet on CAPL website confirming that it was the same information provided to SIRP at last meeting in Karratha on 12 September 2023	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	21/10/2023-21/10/2023	OC-000852	Phone	SIRP contacted CAPL by phone and sent text. SIRP apologised for delay in responding, and confirmed 30 October for meeting with CAPL, SIRP and SIRP legal team. SIRP advised that they could call again on Monday 23 October	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	21/10/2023-21/10/2023	OC-000853	Phone	CAPL attempted to call SIRP but didn't connect. CAPL sent text message to SIRP to confirm that we would be available to meet on the 30 October 2023. CAPL advised SIRP that it was still available to meet in Karratha in the week commencing the 23 October	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	23/10/2023	OC-000854	Phone	CAPL spoke to SIRP by telephone. SIRP confirmed that the earliest their legal representation would be available is 30 October 2023. CAPL confirmed that it could meet SIRP on the 30 October 2023 in Karratha.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	25/10/2023-25/10/2023	OC-000864	Phone	CAPL attempted to call SIRP but didn't connect. CAPL sent text message to SIRP: Confirmed that CAPL was arranging for SIRP's support person to travel to Karratha on 30 October. CAPL advised that they could collect CAPL Support person from the airport and bring to meeting.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	25/10/2023-25/10/2023	OC-000865	Phone	SIRP sent a text message to CAPL confirm lunch time meeting in Karratha on 30 October and that they were looking forward to meeting us all	No objection or claim raised.		

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Mardathoonera Cultural Heritage Pty Ltd	25/10/2023-25/10/2023	OC-000866	Phone	CAPL confirmed lunch time appointment in Karratha with SIRP. Requested attendees for meeting	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	25/10/2023-25/10/2023	OC-000867	Phone	CAPL and SIRP confirmed attendance for meeting in KTA on 30 October	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	25/10/2023-25/10/2023	OC-000869	Phone	SIRPs solicitors contacted CAPL via phone to discuss meeting with SIRP.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	27/10/2023-27/10/2023	OC-000870	Phone	SIRPs solicitors contacted CAPL to confirm that CAPL was managing the travel arrangements for SIRP's support person for consultation on the 8 November	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	15/12/2023	OC-001015	Phone	MCH representatives provided new contact for CAPL. MCH representatives advised that they would be organising a meeting in 2024 and requested that they be copied into future communications	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	15/12/2024-11/01/2024	001252	Email	CAPL emailed MCH regarding availability to attend a meeting scheduled for 1 Feb 2024	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	12/01/2024-17/01/2024	001253	Email	CAPL and MCH confirmed meeting on 01 Feb 2024.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	19/12/2023	OC-001037	Email	CAPL emailed MCH to outline the 2024 consultation agenda for CAPL activities. CAPL thanked MCH representative for all their input over the last few weeks and showed their appreciation. CAPL advised they would like to set up some time together to discuss consultation requirement for a number of activities: <ul style="list-style-type: none"> <li>• WHS Deep and Dino South</li> <li>• Wheatstone Well Intervention</li> <li>• in situ Wellheads x2</li> <li>• Gorgon 5 year revision</li> <li>• OPP</li> <li>• JIC operations EP</li> </ul> CAPL also advised they would like to set up some informal opportunities to meet and build relationship. CAPL is hoping that together we can give some thought to how you would like consultations to look and map out a plan for 2024 to co-design future sessions. CAPL extended an invitation for MCH to visit the Perth office team in early 2024 and see how the Environmental team develops modelling and progresses our collaborative partnership to protect Ngurra and sea.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	24/01/2024	001254	Email	CAPL sent an email to MCH to request their acceptance the calendar meeting invitation sent 01 Feb 2024. CAPL also advised the cultural heritage team have contacted an independent anthropologist – to assist with the audio recording of stories on the planned Barrow Island visit.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	31/01/2024	001229	Email	CAPL requested a follow up meeting with MCH to co-design and plan for consultation and relationship development in 2024. CAPL provided MCH with available dates and times they are available to attend the proposed meeting.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	01/02/2024	001230	Email	MCH thanked CAPL for the proposed agenda and confirmed they would like to finalise the terms of the negotiation agreement prior to moving forward. CAPL responded to MCH noting it looked forward to understanding more about the MCH organisation. CAPL noted attendees for the meeting to include the drilling and well team manager who can provide technical understanding of the activities planned.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	01/02/2024	001256	Face-to-face	CAPL met with MCH to discuss the following topics: <ul style="list-style-type: none"> <li>• Overview and discussion of EP activities</li> <li>• Co-design of on-going consultation</li> </ul> Planning for 2024.	No objection or claim raised.		

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Mardathoonera Cultural Heritage Pty Ltd	07/02/2024	001231	Email	CAPL provided MCH a copy of the minutes from the meeting held on 1/02/2024. CAPL requested MCH to review minutes and provide information of any items to be added.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	07/02/2024-16/02/2024	001220	Email	CAPL and MCH discussed: <ul style="list-style-type: none"> <li>Comments on consultation agreements</li> </ul> Timing options for an upcoming visit BWI and to consult on the drilling EPs	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	15/02/2024	001250	Email	CAPL emailed MCH to confirm they had received the MCH finance and procurement contact details.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	19/02/2024-19/02/2024	OC-001108	Phone	MCH contacted CAPL to discuss visit to BWI and implications for cyclone. CAPL advised that it was still waiting on dates and requested MCH advise. MCH advised that they wanted more detail in the consultation agreement. CAPL reiterated that it welcomed feedback and additions and for MCH to send these through via email and track changes. CAPL confirmed that it would be in Karratha on the 27th and 28th of February and would be available to meet to discuss the agreement.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	19/02/2024	001249	Email	CAPL sent an email to MCH following on from a phone call made 19 February 2024. CAPL summarized the key points discussed: <ul style="list-style-type: none"> <li>CAPL to travel to Karratha to discuss the Consultation agreement. CAPL requested MCH provide any additional details to be added to the agreement.</li> </ul> Travel to Barrow Island.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	26/02/2024	001248	Email	CAPL contacted MCH to discuss CAPLs travel to Karratha. CAPL further advised their flight to Karratha has been cancelled due to Industrial action. CAPL requested to meet with MCH if they are available and in Perth.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	26/02/2024-26/02/2024	001114	Phone	CAPL contacted MCH by text to follow up an opportunity to meet and finalise plans for consultation	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	29/02/2024-29/02/2024	001117	Phone	CAPL spoke with MCH to discuss the opportunity to consult on EP. The following topics were discussed: <ul style="list-style-type: none"> <li>Requirement to consult in the next fortnight.</li> <li>Confirmation of 7-day payment terms</li> </ul> MCH advised that they would provide comments on agreement later today.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	29/02/2024-29/02/2024	001127	Phone	CAPL sent MCH texts in order to arrange a time to meet in order to confirm consultation dates for EP	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	01/03/2024-01/03/2024	001126	Phone	CAPL left voicemail for MCH	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	01/03/2024	001135	Phone	MCH contacted CAPL by telephone to confirm that comments to negotiation and consultation agreements had been reviewed by legal and that CAPL could expect comments. MCH advised that they would confirm within 24 hours a time to meet to discuss agreements and consultation. MCH advised that they had new legal representation.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	05/03/2024	001143	Phone	MCH advised CAPL to progress organisation of meetings through MCH delegate.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	05/03/2024	001138	Phone	CAPL spoke with MCH requesting progress update on meeting for finalising agreements and EP Consultation. CAPL and MCH agreed that CAPL would forward list of outstanding items. CAPL agreed to provide accommodation support to enable meeting in Perth this week.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	05/03/2024	001225	Email	CAPL provided MCH a summary of outstanding actions relating to comments on consultation and negotiation agreements, planning for upcoming consultation meetings and BWI trip.	No objection or claim raised.		



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Mardathoonera Cultural Heritage Pty Ltd	06/03/2024	001244	Email	CAPL sent MCH the accommodation confirmation.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	06/03/2024	001245	Email	CAPL emailed MCH outlining the agenda and attendees for upcoming meetings relating to the negotiation and consultation agreement and consultation on well related EP's. CAPL referenced potential collaboration opportunities. CAPL also provided a copy of the full submission and exec summary for the Submission on 'Clarifying Consultation requirements for offshore petroleum and greenhouse gas storage regulatory approvals'.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	06/03/2024	001246	Email	CAPL emailed MCH requesting a time to meet to discuss the agendas for the upcoming Consultation meetings.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	08/03/2024	001243	Email	CAPL provided MCH the following information for the meeting on 8 March 2024: <ul style="list-style-type: none"> <li>Meeting overview slides,</li> <li>Chevrons submission on consultation (full and exec summary),</li> </ul> Drilling / Wells Overview	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	08/03/2024	001257	Face-to-face	CAPL met with MCH to discuss consultation on EP and to progress discussions about ongoing engagement plan and cost recovery. CAPL provided an overview and introduction to the EP. CAPL provided MCH with EP information sheets, drilling fact sheet, submission on clarifying consultation. CAPL and MCH discussed dates for trip to Barrow Island.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	08/03/2024	001224	Email	CAPL thanked MCH for their attendance on 8 March 2024. CAPL summarised: <ul style="list-style-type: none"> <li>CAPLs submission on 'Clarifying Consultation requirements for offshore petroleum and greenhouse gas storage regulatory approvals'</li> <li>Drilling / Wells Overview</li> <li>Referred MCH to publicly available information sheets on current EPs</li> <li>Provided an updated Engagement Plan</li> </ul> CAPL requested MCH to provide negotiation agreements comments for CAPL review. CAPL also provided an update on potential Barrow Island trip. CAPL noted that it would provide relevant sections of the Exploration EPs, once available.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	09/03/2024-11/03/2024	001239	Email	MCH provided CAPL with the draft negotiation protocol. CAPL thanked MCH for the marked-up negotiation agreement and referenced some of the points raised by MCH. CAPL noted that it would still like to meet on 13 March 2024 as scheduled.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	11/03/2024	001240	Email	CAPL advised MCH the flights and aircraft availability for the Barrow trip will be provided as soon as possible.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	12/03/2024	001223	Email	MCH provided CAPL with the draft negotiation protocol. CAPL confirmed receipt of the draft negotiation protocol and confirmed the attendees for an upcoming meeting.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	13/03/2024	001237	Email	CAPL sent an email to MCH including the materials for consultation session on 13 March 2024, including relevant EP sections for the Exploration Wells.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	13/03/2024	001258	Face to face	CAPL met with MCH to discuss the EP. The following topics were discussed: <ul style="list-style-type: none"> <li>Overview of how CAPL explores, drills, operates, maintains and retires a well.</li> </ul> During the meeting, MCH asked questions regarding: <ul style="list-style-type: none"> <li>timing of seismic activities</li> <li>cement and drill fluids used</li> <li>source of water was used in the drilling process</li> <li>ongoing safety of the well. MCH raised the issue of leaking wells.</li> <li>asked about how CAPL manages a well in an emergency situation</li> <li>CAPL's renewables projects</li> </ul>	MCH requested information on how often wells are inspected. MCH noted that it was their preference for the wellhead to be removed.	<p><b>Claims have merit</b> As a relevant person, MCH's request for information on well inspection is considered fair and reasonable.</p> <p><b>Claims do not have merit:</b> MCH preference for the wellhead to be removed related to a different EP. The wellhead associated with this EP will be removed in accordance with Section 3.5 of the EP. As such, the claim is not relevant to this activity scope.</p>	No change made to the EP. CAPL provided a response to MCH's query and closed out this engagement.

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				<ul style="list-style-type: none"> <li>well retirement and the removal of well heads. MCH's preference is for the well heads to be removed.</li> </ul> CAPL was asked how often wells were inspected. CAPL confirmed that it would confirm this information with MCH. MCH confirmed that it would provide sections of CAPL's EP to their EP person for review. These sections had been provided previously to MCH. CAPL confirmed that it would look forward to consulting with MCH in the future on seismic activities.			
Mardathoonera Cultural Heritage Pty Ltd	13/03/2024	001235	Email	CAPL thanked MCH for their time. CAPL advised MCH that it would like to help close out consultation for the two exploration wells on Friday 15 March 2024. CAPL asked MCH whether it would be worthwhile bringing together SME's that can spend the time going through the risks and controls sections of the EPs. CAPL sent MCH urgent action items from the meeting on 13 March 2024. CAPL followed up with MCH on changing the reference in the EPs from "Coastal Mardudhunera" to "Mardathoonera"			
Mardathoonera Cultural Heritage Pty Ltd	14/03/2024	001142	Phone	CAPL confirmed with MCH via text details for meeting on Friday 15 March. MCH confirmed that it was forwarding EP sections to environmental expert on their team.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	15/03/2024	001140	Face-to-face	CAPL met with MCH to finalise details for BWI visit and to discuss future meetings and consultation. CAPL and MCH co-designed a work in progress email where detail could be added by each party to update each other and track progress. MCH advised CAPL to forward all contact going forward to MCH directors. MCH confirmed that not all participants would now be available for BWI trip. CAPL confirmed that it would therefore cancel and postpone to a time which suited everyone.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	15/03/2024-25/03/2024	001221	Email	CAPL sent a summary email to MCH outlining: <ul style="list-style-type: none"> <li>Timing of BWI trip</li> <li>Outlining scope and dates for MCH consultation input and feedback. CAPL noted that the timeframes for consultation align with that provided previously through co-design in 2023</li> <li>Summary of other recent correspondence with MCH.</li> <li>Addressed MCH query relating to First Nations Engineering and future decommissioning works on Barrow Island.</li> </ul> CAPL resent the email on 25 March 2024 noting that a response had not been received and requesting any advice as soon as practicable. CAPL noted that some dates for MCH consultation input and feedback had moved.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	20/03/2024	001147	Phone	MCH contacted CAPL by phone to discuss progress. CAPL confirmed that it was still waiting for MCH to provide comments and feedback on negotiation and consultation protocols.	No objection or claim raised.		
Mardathoonera Cultural Heritage Pty Ltd	26/03/2024	001222	Email	Consultant for MCH contact CAPL regarding a meeting regarding the relationship between CAPL and MCH. CAPL responded with potential meeting dates. CAPL also attached the summary of MCH consultation input and feedback required.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	08/04/2024	001226	Email	MCH contacted CAPL requesting a meeting. CAPL confirmed it was available and requested some time windows for the meeting.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd	10/04/2024	001260	Face to Face	CAPL met with MCH to discuss progress on EP and negotiation protocol. MCH advised that they had not received recent emails due to technical issues. MCH requested that emails be forwarded to personal email addresses. CAPL advised MCH that EP would be submitted 12 April 2024. CAPL and MCH discussed finalising negotiation protocol and consultation agreement. MCH advised that it would like to return to Perth within a week to execute agreements with CAPL. CAPL and MCH discussed a cultural mapping program. CAPL requested MCH provided a proposal with work scope.	MCH requested emails to be forwarded.	<b>Claims have merit</b> As a relevant person, MCH's request for information to be re-forwarded is considered fair and reasonable.	No change made to the EP. CAPL forwarded relevant emails to MCHs nominated email addresses..
Mardathoonera Cultural Heritage Pty Ltd	10/04/2024	001255	Email	CAPL emailed MCH to follow up on the Exploration Drilling EPs and requested any responses to be provided as soon as possible. CAPL noted it plans to submit the EP on Friday 12 April 2024.	No objection or claim raised		

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				CAPL also attached information shared in meetings on 8 and 13 March 2024 as well as reshared emails previously issued.			
Mardathoonera Cultural Heritage Pty Ltd	11/04/2024	001262	Email	CAPL emailed MCH advising they plan to submit the Exploration EPs on 12 April 2024. CAPL provided a summary of notes and actions from the meeting held on 10 April 2024 and requested any feedback. CAPL noted it looked forward to continued discussions on the cultural mapping proposal.	No objection or claim raised		
Mardathoonera Cultural Heritage Pty Ltd				To summarise consultation with MCH to date: <ul style="list-style-type: none"> <li>CAPL commenced consultation with MCH on 22nd August 2023 when they self-identified as a relevant person.</li> <li>CAPL has met with MCH representatives in multiple face-to-face meetings including multiday trip on Barrow Island on the 20-22 of November 2023 (for another activity, not within the scope of this EP). CAPL maintained contact through email and telephone correspondence.</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures.</li> <li>Chevron has responded to a request for information by providing guidance to specific sections of the EP.</li> <li>CAPL has considered feedback provided by MCH during consultation, including information on Mardathoonera people functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>As CAPL has provided a reasonable period and sufficient information to representatives of the MCH to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A. CAPL will continue to engage with representatives of the MCH as part of its ongoing consultation as outlined in Section 8.3.4 of the EP.</li> </ul>			
Maxima Pearling Company	04/05/2023	CN-000430	Email	CAPL advised that Maxima Pearling Company had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Maxima Pearling Company that they welcome meaningful feedback. Maxima Pearling Company stated that pearling leases and holding sites occur within the identified area. A phone call was organised.	No objection or claim raised.		
Maxima Pearling Company	09/05/2023	OC-000425	Virtual Meeting	CAPL presented to Maxima Pearling in relation to our upcoming offshore activities. Maxima Pearling have Edible Rock Oyster Aquaculture sites at West Lewis Islands, Flying Foam Passage, Withnell Bay and Cossack. Maxima Pearling have no objections to the activities proposed, but they would like to be notified in the event of an emergency. Maxima Pearling advised reaching out to Paspaley Pearls, Cygnet Bay and McGowans as potential relevant persons.	1. Maxima Pearling have no objections to the activities proposed, but they would like to be notified in the event of an emergency. 2. Suggested engaging with Paspaley Pearls, Cygnet Bay and McGowan.	<b>Claim has merit:</b> Pearling Company has leases within the region thus are considered relevant and their request for a notification in the event of an emergency is appropriate.	Table 8-5 and Section 8.3.4.2 in the EP have been revised to include incident notifications to relevant persons. Additional engagement with stakeholders identified during consultation were engaged with.
Member for Pilbara	08/02/2023	CN-000122	Email	CAPL advised the Member for Pilbara had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Member for Pilbara that they welcome meaningful feedback. A meeting was organised.	No objection or claim raised.		
Member for Pilbara	20/02/2023	OC-000257	Virtual Meeting	CAPL met with the Member of the Pilbara. The Member of the Pilbara showed support for CAPL's activities and a keen interest in employment opportunities in the Pilbara.	No objection or claim raised.		
Member for Pilbara	11/05/2023	OC-000506	Email	CAPL thanked the Member of Pilbara for their engagement and support in 2023. CAPL asked if there had been any comments or feedback from the community with respect to CAPL activities and reiterated the opportunity to catch up in the near future to provide the Member of Pilbara with an overview of the extent of CAPL's consultations and how CAPL will continue to build relationships in the Pilbara.	No objection or claim raised.		
Member of Legislative Authority (MLA) - North West Central	08/02/2023	CN-000240	Email	CAPL advised that MLA had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the MLA that they welcome meaningful feedback.	No objection or claim raised.		
Member of Legislative Authority (MLA) - North West Central	10/05/2023	OC-000513	Email	CAPL sent a follow up email to the MLA regarding CAPL's upcoming activities as a relevant person with interests and functions in the region. No response was received from the MLA, CAPL informed the MLA that if they have any input on the proposed activities to please contact CAPL.	No objection or claim raised.		

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Member of Mining and Pastoral Region	19/12/2022	OC-000406	Email	CAPL advised the Representative from the Member for Mining and Pastoral Region had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL requested to organise a meeting to discuss the activity and agree on communication protocols for consultation. A meeting was organised.	No objection or claim raised.		
Member of Mining and Pastoral Region	08/02/2023	CN-000408	Email	CAPL sent a formal written notification advising the Representative from the Member of Mining and Pastoral Region had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Representative from the Member of Mining and Pastoral Region that they welcome meaningful feedback.	No objection or claim raised.		
Member of Mining and Pastoral Region	09/02/2023	OC-000298	Virtual Meeting	CAPL met with a representative from the Members for Mining and Pastoral Region to provide an overview of CAPL's new approach to consultation along with an update on CAPL's Environment Plans. The Members for Mining and Pastoral Region provided advice on local relevant persons that CAPL should be engaging. The representative from the Members for Mining and Pastoral Region suggested reaching out to the Exmouth Gulf Task Force.	Suggested engaging with the Exmouth Gulf Task Force.	<b>Claim has merit:</b> CAPL acknowledges the additional stakeholder identified are potential relevant persons, and that engagement with this stakeholder is required.	No change made to the EP. Additional engagement with stakeholders identified during consultation were engaged with.
Member of Mining and Pastoral Region	16/02/2023	OC-000407	Email	CAPL thanked the representative from the Member for Mining and Pastoral Region for the opportunity to speak about CAPL's Environment Plans and to contact CAPL if they have additional questions about the information shared.	No objection or claim raised.		
Member of Mining and Pastoral Region	11/05/2023	OC-000507	Email	CAPL thanked the Member of Mining and Pastoral Region for their engagement and support in 2023. CAPL asked if there had been any comments or feedback from the community with respect to CAPL activities and reiterated the opportunity to catch up in the near future to provide the Member of Pilbara with an overview of the extent of CAPL's consultations and how CAPL will continue to build relationships in the Pilbara.	No objection or claim raised.		
Member of the Public	24/02/2023	CN-000488	Phone	The member of the public called the CAPL 1800 phone number. CAPL returned the call in the afternoon of the 24 February 2023. The member of the public said the newspaper ad told her to call CAPL and the member of the public did not have any specific concerns related to CAPL's proposed activities. The member of the public did not wish to be a relevant person to the EP for consultation under regulation 11A(1).	No objection or claim raised.		
Minister for Environment	13/02/2023	CN-000511	Email	CAPL advised that the Minister for Environment had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Minister for Environment that they welcome meaningful feedback.	No objection or claim raised.		
Minister for Environment	10/05/2023	OC-000514	Email	CAPL reached out to the Minister of Environment to provide any feedback they may have on the activity. CAPL informed the Minister of Environment that if they have any questions or would like further details on how CAPL has engaged Traditional Owners, Community and Industry through the consultation process to please reach out. The Minister of Environment responded that they request future consultation of planned activities is copied to DWER and DBCA.	Request that future consultation of planned activities is copied to the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions respectively at <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a> and <a href="mailto:enquiries@dbca.wa.gov.au">enquiries@dbca.wa.gov.au</a> .	Claims have merit: In accordance with the activity Risk Assessment, Chevron acknowledge that emergency conditions or unplanned incidents pose a risk to Western Australia's environment and as such the request to notify DBCA or DWER for future activities is considered appropriate. As DWER and DBCA are considered relevant stakeholders, Chevron engaged with them accordingly.	No change made to the EP. Additional engagement with stakeholders identified during consultation were engaged with.
Montebello Island Safaris	04/05/2023	CN-000395	Email	CAPL sent a formal written notification advising Montebello Island Safaris had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Montebello Island Safaris that they welcome meaningful feedback.	No objection or claim raised.		
Montebello Island Safaris	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	Engagement materials to be provided.	Claim has merit: CAPL acknowledge that further engagement is required.	No change made to the EP. CAPL resent the written notice.
Montebello Island Safaris	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		



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Murujuga Aboriginal Corporation	06/01/2023	OC-000277	Face-to-face	CAPL established contact with Murujuga Aboriginal Corporation (MAC) to organise a time to provide an overview of upcoming projects and discuss preferred methods of communication.	No objection or claim raised.		
Murujuga Aboriginal Corporation	09/01/2023	OC-000309	Email	CAPL thanked Murujuga Aboriginal Corporation (MAC) for their time. CAPL organised another time to meet with the CEO of MAC and discuss CAPL's upcoming Environment Plans. A meeting was organised.	No objection or claim raised.		
Murujuga Aboriginal Corporation	03/02/2023	CN-000251	Email	CAPL identified the MAC as a Traditional Owner group and provided an overview of upcoming activities and Environment Plans. MAC advised that they had no concerns or objections with respect to upcoming offshore activities.	No objection or claim raised.		
Murujuga Aboriginal Corporation	01/03/2023	OC-000310	Face-to-face	CAPL met with the MAC to discuss current ongoing projects, developments and goals from both organisations. CAPL requested advice from the Board on whether there were cultural values and sensitivities within the EMBA that could be impacted in the case of an event. CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. MAC did not identify any additional relevant persons to consult.	No objection or claim raised.		
Murujuga Aboriginal Corporation	06/06/2023	OC-000777	Email	CAPL followed up with MAC regarding EP submission to NOPSEMA. CAPL emailed to confirm no further claims or objections with respect to the EPs had arisen to MAC. Additional, CAPL informed them of activity factsheet being sent out soon.	No objection or claim raised.		
Murujuga Aboriginal Corporation	07/08/2023-07/08/2023	OC-000601	Email	CAPL extended solicitation of EOI for MAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with MAC further.	No objection or claim raised.		
Murujuga Aboriginal Corporation	08/08/2023	OC-000779	Email	MAC enquired regarding costs for the ranger program. CAPL responded.	No objection or claim raised.		
Murujuga Aboriginal Corporation	24/10/2023	OC-000860	Phone	MAC advised that the MAC board was currently preparing a letter to provide to proponents with respect to cultural authority. MAC also intending to provide members with information and protocol on sharing cultural information publicly.	No objection or claim raised.		
Murujuga Aboriginal Corporation	11/12/2023-11/12/2023	OC-000991	Phone	CAPL contacted MAC about opportunity to meet in 2024 to discuss ongoing consultations. CAPL was advised that MAC would provide an introduction to new CEO and Heritage team at MAC. They requested CAPL call in the new year to set up.	No objection or claim raised.		
Murujuga Aboriginal Corporation				To summarise consultation with MAC to date: <ul style="list-style-type: none"> <li>CAPL commenced consultation with MAC on 6th January 2023 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>CAPL has met with MAC representatives in 2 face-to-face meetings and maintained contact through email and telephone correspondence</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>CAPL has considered feedback provided by MAC during consultation, including information on MAC's functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>MAC has not raised any further objections or claims relating to the activity scope as CAPL has provided a reasonable period and sufficient information to MAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</li> </ul> CAPL will continue to engage MAC as part of its ongoing consultation as outlined in Section 8.3.4.1 of the EP			
Nganhurra Thanardi Garrbu Aboriginal Corporation	03/02/2023	CN-000319	Email	CAPL advised that the Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified NTGAC that they welcome meaningful feedback.  A representative for NTGAC contacted CAPL to identify prerequisites to consultation prior to the board meeting with NTGAC. CAPL responded to the request and outlined the overview of CAPL's goals for continued future consultation.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	28/02/2023	OC-000320	Email	CAPL originally engaged NTGAC regarding the Gorgon and Jansz wellhead decommissioning activity. NTGAC contacted CAPL to request additional information. NTGAC offered CAPL to present an overview of their upcoming activities to their board. CAPL engaged with NTGAC	No objection or claim raised.		

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				with information responding to NTGACs queries and confirmed that they would present to the NTGAC board of Directors. A confirmation of meeting date and attendance ensued.			
Nganhurra Thanardi Garrbu Aboriginal Corporation	09/03/2023	OC-000563	Face-to-face	<p>CAPL met with NTGAC Board in Carnarvon to present its Environment Plans and discuss unplanned risks and impacts and identify feedback on areas of significance and cultural values including sea country and underwater cultural heritage.</p> <p>CAPL spent considerable time explaining the approvals process and offered support to NTGAC to engage an independent environmental specialist to review the information sheets for our activities.</p> <p>CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. NTGAC did not identify any additional relevant persons to consult.</p> <p>CAPL requested advice from NTGAC Board on whether there were cultural values and sensitivities within the EMBA that could be impacted in the case of an event.</p> <p>CAPL also requested advice from NTGAC Board as to whether there were other Relevant Persons that CAPL should contact as part of this process.</p> <p>CAPL offered to spend more time with NTGAC Board if necessary to both help to build the relationship but to also understand values and sensitivities.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	13/03/2023	OC-000564	Email	<p>CAPL wrote to NTGAC thanking them for their time and opportunity to present at the NTGAC Board Meeting in Carnarvon on the 9th of March 2023.</p> <p>CAPL reiterated the NOPSEMA process and key timeframes for submission, as well as information that CAPL required as part of the consultation process.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	03/04/2023	OC-000317	Email	<p>CAPL contacted NTGAC to discuss if any objections or claims were raised after their presentation to the Board. CAPL welcomed the opportunity to discuss any further queries and attend future board meetings. NTGAC advised that the board were agreeable to future consultation and meetings with CAPL.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	03/04/2023	OC-000318	Email	<p>NTGAC contacted CAPL to request further information about the Environment Plans and upcoming activities. CAPL responded and provided the requested information.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	04/04/2023	OC-000243	Email	<p>CAPL accepted invitation from the NTGAC board to meet with the board on September 5 in Exmouth.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	09/05/2023	OC-000419	Phone	<p>CAPL attempted to call NTGAC. There was no answer so CAPL left a message to call back</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	09/05/2023	OB-000541	Email	<p>CAPL advised NTGAC that they had tried to contact them by phone and left a voicemail regarding their last communication in April. CAPL informed NTGAC that they are looking to finalise the Environment plans and noted that they had not received any feedback from NTGAC.</p> <p>CAPL acknowledged the heavy workload NTGAC is facing and wanted to reiterate their intentions to develop a communication protocol with NTGAC moving forward at NTGAC's convenience.</p> <p>CAPL acknowledged the importance of coastal areas, sea country and adjacent Islands as highly valuable to the NTGAC and other Aboriginal Corporations and understand the impact on these areas from planned or unplanned events which may cause harm to the cultural landscape, individuals, and community.</p> <p>CAPL informed NTGAC of their commitment to developing a relationship and participating in ongoing consultations with NTGAC about the activities that are completed offshore. CAPL informed NTGAC that no planned activities will impact the Native Title.</p> <p>CAPL confirmed their attendance for the Board meeting scheduled in September and reiterated their intentions to further discuss and update the Board on the status of the submitted Environment Plans and commencement of activities.</p> <p>CAPL offered to discuss any issues further at NTGACs convenience.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	12/06/2023-22/06/2023	OC-000576	Email	<p>YMAC presented their draft consultation framework to CAPL.</p> <p>CAPL thanked YMAC/NTGAC for their time and acknowledged that CAPL are currently collaborating with a number of other PBC's to develop a plan around developing and managing our relationship and opportunities for collaboration so look forward to being able to do this with NTGAC as well. These plans are progressing well and CAPL provided initial thoughts and feedback regarding consultation framework.</p>	No objection or claim raised.		

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Nganhurra Thanardi Garrbu Aboriginal Corporation	13/06/2023-27/06/2023	OC-000575	Email	CAPL reached out to NTGAC to confirm when they are expecting to engage an environmental specialist to review CAPL's offshore activity information sheet. NTGAC confirmed they have engaged an environmental specialist and YMAC confirmed the proposed consultation framework will be placed on hold pending the outcome of the review from the environmental specialist.  CAPL reiterated they would like to build a relationship with NTGAC based on co-design that shapes how CAPL present information to NTGAC going forward and would be grateful if the proceed with the environmental specialist could continue in parallel with CAPL's continued consultation.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	21/06/2023	OC-000565	Phone	CAPL contacted NTGAC via YMAC Legal Representative, responding to correspondence received from YMAC in relation to the development of a framework for ongoing consultation. YMAC requested CAPL provide initial feedback on the draft provided.  CAPL confirmed desire to meet with NTGAC and YMAC to develop a framework for consultation.	YMAC requested CAPL provide initial feedback on the draft provided.	Claim has merit: As a relevant stakeholder, CAPL has a responsibility to engage with relevant persons in a manner that allows meaningful two way communication.	Ongoing engagement with NTGAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and NTGAC, and once finalised will be implemented.
Nganhurra Thanardi Garrbu Aboriginal Corporation	30/06/2023-30/06/2023	OC-000572	Phone	CAPL had phone discussion with NTGAC with respect to developing engagement framework for ongoing consultation and relationship development.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	06/07/2023-06/07/2023	OC-000578	Face-to-face	CAPL and NTGAC discussed the engagement plan for continued consultation. CAPL also requested to engage more broadly than just at the NTGAC board meeting.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	21/07/2023-21/07/2023	OC-000585	Email	NTGAC (via YMAC) wrote to CAPL to advise that the NTGAC board do not wish to be consulted EP to EP and wish to develop a consultation framework with CAPL.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	31/07/2023-31/07/2023	OC-000587	Email	NTGAC advised that the board do not wish to be consulted EP by EP, and as such the independent environmental specialist has not been engaged.  CAPL acknowledged this confirmation.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	07/08/2023-07/08/2023	OC-000600	Email	CAPL extended solicitation of EOI for NTGAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with NTGAC further.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	21/08/2023-21/08/2023	OC-000621	Email	NTGAC advised CAPL that it had scheduled a half day workshop to discuss engagement plan with the NTGAC board on 28 September 2023 in Perth. CAPL accepted invitation.  NTGAC reiterated that the NTGAC board has advised that EP by EP consultation is not working.	YMAC raised need to discuss and finalise the YMAC consultation framework to ensure meaningful feedback can be provided.	<b>Claim has merit:</b> The NTGAC/YMAC are relevant persons, and as such it is reasonable and appropriate to facilitate meaningful feedback through the YMAC consultation framework.	Ongoing engagement with NTGAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and NTGAC, and once finalised will be implemented.
Nganhurra Thanardi Garrbu Aboriginal Corporation	11/09/2023-11/09/2023	OC-000641	Face-to-face	CAPL met with YMAC representatives on behalf of NTGAC. Focused discussion on draft engagement plan in preparation for meeting with NTGAC board on 28 September 2023. CAPL confirmed with NTGAC that this workshop was for the purposes of co-designing future consultation and the development of the relationship, not consultation.  NTGAC confirmed that they are not comfortable with complete reporting of all correspondence within the body of the EP. NTGAC advised that they want to be able to stipulate the information that is available to the public and what remains accessible only to NOPSEMA in the sensitive information report. CAPL confirmed that any information NTGAC did not want to be made publicly available will only be provided to NOPSEMA in the sensitive information report.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	12/09/2023-12/09/2023	OC-000642	Email	CAPL provided with a copy of the draft engagement plan to NTGAC which had been discussed at the meeting on 11 September 2023. CAPL requested copy of draft agenda for 28 September 2023 workshop focused on co-designing future consultation and the development of the relationship with the NTGAC board.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	18/09/2023-18/09/2023	OC-000663	Email	NTGAC provided a proposed agenda for workshop on 28 September to co-design engagement plan for developing the relationship with CAPL. NTGAC provided a copy of NTGAC's strategic plan for CAPL's review and preparation.	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	28/09/2023-28/09/2023	OC-000760	Face-to-face	CAPL met with representatives and discussed key terms of the consultation agreement. NTGAC provided feedback on: <ul style="list-style-type: none"> <li>Key terms of our consultation agreement</li> <li>General report which NTGAC would like for the phase or project</li> <li>Feedback from the board on what will help them going forward with consultation</li> <li>Engagement Plan</li> <li>Partnership / Benefits discussion.</li> </ul>	The need to finalise consultation framework was raised to ensure meaningful feedback can be provided.	<b>Claim has merit:</b> As a relevant stakeholder, CAPL has a responsibility to engage with relevant persons in a manner that allows meaningful two way communication.	Ongoing engagement with NTGAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and NTGAC, and once finalised will be implemented.



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				<p>CAPL and NTGAC agreed next steps include:</p> <ul style="list-style-type: none"> <li>Finalise terms for consultation</li> <li>NTGAC to provide draft engagement/consultation letter</li> </ul> <p>Board to finalise what ongoing consultation looks like.</p>			
Nganhurra Thanardi Garrbu Aboriginal Corporation	28/09/2023-28/09/2023	OC-000762	Email	<p>CAPL thanked NTGAC for the opportunity to meet with the NTGAC Board and provided copies of information shared at the meeting, including draft engagement plan, NOPSEMA Consultation Guidelines and proposed next step for formalising an agreement for ongoing consultation.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation	30/10/2023-30/10/2023	OC-000873	Phone	<p>CAPL left voicemail with NTGAC to follow up progress following meeting with board.</p>	No objection or claim raised.		
Nganhurra Thanardi Garrbu Aboriginal Corporation				<p>To summarise consultation with NTGAC to date:</p> <ul style="list-style-type: none"> <li>CAPL commenced consultation with NTGAC on 30th February 2023 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>CAPL has met with NTGAC representatives in 2 face-to-face meetings and maintained contact through email and telephone correspondence</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>CAPL has considered feedback provided by NTGAC during consultation, including information on NTGAC's functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>On 15th May 2023, CAPL emailed NTGAC with a summary of the outcomes of consultation undertaken to date</li> </ul> <p>NTGAC has not raised any further objections or claims relating to the activity scope as CAPL has provided a reasonable period and sufficient information to NTGAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</p> <p>CAPL will continue to engage NTGAC as part of its ongoing consultation as outlined in Section 8.3.4.1 of the EP</p>			
Ngarluma Aboriginal Corporation RNTBC	14/12/2022	OC-000342	Email	<p>CAPL engaged with Ngarluma Aboriginal Corporation (NAC) as an opportunity to consult on upcoming activities as a relevant person. NAC and CAPL organised a meeting to discuss and gather a more in depth understanding of the activities.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	02/02/2023	OC-000340	Face-to-face	<p>CAPL met with NAC as an identified relevant person and provided an overview of their activities. NAC suggested CAPL present to their board in February and to reconnect when they are next back in the region.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	03/02/2023	CN-000343	Email	<p>CAPL advised that the NAC had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified NAC that they welcome meaningful feedback.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	10/02/2023	OC-000345	Email	<p>CAPL engaged with NAC to set up a meeting to present activities to the NAC board.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	10/03/2023	OC-000344	Email	<p>CAPL attempted to contact NAC and receive feedback from previous meeting.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	29/03/2023	OC-000346	Email	<p>CAPL informed NAC of their travel plans and presentation to the board. NAC confirmed time and date and gave CAPL additional information for CAPLs process and procedures.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	04/04/2023	OC-000241	Phone	<p>CAPL contacted NAC to confirm attendance at the Board Meeting scheduled in April to discuss CAPL's upcoming activity. CAPL requested NAC to provide names of meeting attendees.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	26/04/2023	OC-000355	Face-to-face	<p>CAPL presented to NAC on upcoming EP development. CAPL sought feedback on areas of significance and cultural values including sea country and underwater cultural heritage.</p> <p>CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. NAC did not identify any additional relevant persons to consult.</p>	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	27/04/2023	OC-000530	Email	<p>CAPL contacted NAC regarding feedback following the board meeting. CAPL identified the importance of NAC values and sensitivities and thanked the board for the opportunity to engage. CAPL listed and outlined the important take aways from the meeting and informed NAC to identify any missing information.</p> <p>CAPL requested another meeting to discuss other opportunities.</p>	No objection or claim raised.		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
Ngarluma Aboriginal Corporation RNTBC	19/06/2023-12/07/2023	OC-000782	Email	CAPL and NAC organised a meeting to discuss programs, EP and OPP.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	04/08/2023-04/08/2023	OC-000591	Face-to-face	CAPL met with NAC to provide an update on current EP's, OPP and relationships development. NAC proposed the formation of a working group to discuss consultations in the future. NAC stated that offshore islands are significant to NAC.	NAC raised the significance of offshore islands.	Claim has merit: As a relevant person, NAC have provided an understanding of the values that are important to their functions, interests and activities. These must be considered to understand values and sensitivities potentially impacted by the activity scope.	EP was revised to include Table 4-14, which includes specific responses from First Nations consultation in regards to cultural values or features.
Ngarluma Aboriginal Corporation RNTBC	04/08/2023	OC-000609	Email	NAC provided a hard copy of a letter from NAC CEO to CAPL CEO requesting opportunity to consult over Chevron's decommissioning plans.	NAC requested opportunity to consult over Chevron's decommissioning plans.	Claim doesn't have merit: The EP is not a decommissioning activity. As such this request has no merit (for this EP).	
Ngarluma Aboriginal Corporation RNTBC	07/08/2023-07/08/2023	OC-000595	Email	CAPL extended solicitation of EOI for NAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with NAC further.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	08/08/2023	OC-000611	Phone	NAC contacted CAPL following meeting in Karratha on 04 August 2023 to discuss the creation of a NAC CAPL working group. NAC advised that they would be sending a draft budget for CAPL to incorporate into the draft engagement plan. NAC would like to provide this to the NAC board at the August 2023 meeting.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	08/08/2023	OC-000783	Email	CAPL followed up with an email outlining notes from the face to face meeting. CAPL advised that they would like to confirm board meeting for attendance.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	12/09/2023-12/09/2023	OC-000643	Email	CAPL provided NAC with draft engagement plan as requested and sought confirmation on presentation at October board meeting.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	18/09/2023-12/10/2023	OB-000842	Email	CAPL and NAC discussed the draft engagement plan and discussed the potential for a workshop to discuss future activities.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	21/09/2023-21/09/2023	OC-000720	Email	CAPL confirmed receipt of email from NAC providing budget for ongoing consultation and dates for the CAPL NAC working group to meet to consult on CAPL activities. CAPL requested confirmation of date in October 2023. CAPL advised that it would review the budget and revert as soon as possible.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	19/10/2023-19/10/2023	OC-000845	Phone	NAC contacted CAPL to thank CAPL for provision of draft engagement agreement. They will provide comments and further opportunity to meet in Karratha. CAPL advised that they would like to spend time with working group as part of a scene setting exercise before meeting to discuss new EP's in 2024.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	22/10/2023	OC-000862	Email	CAPL enquired to set up some time with NAC to meet.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	30/10/2023-30/10/2023	OC-000875	Email	NAC emailed CAPL with comments attached to draft Consultation Meeting Protocol. NAC advised that details for next meeting will be available shortly.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	03/11/2023-03/11/2023	OC-000896	Phone	NAC contacted CAPL to invite to meeting with NAC board in KTA on 13 November. CAPL accepted invitation.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC	17/11/2023-17/11/2023	OC-000929	Email	CAPL emailed NAC working group to provide copies of documents provided at in person meeting in Karratha on 13 November 2023. CAPL requested opportunity to meet with the NAC working group in March 2024 to consult on Gorgon Revision and JIC Operations EP.	No objection or claim raised.		
Ngarluma Aboriginal Corporation RNTBC				To summarise consultation with NAC to date: <ul style="list-style-type: none"> <li>• CAPL commenced consultation with NAC on 14th December 2022 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>• CAPL has met with NAC representatives in 3 face-to-face meetings and maintained contact through email and telephone correspondence</li> <li>• CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> </ul>			

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				<ul style="list-style-type: none"> <li>CAPL has considered feedback provided by NAC during consultation, including information on NAC's functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>On April 27th 2023, CAPL emailed NAC with a summary of the outcomes of consultation undertaken to date.</li> <li>NAC has not raised any further objections or claims relating to the activity scope as CAPL has provided a reasonable period and sufficient information to NAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</li> </ul> <p>CAPL will continue to engage NAC as part of its ongoing consultation as outlined in Section 8.3.4.1.</p>			
Ngarluma Yindjibarndi Foundation Ltd	12/12/2022	OC-000331	Email	CAPL advised that the NYFL had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activities and NYFL was interested in connecting with CAPL and setting up a meeting.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	12/12/2022-12/12/2022	OC-000651	Phone	CAPL contacted NYFL to discuss upcoming Environment Plans that would require consultation. CAPL requested opportunity to meet with NYFL to co-design how it consults with NYFL and can start to form a relationship. NYFL requested that CAPL provide further details via email.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	11/01/2023	OC-000333	Email	CAPL engaged with NYFL to organise a meeting with the board to discuss CAPL's activities and answer any questions NYFL may have.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	25/01/2023	OC-000335	Phone	NYFL advised CAPL that they were interested in CAPL spending time in the region and experience what industry contributions and funding can achieve. NYFL requested or more basic information sheet outlining CAPLs activities for their board meeting.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	25/01/2023	OC-000422	Phone	CAPL attempted to call NYFL but received an automated message that the office is unattended.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	03/02/2023	CN-000332	Email	CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified NYFL that they welcome meaningful feedback.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	15/02/2023	OC-000334	Email	CAPL communicated their planned agenda for the meeting. NYFL responded with additional requests to be added to the agenda which were included.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	08/03/2023	OC-000535	Face-to-face	<p>NYFL is pleased to hear CAPL's appetite to strengthen the relationship and likewise NYFL sees the relationship with CAPL as an opportunity to set a new standard for consultation and stakeholder engagement, and in turn, create a more meaningful relationship between CAPL and the NYFL membership, and Ieramugadu community.</p> <ul style="list-style-type: none"> <li>NYFL Directors noted that "People from the land speak for and care about the marine animals", even if they are far out to sea</li> <li>Discussed the nature of many traditional narratives have origins and connection to the seascape, and that impacts to the seascape can have cultural repercussions.</li> <li>Discussed that TO communities are rarely able to verify proponent management approaches to the seascape environment, including marine fauna, given it's not an observable environment</li> <li>Discussed the interconnectedness of the cultural landscape, whereby TOs from the western Pilbara are held to account by other Nyambali (Cultural bosses) when proponents impact land and sea. The cultural responsibilities transcend Native Title and other boundaries.</li> <li>Query about how Chevron is looking to understand the intangible values offshore</li> <li>Concern raised about the cumulative environmental impacts (emissions etc)</li> <li>Query about when these EP activities will start and how Chevron will engage in future</li> <li>Note that Chevron are interested in contributing to Law and Cultural solutions that may mitigate the impacts of proponent activity</li> <li>Discussed the opportunity for Chevron to advocate for NYFL on social and economic issues</li> </ul> <p>CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. NYFL did not identify any additional relevant persons to consult.</p> <p>CAPL provided a summary of issues from the meeting.</p>	<ol style="list-style-type: none"> <li>Directors noted concerns around marine fauna, specifically whales, dugongs and turtles as species of importance. Concerns about whether activities may have immediate and cascading impact on ecosystems</li> <li>Directors noted that "People from the land speak for and care about the marine animals", even if they are far out to sea</li> <li>Discussed the nature of many traditional narratives have origins and connection to the seascape, and that impacts to the seascape can have cultural repercussions</li> <li>Discussed that TO communities are rarely able to verify proponent management approaches to the seascape environment, including marine fauna, given it's not an observable environment (as would be the case on a terrestrial landscape)</li> <li>Discussed the interconnectedness of the cultural landscape, whereby TOs from the western Pilbara are held to account by other Nyambali (Cultural bosses) when proponents impact land and sea. The cultural responsibilities transcend Native Title and other boundaries. Loric Douglas gave the example of her father, Tim Douglas, being held to account at Law Time by Desert mob, when proponents</li> </ol>	<p><b>Claims have merit:</b></p> <p>NYFL is a Traditional Owner representative organisation, who on their website identify as a 'relevant person' for oil and gas projects in areas that relate to Traditional Owner values in the North West of Australia. As the activity occurs in the North West of Australia, and has the potential to impact TO values that were identified during consultation, NYFL are considered relevant.</p> <p>Although specific claim or objections were not raised, values and concerns were discussed this must be acknowledged and considered in the EP:</p> <ol style="list-style-type: none"> <li>CAPL acknowledge that marine fauna and ecosystems are of concern, and must be considered in the EP</li> <li>CAPL acknowledge that NYFL speak for and care for marine animals, and this cultural significance should be captured in the EP</li> <li>CAPL acknowledge the cultural significance communicated regarding the seascape, and that this cultural significance should be captured in the EP</li> <li>CAPL acknowledge that TO communities communicated that they are rarely able to verify proponent management</li> </ol>	<p>Ongoing engagement with NYFL is taking place. A formal Engagement Plan is also being co-designed by CAPL and NYFL, and once finalised will be implemented.</p> <p>Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies.</p> <p>An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.</p> <p>Table 4-14 was added to the EP, which includes specific responses from First Nations consultation in regards to cultural values or features.</p>

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				CAPL asked NYFL whether they had any additional comments, and expressed interest in further face to face engagement. NYFL acknowledged the summary and provided comment. CAPL expressed intention of further engagement.	<p>impact the land a seascape in Ngarluma Country</p> <p>6. Query about how Chevron is looking to understand the intangible values offshore</p> <p>7. Concern raised about the cumulative environmental impacts (emissions etc) by proponent activity. Ricky Smith noted that environmental impacts are observed on the terrestrial landscape "You can see the impact out on the Burrup. Used to be kangaroos everywhere, now there's nothing"</p> <p>8. Query about when these EP activities will start and how Chevron will engage in future</p> <p>9. Note that Chevron are interested in contributing to Law and Cultural solutions that may mitigate the impacts of proponent activity</p> <p>10. Discussed the opportunity for Chevron to advocate for NYFL on social and economic issues</p>	<p>approaches to the seascape environment. This indicates a need for CAPL to consider how to managed/enable ongoing engagement, and ensure it is captured in EP.</p> <p>5. CAPL acknowledge the interconnectedness of the cultural landscape communicated by TO, that should be considered in the EP.</p> <p>6. CAPL note that NYFL queried how CAPL is looking to understand the intangible values offshore (such as the presence and importance off shore). This question raises a value of the NYFL, and should be captured in the EP and considered in ongoing engagement.</p> <p>7. CAPL acknowledge that NYFL raised the issue of cumulative impacts. As the activity is one of many oil and gas operations, this is a valid concern, and the impacts considered in the EP.</p> <p>8. NYFL raised a query regarding when activities will start and ongoing engagement. As a relevant stakeholder, CAPL has a responsibility to engage with relevant persons in a manner that allows meaningful two way communication.</p> <p>9. and 10. As a relevant stakeholder, CAPL has a responsibility to engage with relevant persons in a manner that allows meaningful two way communication, and provide the opportunity for advocacy and support.</p>	
Ngarluma Yindjibarndi Foundation Ltd	06/04/2023	OC-000252	Email	CAPL met with NYFL to discuss the upcoming activities and to further understand areas of significance and cultural values including sea country and underwater cultural heritage. CAPL provided a summary of issues from the meeting. CAPL asked NYFL whether they had any additional comments, and expressed interest in further face to face engagement. NYFL acknowledged the summary and provided comment.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	09/05/2023	OC-000420	Phone	CAPL left as message for NYFL to call back in regard to CAPL's Environment Plans.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	12/05/2023	OC-000429	Phone	NYFL confirmed that there were no further comments to add to their response to CAPL's submission.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	15/05/2023	OC-000524	Email	CAPL thanked NYFL for their time and consultation. CAPL summarised NYFL's feedback that they have shared the last few months for NYFL's information. NYFL thanked CAPL for their time and advised CAPL of their initiative on social impact capabilities.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	30/06/2023-30/06/2023	OC-000573	Face-to-face	CAPL met with NYFL in Roebourne to discuss development of ongoing engagement and relationship. NYFL confirmed that Yindjibarndi Ngurra Aboriginal Corporation consented to direct engagement with CAPL and that this could be the case for Ngarluma Aboriginal Corporation, however this was to be confirmed. NYFL made request that CAPL support NYFL with funding to employ a person to support with ongoing consultation as resourcing is their biggest challenge.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	30/06/2023	OC-000802	Email	CAPL thanked NYFL for their time and informed NYFL of their schedule and plans for upcoming consultation and on country engagement not consulting.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	05/07/2023-05/07/2023	OC-000592	Email	CAPL spent time with NYFL social impact team providing ongoing mentoring and support.	No objection or claim raised.		



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Ngarluma Yindjibarndi Foundation Ltd	12/07/2023-26/07/2023	OC-000804	Email	Further discussions between NYFL and CAPL around formalising and engagement plan.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	07/08/2023-07/08/2023	OC-000593	Email	CAPL extended solicitation of EOI for NYFL to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with NYFL further.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	07/08/2023-07/08/2023	OC-000605	Face-to-face	CAPL met with NYFL to discuss consultation planning and development of Engagement Plans. NYFL advised that currently they do not have the capacity to digest consultation information so the onus is on operators to find a way to consult and engage meaningfully. Reiterated that Yindjibarndi Ngurra Aboriginal Corporation had delegated authority for consultation to NYFL for NOPSEMA consultations.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	12/09/2023-12/09/2023	OC-000645	Email	CAPL contacted NYFL to provide updated draft engagement plan for discussion with CEO and Directors.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	27/09/2023	OC-000805	Email	CAPL sent through a draft of the engagement plan to NYFL and expressed their understanding of the challenges facing NYFL and its board. CAPL offered to catch up over the phone. NYFL provided feedback on the draft engagement plan, and advised they would be in Perth in the coming weeks. CAPL advised they would be happy to host NYFL and would also welcome the chance to inform NYFL of an EP submission. CAPL advised they were planning to be back up north the following weeks.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	27/09/2023-27/09/2023	OC-000733	Email	NYFL wrote to CAPL thanking them for work on developing engagement plan and proposed an opportunity to discuss further in person, in Perth, in the coming weeks	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	27/10/2023	OC-000889	Email	CAPL continued engagement with NYFL and thanked them for the Monday Catch up. CAPL listed actions from their discussion.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd	27/10/2023-01/11/2023	OC-000890	Email	NYFL thanked CAPL for the follow up and advised they would be keen to chat further. NYFL also identified that PBCs have a lot going on at present so will engage at a better time.	No objection or claim raised.		
Ngarluma Yindjibarndi Foundation Ltd				<p>To summarise consultation with NYFL to date:</p> <ul style="list-style-type: none"> <li>CAPL commenced consultation with NYFL on 12<sup>th</sup> December 2022 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>CAPL has met with NYFL representatives in 3 face-to-face meetings and maintained contact through email and telephone correspondence</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>CAPL has considered feedback provided by NYFL during consultation, including information on NYFL's functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>On 15<sup>th</sup> May 2023, CAPL emailed NYFL with a summary of the outcomes of consultation undertaken to date</li> <li>NYFL has not raised any further objections or claims relating to the activity scope as CAPL has provided a reasonable period and sufficient information to NYFL to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</li> </ul> <p>CAPL will continue to engage NYFL as part of its ongoing consultation as outlined in Section 8.3.4.1.</p>			
Ningaloo Blue Dive	20/02/2023	CN-000205	Email	CAPL advised that Ningaloo Blue Dive had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Ningaloo Blue Dive that they welcome meaningful feedback.	No objection or claim raised.		
Ningaloo Blue Dive	11/05/2023	OC-000446	Email	CAPL reached out and followed up Ningaloo Blue Dive to provide any feedback they may have on the activity. CAPL confirmed that Ningaloo Blue Dive has not expressed specific concerns or objections to the planned activity.	No objection or claim raised.		
Ningaloo Blue Dive	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would	No objection or claim raised.		

Relevant Person	Interaction Date	Record ID	Method	Summary	Objection or Claim	Assessment of Merit	Changes made to EP in response to consultation
				welcome feedback for future engagement but specified the EP consultation window was closed.			
Ningaloo Blue Dive	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Ningaloo Coast World Heritage Advisory Committee (NCWHAC)	16/02/2023	CN-000489	Email	CAPL advised the Ningaloo Coast World Heritage Advisory Committee that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity in a factsheet. CAPL notified the Ningaloo Coast World Heritage Advisory Committee that they welcome meaningful feedback. Ningaloo Coast World Heritage Advisory Committee advised that the information would be shared with the Committee at a meeting in May 2023 and would revert back to CAPL with any feedback. CAPL contacted The Committee to see whether there was any feedback from the Committee meeting. No response was received.	No objection or claim raised.		
Ningaloo Coast World Heritage Advisory Committee (NCWHAC)	08/05/2023-08/05/2023	OC-000638	Email	CAPL contacted NCWHAC following up on previous meeting and email correspondence.	No objection or claim raised.		
Ningaloo Glass Bottom Boat	20/02/2023	CN-000414	Email	CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Ningaloo Glass Bottom Boats that they welcome meaningful feedback.	No objection or claim raised.		
Ningaloo Glass Bottom Boat	11/05/2023	OC-000445	Email	CAPL followed up with Ningaloo Glass Bottom Boats to provide any feedback they may have on the activity. CAPL confirmed that Ningaloo Glass Bottom Boats has not expressed specific concerns or objections to the planned activity.	No objection or claim raised.		
Ningaloo Glass Bottom Boat	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Ningaloo Visitor Centre	09/01/2023	OC-000176	Email	CAPL advised that the Ningaloo Visitors Centre had been identified as a relevant person with functions, interests or activities that may be affected by the activity and ensure CAPL have the correct contact.	No objection or claim raised.		
Ningaloo Visitor Centre	20/02/2023	CN-000179	Email	CAPL advised that the Ningaloo Visitors Centre had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Ningaloo Visitors Centre that they welcome meaningful feedback.	No objection or claim raised.		
Ningaloo Visitor Centre	11/05/2023	OC-000447	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Ningaloo Whaleshark n Dive	20/02/2023	CN-000203	Email	CAPL advised that Ningaloo Whale Shark n Dive had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Ningaloo Whale shark n Dive that they welcome meaningful feedback.	No objection or claim raised.		
Ningaloo Whaleshark n Dive	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Ningaloo Whaleshark n Dive	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would	No objection or claim raised.		

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				welcome feedback for future engagement but specified the EP consultation window was closed.			
Ningaloo Whaleshark n Dive	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Ningaloo Whaleshark Swim	20/02/2023	CN-000202	Email	CAPL advised that Ningaloo Whaleshark Swim had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Ningaloo Whaleshark Swim that they welcome meaningful feedback.	No objection or claim raised.		
Ningaloo Whaleshark Swim	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email.  CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Ningaloo Whaleshark Swim	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	No objection or claim raised.		
Ningaloo Whaleshark Swim	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Northern Prawn Fishery (NPF)	14/03/2023	CN-000193	Email	CAPL advised that the NPF had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the NPF that they welcome meaningful feedback.	No objection or claim raised.		
Northern Prawn Fishery (NPF)	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Northern Prawn Fishery (NPF)	08/11/2023	OC-000920	Phone	CAPL called stakeholders to confirm close out of consultation regarding Environment Plans for current CAPL activities. There was no answer.	No objection or claim raised.		
Oil Spill Response Limited (OSRL)	15/02/2023	CN-000211	Email	CAPL advised that the OSRL had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the OSRL that they welcome meaningful feedback.	No objection or claim raised.		
Onslow Chamber of Commerce and Industry - CCI	17/01/2023	OC-000092	Email	CAPL advised the OCCI had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans.	No objection or claim raised.		
Onslow Chamber of Commerce and Industry - CCI	23/01/2023	OC-000286	Virtual Meeting	CAPL met with the OCCI to provide an overview of their new approach to consultation along with an update on their Environment Plans.	No objection or claim raised.		
Onslow Chamber of Commerce and Industry - CCI	07/02/2023	OC-000295	Virtual Meeting	CAPL spoke with a representative from OCCI to provide an overview of their new approach to consultation along with an update on their Environment Plans. CAPL provided guidance on how to find information regarding risks associated with the activities in CAPL's online consultation hub for upcoming activities.	No objection or claim raised.		
Onslow Chamber of Commerce and Industry - CCI	08/02/2023	CN-000093	Email	CAPL notified the OCCI that the Environment Plans site on CAPL's website was live and CAPL had published in local, state and national newspaper to help identify additional relevant	No objection or claim raised.		



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				persons. CAPL also requested that the Onslow Chamber of Commerce and Industry share the advert internally via their EDM to their members.			
Onslow Chamber of Commerce and Industry - CCI	16/02/2023	OC-000094	Email	CAPL reached out to the OCCI to see if there were any questions that came through after the presentation and requested that if there were any questions, CAPL would be happy to have a chat.  OCCI stated that at this point in time, no questions had been raised.	No objection or claim raised.		
Onslow Chamber of Commerce and Industry - CCI	02/03/2023	OC-000147	Email	OCCI advised their community of CAPL's information briefing on their proposed offshore activities.	No objection or claim raised.		
Onslow Chamber of Commerce and Industry - CCI	18/03/2023	OC-000095	Email	OCCI sent through their newsletter that had an advert from CAPL seeking relevant persons engagement.	No objection or claim raised.		
Paspaley Pearls	10/05/2023	CN-000442	Email	CAPL advised that Paspaley Pearls had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified that Paspaley Pearls that they welcome meaningful feedback.	No objection or claim raised.		
Paspaley Pearls	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Paspaley Pearls	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	No objection or claim raised.		
Paspaley Pearls	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).  CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Pearl Producers Association (PPA)	08/02/2023	CN-000234	Email	CAPL advised that the PPA had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the PPA that they welcome meaningful feedback.	No objection or claim raised.		
Pearl Producers Association (PPA)	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Pearl Producers Association (PPA)	08/11/2023	OC-000924	Phone	CAPL called to close out consultation with Stakeholder. Phone mailbox was full, CAPL were unable to leave message.	No objection or claim raised.		
Pearl Producers Association (PPA)	29/11/2023	OC-000961	Email	CAPL sent a final close out email stating they have made several attempts to make contact via email / telephone regarding the opportunity to consult on our proposed activities. To date CAPL have not received a reply from the organisation.  CAPL would still welcome the opportunity to engage with you for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
PGS Australia Pty Ltd	15/02/2023	CN-000213	Email	CAPL advised that PGS had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified PGS that they welcome meaningful feedback.	No objection or claim raised.		
PGS Australia Pty Ltd	10/05/2023	OC-000436	Email	CAPL reached out to PGS to provide any feedback they may have on the activity. CAPL confirmed that PGS has not expressed specific concerns or objections to the planned activity	No objection or claim raised.		

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PGS Australia Pty Ltd	08/11/2023	OC-000920	Phone	CAPL called stakeholders to confirm close out of consultation regarding Environment Plans for current CAPL activities. There was no answer.	No objection or claim raised.		
PGS Australia Pty Ltd	29/11/2023	OC-000961	Email	CAPL sent a final close out email stating they have made several attempts to make contact via email / telephone regarding the opportunity to consult on our proposed activities. To date CAPL have not received a reply from the organisation.  CAPL would still welcome the opportunity to engage with you for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Pilbara Development Commission	19/12/2022	OC-000101	Email	CAPL advised the Pilbara Development Commission had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. Pilbara Development Commission responded they would be pleased to meet with CAPL. A meeting was organised.	No objection or claim raised.		
Pilbara Development Commission	01/02/2023	OC-000289	Face-to-face	CAPL met with the Pilbara Development Commission to provide an overview of their new approach to consultation along with an update on CAPL's Environment Plans.	No objection or claim raised.		
Pilbara Development Commission	08/02/2023	CN-000102	Email	CAPL advised the Pilbara Development Commission had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Pilbara Development Commission that they welcome meaningful feedback.	No objection or claim raised.		
Pilbara Development Commission	17/02/2023	OC-000103	Email	Chevron Australia shared the contact details with the Pilbara Development Commission to discuss the new Hostel in Newman for Martu kids that are travelling down for School.	No objection or claim raised.		
Pilbara Ports Authority	08/02/2023	CN-000236	Email	CAPL advised that Pilbara Ports Authority had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the PPA that they welcome meaningful feedback.	No objection or claim raised.		
Port Hedland Chamber of Commerce Inc (PHCCI)	30/01/2023	OC-000182	Email	CAPL advised that the PHCCI had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL confirmed contact details for future consultation.	No objection or claim raised.		
Port Hedland Chamber of Commerce Inc (PHCCI)	08/02/2023	CN-000235	Email	CAPL advised that the PHCCI had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the PHCCI that they welcome meaningful feedback.	No objection or claim raised.		
Protect Ningaloo	10/02/2023	CN-000223	Email	CAPL advised that Protect Ningaloo had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Protect Ningaloo that they welcome meaningful feedback.  CAPL sent a follow up to confirm the email was received.	No objection or claim raised.		
Protect Ningaloo	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email.  CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Recfishwest (WA)	17/06/2022	CN-000077	Email	CAPL provided details of the activity along with the activity information sheet. Recfishwest acknowledged receipt of the information received from CAPL and provided a response. They raised the economic and community importance of recreational fishing, and that Recfishwest places the highest priority on preserving the marine environment and safeguarding habitats and fish stocks. Recfishwest asked to be consulted with on any upcoming offshore exploration activities. CAPL thanked Recfishwest for their reply and noted that we would keep Recfishwest updated on any existing or new activities that CAPL undertakes.	1 Recfishwest raised that recreational fishers access the activity area. 2 Recfishwest raised that marine environment and safeguarding habitats and fish stocks were significant to them. 3 Recfishwest asked that they be consulted on any upcoming offshore exploration activities.	<b>Claims have merit:</b> 1. CAPL acknowledge that the activity has the potential to result in impacts to fisheries, which should be captured within the EP 2. CAPL acknowledge the activity has the potential to impact fish and the marine environment, which should be captured and risk assessed within the EP. 2. As a relevant person, it is considered fair and reasonable for CAPL to facilitate ongoing engagement with Recfishwest.	Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with Recfishwest.  No additional action required. Fisheries are already identified in Section 4 of the EP and included in the risk assessment (Section 7) where applicable.

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Recfishwest (WA)	24/02/2023	OC-000125	Email	CAPL advised that Recfishwest had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Recfishwest that they welcome meaningful feedback. Recfishwest acknowledged receipt of email and requested to be included in consultations and advised the appropriate contact for all correspondence in the future. A meeting was arranged.	No objection or claim raised.		
Recfishwest (WA)	28/02/2023	OC-000264	Virtual Meeting	CAPL spoke with representatives from Recfishwest. CAPL provided an overview of their new online interaction hub and update on their Environment Plans. Recfishwest advised that continued consultation is encouraged. CAPL offered to present current activities to the board and provide an EDM for Recfishwest.	No objection or claim raised.		
Recfishwest (WA)	10/03/2023	OC-000185	Email	CAPL provided details of the activity and discussed the best method to circulate information about activities with Recfishwest and their members. Recfishwest enquired into CAPL's consultation process, to which CAPL responded.	No objection or claim raised.		
Recfishwest (WA)	23/03/2023	OC-000165	Phone	CAPL contacted Recfishwest to request that CAPL's EP identification information be published in the Recfishwest EDM. Recfishwest advised that the content is inappropriate for the newsletter.	No objection or claim raised.		
Robe River Kuruma Aboriginal Corporation (RRKAC)	19/01/2023	OC-000737	Email	CAPL organised to meet with RRRKAC and discuss upcoming Environment Plans.	No objection or claim raised.		
Robe River Kuruma Aboriginal Corporation (RRKAC)	31/01/2023	OC-000543	Face-to-face	CAPL met with representatives from RRRKAC to discuss CAPL's upcoming Environment Plan activities. CAPL sought feedback on areas of significance and cultural values including sea country and underwater cultural heritage. CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. RRRKAC did not identify any additional relevant persons to consult. RRKAC advised the information will be presented to their heritage advisory committee and will revert back to CAPL with any comments, questions, queries they may have. RRRKAC confirmed they had no further comments upon presenting to the heritage advisory committee.	No objection or claim raised.		
Robe River Kuruma Aboriginal Corporation (RRKAC)	03/02/2023	CN-000378	Email	CAPL sent a formal written notice via email to RRRKAC as an identified relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified RRRKAC that they welcome meaningful feedback. RRKAC thanked CAPL and informed them that they had downloaded the maps provided and would let CAPL know right away if there were any issues arising. CAPL thanked RRRKAC.	No objection or claim raised.		
Robe River Kuruma Aboriginal Corporation (RRKAC)	04/05/2023	OC-000725	Email	CAPL sent a follow up email asking RRRKAC if they had any feedback about the Environment plans from HAC or from the community. CAPL informed RRRKAC that should they have any questions on the proposed activities, CAPL would appreciate if they could be provided before the 12th of May to be considered in the development of the Environment Plans.	No objection or claim raised.		
Robe River Kuruma Aboriginal Corporation (RRKAC)	06/05/2023-08/05/2023	OB-000726	Email	Following the written notification. RRRKAC requested that CAPL inform them of activities that were a perceived possible impact to their native claim area that could directly impact the environmental integrity of Jahjiwurra (Robe River). RRKAC have requested that they would appreciate future notification of activities. CAPL responded to RRRKAC and thanked them for the feedback and acknowledged their time. CAPL informed RRRKAC that they would continue engagement with them regarding activities as requested.	1. Ask to be consulted only when activities were within the Kuruma Marthudunera native title claim area or if a possible environmental incident could directly impact their claim area. 2. RRRKAC request notification (including maps) on commencement (only if within area of significance identified) 3. Raised the Kuruma Marthudunera native title claim area and the Robe River mouth (as an important value/sensitivity).	<b>Claim has merit:</b> As a relevant person, the request for ongoing engagement is considered fair and reasonable. However, as the EMBA is outside the area of concern, therefore further engagement on interaction with the sensitivities raised is not expected.	Ongoing engagement with RRRKAC is taking place. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies.  An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Robe River Kuruma Aboriginal Corporation (RRKAC)	13/07/2023	OC-000738	Email	RRKAC and CAPL organised to meet in Karratha to discuss CAPL Environment Plans and OPP.	No objection or claim raised.		

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Robe River Kuruma Aboriginal Corporation (RRKAC)	13/07/2023-13/07/2023	OC-000723	Email	CAPL advised RRKAC that they would be in Karratha in a few weeks time and would like to organise a meeting to provide an update on CAPL's Environment Plans and OPP.	No objection or claim raised.		
Robe River Kuruma Aboriginal Corporation (RRKAC)	07/08/2023-07/08/2023	OC-000599	Email	CAPL extended solicitation of EOI for RRKAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with RRKAC further.	No objection or claim raised.		
Robe River Kuruma Aboriginal Corporation (RRKAC)	30/08/2023-12/09/2023	OC-000724	Email	RRKAC introduced CAPL to their newly appointed Senior Heritage Officer who will be working on Country and Culture for RRKAC regarding mining and exploration matters. RRKAC requested they be included in future correspondence.  CAPL thanked RRKAC for the email.	RRKAC requested they be included in future correspondence.	Claim has merit: As a relevant person, the request for ongoing engagement is considered fair and reasonable.	Ongoing engagement with RRKAC is taking place. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies.  An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Robe River Kuruma Aboriginal Corporation (RRKAC)				To summarise consultation with RRKAC to date: <ul style="list-style-type: none"> <li>CAPL commenced consultation with RRKAC on 23<sup>rd</sup> September 2022 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>CAPL has met with RRKAC representatives in 2 face-to-face meetings and maintained contact through email and telephone correspondence</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>RRKAC were given 12 weeks to consider the information provided</li> <li>CAPL has considered feedback provided by RRKAC during consultation, including information on RRKAC's functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>RRKAC has not raised any further objections or claims relating to the activity scope as CAPL has provided a reasonable period and sufficient information to RRKAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</li> </ul> CAPL will continue to engage RRKAC as part of its ongoing consultation as outlined in Section 8.3.4.1.			
Sail Ningaloo	20/02/2023	CN-000199	Email	CAPL advised that Sail Ningaloo had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Sail Ningaloo that they welcome meaningful feedback.	No objection or claim raised.		
Sail Ningaloo	10/05/2023	OC-000434	Email	Chevron Australia reached out to Sail Ningaloo to provide any feedback they may have on the activity. Chevron Australia confirmed that Sail Ningaloo has not expressed specific concerns or objections to the planned activity.	No objection or claim raised.		
Sail Ningaloo	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	No objection or claim raised.		
Sail Ningaloo	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).  CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Santos	20/03/2023	CN-000186	Email	CAPL advised that Santos had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Santos that they welcome meaningful feedback.	No objection or claim raised.		



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				Santos confirmed the receipt of this email, and requested to be included in consultation.			
Santos	10/05/2023	OC-000432	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email.	No objection or claim raised.		
SapuraOMVUpstream	14/02/2023	CN-000218	Email	CAPL advised that Sapura OMV had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Sapura OMV that they welcome meaningful feedback.	No objection or claim raised.		
SapuraOMVUpstream	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email.  CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
SapuraOMVUpstream	08/11/2023	OC-000920	Phone	CAPL called stakeholders to confirm close out of consultation regarding Environment Plans for current CAPL activities. There was no answer.	No objection or claim raised.		
Shire of Ashburton (Pilbara)	17/01/2023	OC-000096	Email	CAPL advised that the Shire of Ashburton had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL requested that at the next meeting to provide an overview of the activity.  Shire of Ashburton advised that previously CAPL has firstly presented to council their activity and then to the community.  A meeting was arranged.	No objection or claim raised.		
Shire of Ashburton (Pilbara)	25/01/2023	OC-000285	Phone	CAPL provided a follow up phone call regarding an email CAPL sent on the Environment Plan consultation process. CAPL provided an overview of their new approach to consultation along with an update on their Environment Plans.	No objection or claim raised.		
Shire of Ashburton (Pilbara)	07/02/2023	CN-000097	Email	CAPL advised that the Shire of Ashburton had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Shire of Ashburton that they welcome meaningful feedback.  The Shire of Ashburton stated that they would circulate with relevant parties internally.	No objection or claim raised.		
Shire of Ashburton (Pilbara)	07/02/2023	OC-000293	Virtual Meeting	The Shire of Ashburton shared their concerns regarding impacts on recreation and fishing and suggested CAPL present at an information session in Onslow.	The Shire of Ashburton shared their concerns regarding impacts on recreation and fishing and suggested CAPL present at an information session in Onslow.	Claim has merit: CAPL acknowledge that al recreational fishing activities have the potential to occur within the region. As such, it should be considered within the EP.	No changes made to the EP. The Description of the Environment identified Recreational fisheries (Section 4.4.2) and Tourism and recreation (Section 4.4.5) have described the receptors within the operational area and the EMBA. The impacts and risks to recreation and fishing has been assessed throughout the risk assessment.
Shire of Ashburton (Pilbara)	14/02/2023	OC-000098	Email	Shire of Ashburton thanked CAPL for presenting on their upcoming activities. The Shire of Ashburton noted that other titleholders have spoken to them about risk protocols in Commonwealth and State waters and possible contingencies in place for accidents in relation to a hydrocarbon incident.  The Shire of Ashburton provided contact names and details for people within the Shire of Ashburton that assist in emergency management.	No objection or claim raised.		
Shire of Ashburton (Pilbara)	01/03/2023	OC-000128	Email	Shire of Ashburton thanked CAPL for presenting on their upcoming activities and provided contact details.  CAPL provided the Shire of Ashburton with an overview of their new online consultation Hub and activities. The Shire of Ashburton was informed that if they had any further queries to contact CAPL.	No objection or claim raised.		
Shire of Ashburton (Pilbara)	01/03/2023	OC-000269	Virtual Meeting	CAPL met with representatives from Shire of Ashburton. CAPL provided an overview of their new online interaction hub. CAPL answered and discussed relevant questions and queries from the Shire of Ashburton and defined contacts and procedures in the event an emergency occurs.	No objection or claim raised.		

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				CAPL invited the Shire of Ashburton to attend the next oil spill response exercise at Wheatstone and local Emergency Management Committee in Onslow.			
Shire of Ashburton (Pilbara)	10/05/2023	OC-000438	Email	CAPL reached out to the Shire of Ashburton to provide any additional feedback they may have on the activity. CAPL advised that consultation regarding the Environment plans was closing and that if any further feedback was received CAPL was happy to listen and discuss during ongoing engagement.	No objection or claim raised.		
Shire of Carnarvon (Gascoyne)	09/03/2023-09/03/2023	OC-000637	Face-to-face	CAPL met with Shire of Carnarvon representatives in Carnarvon to discuss Environment Plans. Shire of Carnarvon advised that there were no concerns or objections. CAPL and Shire of Carnarvon representatives discussed opportunities for future partnerships and collaboration including training for rangers.	No objection or claim raised.		
Shire of Exmouth (Gascoyne)	17/01/2023	OC-000279	Phone	CAPL attempted to make first initial contact with the Shire of Exmouth.	No objection or claim raised.		
Shire of Exmouth (Gascoyne)	18/01/2023	OC-000107	Email	CAPL advised that the Shire of Exmouth had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. Shire of Exmouth would be pleased to meet with CAPL and a meeting was organised.	No objection or claim raised.		
Shire of Exmouth (Gascoyne)	24/01/2023	OC-000284	Face-to-face	CAPL met with representatives from Shire of Exmouth in Exmouth. The Shire of Exmouth provided advice on local relevant persons that we should be engaging. CAPL provided an overview of their new approach to consultation along with an update on their Environment Plans. The Shire of Exmouth invited CAPL to present at the Council meeting.	No objection or claim raised.		
Shire of Exmouth (Gascoyne)	01/02/2023	OC-000170	Email	CAPL reached out to the Shire of Exmouth to understand who they should contact locally from an environment/conservation perspective. The Shire of Exmouth provided CAPL with relevant persons to contact who may be affected by their activities.	Shire of Exmouth identified Cape Conservation Group and Protect Ningaloo identified as potential relevant people.	Claim has merit: CAPL acknowledge that Cape Conservation Group and Protect Ningaloo do have the potential to be relevant persons, and should be engaged with.	No change made to the EP. Additional engagement with stakeholders identified during consultation were engaged with.
Shire of Exmouth (Gascoyne)	08/02/2023	CN-000540	Email	CAPL advised that the Shire of Exmouth had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Shire of Exmouth that they welcome meaningful feedback.	No objection or claim raised.		
Shire of Exmouth (Gascoyne)	24/02/2023	OC-000268	Virtual Meeting	CAPL met with representatives from the Shire of Exmouth. The Shire of Exmouth provided feedback from the Council and the current need for a waste management master plan due to high volumes of land fill or transport per week. CAPL provided possible alternatives and identified the Shire of Exmouth's main priorities.	The Shire of Exmouth provided feedback from the Council and the current need for a waste management master plan due to high volumes of land fill or transport per week.	Claim does not have merit: CAPL do not send waste to Exmouth and waste generated for the activity is not expected to be high volumes.	
Shire of Exmouth (Gascoyne)	01/03/2023	OC-000276	Phone	The Shire of Exmouth advised that it would be good for CAPL to become a member of the Chamber and get involved with the community reference groups that will be able to support CAPL's consultation process. The Shire of Exmouth spoke to various issues that they are currently dealing with.	No objection or claim raised.		
Shire of Exmouth (Gascoyne)	02/05/2023	OC-000356	Email	CAPL contacted Shire of Exmouth to confirm that there were no objections or further input required on our upcoming Offshore activities.	No objection or claim raised.		
Terrafirma Offshore PTY LTD	09/01/2023	OC-000175	Email	CAPL advised that the Terrafirma Offshore had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL contacted Terrafirma to confirm contact details for future consultation.	No objection or claim raised.		
Terrafirma Offshore PTY LTD	01/05/2023	CN-000405	Email	CAPL advised Terrafirma Offshore that they had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Terrafirma Offshore that they welcome meaningful feedback	No objection or claim raised.		
Terrafirma Offshore PTY LTD	15/05/2023	OC-000448	Email	CAPL reached out to Terrafirma Offshore to provide any feedback they may have on the activity. CAPL confirmed that Terrafirma Offshore has not expressed specific concerns or objections to the planned activity.	No objection or claim raised.		
TGS NOPEC Geophysical Company Pty Ltd	15/02/2023	CN-000212	Email	CAPL advised that TGS NOPEC had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified TGS NOPEC that they welcome meaningful feedback.	No objection or claim raised.		

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TGS NOPEC Geophysical Company Pty Ltd	10/05/2023	OC-000437	Email	CAPL reached out to TGS NOPEC to provide any feedback they may have on the activity.	No objection or claim raised.		
Top Gun Charters	04/05/2023	CN-000396	Email	CAPL advised that Top Gun Charters had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Top Gun Charters that they welcome meaningful feedback.	No objection or claim raised.		
Top Gun Charters	08/11/2023	OC-000920	Phone	CAPL called stakeholders to confirm close out of consultation regarding Environment Plans for current CAPL activities. There was no answer.	No objection or claim raised.		
Tourism Western Australia	09/01/2023	OC-000230	Email	CAPL advised that Tourism WA had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL suggested they coordinate a phone call to discuss and agree on the communication protocols and to consult on the current Environment Plans. Tourism Western Australia would be pleased to meet with CAPL and a meeting was organised.	No objection or claim raised.		
Tourism Western Australia	27/02/2023	CN-000370	Email	CAPL advised that Tourism Western Australia had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Tourism Western Australia that they welcome meaningful feedback. CAPL thanked Tourism Western Australia for their time.	No objection or claim raised.		
Tourism Western Australia	27/02/2023	OC-000266	Virtual Meeting	CAPL spoke with Tourism WA and suggested CAPL should speak with tourism operators and cruise ship operators. Tourism WA provided advice on potential investment opportunities with local tourism operators and showed interested in partnering with CAPL to develop tourism capacity.	Tourism WA identified potential relevant persons to engage with.	<b>Claim has merit:</b> CAPL activities have the potential to interact with tourism operators, therefore it is reasonable to consider the identified people as relevant persons.	No change made to the EP. Additional engagement took place.
Tourism Western Australia	27/09/2023	OC-000736	Email	Earlier in the year Tourism WA mentioned they would send a list of ship operators and possible relevant people for consultation to CAPL. CAPL reached out to Tourism WA to enquire about the list as they did not receive it. CAPL also confirmed they were consulting with AMSA so ships may not be necessary but that CAPL were happy to listen to Tourism WA advice.	No objection or claim raised.		
Tuna Australia	17/06/2022	OB-000491	Email	Tuna Australia acknowledged that there has been no recent fishing effort in the proposed exploration area however, noted that any of the 94 boat fishery holders can choose to fish or lease their rights to fish in these areas at any time. Tuna Australia confirmed they are assisting a fisher to access the Western Tuna and Billfish Fishery licences and quotas to commence fishing operations out of Exmouth in 2023. Tuna Australia requested clarification on: 1. The downstream effects of the activities and impacts of tuna quality. 2. How would Chevron's contracted vessels deconflict themselves from drifting longline gear should it enter the Operational areas 3. Any undue acoustic or frequency disturbances from the activities CAPL addressed Tuna Australia's concerns as outlined below: 1. Potential impacts on fish from planned and routine discharges associated with the proposed exploration wells have been assessed. There are clear control measures to manage the risks that are well defined via legislative requirements and considered standard industry practice. The implementation of these controls will mean any potential effects on water quality will be temporary and localised to discharge area and therefore will not impact on tuna quality. 2. CAPL understands fishers use advanced technology (e.g. satellite, GPS) to predict the drift of their longlines prior to setting and also proactively track their longline to avoid accidental drift into areas, facilities or other commercial activities. Should fishers be active in the area during the period of drilling activity, we would expect them to predict the drift and then set the longlines to avoid the Operational Area (OA). After the setting of a longline, should a change in the ocean conditions result in the longline be moved towards the OA, then CAPL would request the longline to be retrieved by the fisher before any conflict could occur, reducing the risk to all parties. 3. Acoustic modelling was undertaken to assess the underwater sound exposure from the drilling exploration activity. This assists in understanding the distances from the activity at which underwater sound levels reached noise effect thresholds for marine mammals, sea turtles and fish. For pelagic fish species transiting through the OA (close to the MODU / vessels), the increase in noise may result in the fish demonstrating limited temporary 'avoidance behaviours'; that is, they may slightly change swimming direction and or depth until they have passed the noise sources.	Tuna Australia requested clarification on 1. The downstream effects of the activities and impacts of tuna quality. 2. How would Chevron's contracted vessels deconflict themselves from drifting longline gear should it enter the Operational areas 3. Any undue acoustic or frequency disturbances from the activities	<b>Claims have merit:</b> As a relevant person, the request for clarification and further information is considered fair and reasonable.	No change made to the EP. CAPL provided a response to Tuna Australia addressing the points raised and closed out engagement.
Vermilion Oil & Gas	14/02/2023	CN-000187	Email	CAPL advised that Vermilion had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and	No objection or claim raised.		



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				provided a link to their website for further information regarding the activity. CAPL notified Vermilion that they welcome meaningful feedback. CAPL sent a follow up to confirm whether Vermilion Oil & Gas received this email.			
Vermilion Oil & Gas	20/03/2023	CN-000187	Email	CAPL followed up with Vermilion to confirm email was received.	No objection or claim raised.		
Vermilion Oil & Gas	08/11/2023	OC-000921	Phone	CAPL called to close out consultation. The stakeholder was not aware of any emails and asked for the email to be resent. CAPL confirmed they would send out a close out email and would welcome feedback for future engagement but specified the EP consultation window was closed.	No objection or claim raised.		
Vermilion Oil & Gas	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
View Ningaloo	20/02/2023	CN-000200	Email	CAPL advised that View Ningaloo had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the View Ningaloo that they welcome meaningful feedback.	No objection or claim raised.		
View Ningaloo	11/05/2023	OC-000449	Email	CAPL reached out to View Ningaloo to provide any feedback they may have on the activity. CAPL confirmed that View Ningaloo has not expressed specific concerns or objections to the planned activity.	No objection or claim raised.		
View Ningaloo	08/11/2023	OC-000920	Phone	CAPL called stakeholders to confirm close out of consultation regarding Environment Plans for current CAPL activities. There was no answer.	No objection or claim raised.		
Vocus Communications	04/05/2023	CN-000397	Email	CAPL advised that Vocus Communications had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Vocus Communications that they welcome meaningful feedback.	No objection or claim raised.		
WA Coastal and Marine Community Network	10/02/2023	CN-000222	Email	CAPL advised the WA Coastal and Marine Community Network had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified WA Coastal and Marine Community network that they welcome meaningful feedback.  The WA Coastal and Marine Community Network confirmed they would like to be involved in engagement, and a meeting was organised.	No objection or claim raised.		
WA Coastal and Marine Community Network	21/03/2023	OC-000119	Virtual Meeting	CAPL provided WA Coastal and Marine Community Network information on upcoming activities via the Interaction Hub during a Teams meeting.	No objection or claim raised.		
WA Coastal and Marine Community Network	22/03/2023	OC-000120	Email	CAPL followed up with WA Coastal and Marine Community Network email after their Teams Meeting with links to CAPL's Interaction Hub.	No objection or claim raised.		
WA Marine Science Institute	01/03/2023	CN-000196	Email	CAPL advised that WA Marine Science Institute had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified WAMSI that they welcome meaningful feedback.	No objection or claim raised.		
WA Marine Science Institute	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email. CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	04/07/2022	CN-000079	Email	Chevron Australia provided details of the activity along with the activity information sheet. WAFIC requested confirmation from Chevron Australia that in the event of an unplanned release that WAFIC and relevant commercial fishers will be notified immediately. Chevron Australia confirmed that WAFIC and relevant fishers will be notified within 24hrs or earlier, in the event of a loss of well containment event or an unplanned event.	WAFIC requested confirmation from Chevron Australia that in the event of an unplanned release that WAFIC and relevant commercial fishers will be notified immediately.	<b>Claim has merit:</b> As relevant persons with sensitivities within the EMBA, it is fair and reasonable to request notification in the instance of an unplanned release event.	No action required. Notification to WAFIC and relevant commercial fishers in the event of a spill event is already captured in Section 8.3.4.2 of the EP.

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Western Australian Fishing Industry Council (WAFIC)	10/01/2023	OC-000085	Email	CAPL reached out to WAFIC and a meeting was organised to discuss and agree the communication protocols for consultation. A meeting was organised.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	12/01/2023	OC-000278	Phone	CAPL established contact with WAFIC to organise a time to provide an overview of upcoming projects. WAFIC spoke to having concerns regarding seismic and decommissioning activities, and that they would be very eager to come together and work out the best model to communicate to fishers.	WAFIC expressed concerns regarding decommissioning and seismic activities.	<b>Claim does not have merit:</b> Seismic and decommissioning are outside of the activity scope for this EP.	
Western Australian Fishing Industry Council (WAFIC)	03/02/2023	CN-000086	Email	CAPL thanked WAFIC for their time and providing further information for CAPL to understand more about their challenges as an industry and organisation. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the WAFIC that they welcome meaningful feedback.  CAPL noted down all of WAFICs challenges that they shared in respect to dealing with large volumes of proponent activity and the burdens that this places on them as an organisation. CAPL notified WAFIC that they will discuss some options internally with our leadership first and revert back. In the interim, if WAFIC have some ideas on how CAPL can engage directly with their industry CAPL requested WAFIC let us know.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	03/02/2023	OC-000087	Email	WAFIC thanked CAPL for meaningful discussions and provided a link to their consultation approach along with WAFIC included a post in their February newsletter advising their members of CAPL's new online interaction hub for feedback.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	10/02/2023	OC-000549	Email	Western Australian Fishing Industry Council provided a link to CAPL's consultation hub in their monthly newsletter for the activity that was sent out to WAFIC's email list including the below identified fishery groups within the Operational Area: <ul style="list-style-type: none"> <li>• Mackerel Managed Fishery</li> <li>• Pilbara Crab Managed Fishery</li> <li>• Pilbara Line Fishery</li> <li>• Pilbara Trap Managed Fishery</li> <li>• Marine Aquarium Fish Managed Fishery</li> <li>• Specimen Shell Managed Fishery</li> </ul>	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	28/02/2023	OC-000263	Virtual Meeting	CAPL spoke with representative from WAFIC. WAFIC responded with positive feedback on CAPL's consultation process and advised looking into the Bluefin Tuna spawning area.	WAFIC identified Bluefin Tuna spawning area as a potential receptor.	<b>Claim has merit:</b> The Bluefin Tuna spawning area does occur within the region, and should be considered within the EP.	The overlap between the approximate spawning ground for Southern Bluefin Tuna (SBT) and the OA was captured in Section 4.4.1.1. SBT have been included within relevant impact and risks assessments in Section 7 of the EP.
Western Australian Fishing Industry Council (WAFIC)	02/03/2023	OC-000291	Face-to-face	CAPL met with WAFIC at their office to provide an overview of their new approach to consultation along with an update on their Environment Plans. WAFIC provided an overview of their current concerns and there was discussions on how CAPL could support/assist with these concerns.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	01/05/2023	OC-000358	Email	CAPL contacted WAFIC to confirm that there were no concerns or objections to the planned activities discussed in the consultation process.  CAPL acknowledged that they would like to develop a framework with WAFIC for ongoing consultation and engagement. CAPL confirmed they will advise of any material changes to the proposed activities and provide reasonable time for WAFIC to reassess potential impacts and risks on values and sensitivities.  CAPL look forward to our ongoing consultations and continuing to explore new opportunities with WAFIC.  WAFIC requested confirmation that feedback for specific activities were received by CAPL. CAPL provided a summary of feedback to date, and sent to WAFIC for review. A meeting was organised.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	07/06/2023	OC-000570	Email	CAPL and WAFIC organised a time to catch up to discuss their ongoing relationship and CAPL engaged early to discuss future approvals. WAFIC provided their draft Consultation Guideline and welcomed any feedback from CAPL.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	07/06/2023-23/06/2023	OC-000793	Email	CAPL discussed setting up a meeting on the 19th of June to discuss engagement plan with WAFIC.	No objection or claim raised.		

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				After the meeting on the 19th, WAFIC sent through their draft engagement plan for CAPL to review. CAPL responded to WAFIC and advised they would get back to them ASAP.			
Western Australian Fishing Industry Council (WAFIC)	19/06/2023	OC-000560	Face-to-face	CAPL met with WAFIC representatives to discuss their continued relationship and the development of OPP and the opportunity for WAFIC's involvement in the process. WAFIC appreciated the opportunity provided by CAPL to be involved in the early stages of development of the OPP so that it can best represent the WA Fishing Industry. WAFIC advised that they are a significant and important stakeholder given the growing demands on the industry, particularly the increase in expanse of the offshore renewables sector. WAFIC also provided CAPL with a draft consultation framework.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	30/06/2023-06/07/2023	OC-000794	Email	Following the receipt of the WAFIC engagement plan, CAPL sent through a few suggestions to include. WAFIC appreciated the feedback and included the suggested changes. WAFIC advised that they would send the document through to CEO for approval before public release.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	09/08/2023-09/08/2023	OC-000613	Virtual Meeting	CAPL and WAFIC met to discuss ongoing partnership and support. WAFIC advised that they are still being inundated by proponents with information however most proponents are not prepared to pay for this consultation. CAPL reiterated its support for WAFIC to provide this important service. CAPL and WAFIC agreed to look at a partnership focused on helping WAFIC to advocate for members and coordinate research efforts.	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	15/08/2023	OC-000616	Email	CAPL wrote to WAFIC confirming details of discussion around CAPL support for WAFIC consultation framework, and intent to draft an agreement with WAFIC. CAPL confirmed interest in attending general meeting with Pilbara Line Fishers in September at the WAFIC office	No objection or claim raised.		
Western Australian Fishing Industry Council (WAFIC)	30/08/2023-08/09/2023	OC-000796	Email	WAFIC advised that CAPL were included in the annual management meeting for the Pilbara Line Trap, trawl fisheries. WAFIC advised that the Chair would like CAPL to attend lunch with the fishers and will give time after to talk about CAPL activities.	No objection or claim raised.		
Western Australian Museum	24/04/2023	CN-000382	Email	CAPL advised that the Western Australian Museum had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Western Australian Museum that they welcome meaningful feedback. The Western Australian Museum acknowledged the email, and indicated that they would reach out if a meeting was required.	No objection or claim raised.		
Western Gas	14/02/2023	CN-000219	Email	CAPL advised that Western Gas had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Western Gas that they welcome meaningful feedback.	No objection or claim raised.		
Western Gas	04/09/2023-28/09/2023	OC-000633	Email	CAPL advised Stakeholders that had not responded to previous communications on whether they would like to be consulted in relation to the development of offshore Environment Plans. CAPL gave the option to receive further information or have a discussion with a Chevron Australia representative to respond directly to the email. CAPL advised that if the Stakeholder does not wish to receive emails from CAPL relating to Environments Plans in the future, please let CAPL know via return email.	No objection or claim raised.		
Western Gas	28/09/2023	OC-000787	Email	Western Gas advised they may be considered a relevant person and would like to participate in the consultation process.	No objection or claim raised.		
Western Gas	29/11/2023	OC-000962	Email	CAPL thanked Western Gas for their email and informed them that the Environment Plans were currently under assessment by NOPSEMA. CAPL advised they would still welcome consultation relating to the Environment plans in the future.	No objection or claim raised.		
Western Rock Lobster Council	19/01/2023	OC-000280	Phone	CAPL established contact with Western Rock Lobster Council to organise a time to provide an overview of upcoming projects. Western Rock Lobster Council confirmed their fishing areas and also shared their concerns about seismic impacts on lobsters. CAPL agreed to providing further information regarding the operational areas and providing the information sheet.	Western Rock Lobster Council confirmed their fishing areas and also shared their concerns about seismic impacts on lobsters.	The claim does not have merit: The EP is not a seismic EP thus the concern has no merit for this EP.	
Western Rock Lobster Council	08/02/2023	CN-000411	Email	CAPL thanked the Western Rock Lobster Council for their time on the phone, and provided a link to the 4D Seismic activity (outside the scope of this activity). CAPL advised that the Western Rock Lobster Council had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified the Western Rock Lobster Council that they welcome meaningful feedback.	No objection or claim raised.		

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Whale and Dolphin Conservation Society	10/03/2023	CN-000221	Email	CAPL advised that Whale and Dolphin Conservation Society had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Whale and Dolphin Conservation Society that they welcome meaningful feedback. CAPL sent a follow up to confirm whether they had received the email.	No objection or claim raised.		
Whale and Dolphin Conservation Society	27/03/2023	OC-000161	Phone	CAPL contacted Whale and Dolphin Conservation Society to confirm receipt of EP information using the number listed on their website however the number was not connected.	No objection or claim raised.		
Wilderness Island	23/02/2023	CN-000198	Email	CAPL advised that Wilderness Island had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Wilderness Island that they welcome meaningful feedback.	No objection or claim raised.		
Wilderness Island	11/05/2023	OC-000443	Email	CAPL followed up with Wilderness Island to provide any feedback they may have on the activity. CAPL confirmed that Wilderness Island has not expressed specific concerns or objections to the planned activity.	No objection or claim raised.		
Wilderness Island	08/11/2023	OC-000920	Phone	CAPL called stakeholders to confirm close out of consultation regarding Environment Plans for current CAPL activities. There was no answer.	No objection or claim raised.		
Wilderness Society	10/02/2023	CN-000197	Email	CAPL advised that Wilderness Society had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Wilderness Society that they welcome meaningful feedback. CAPL sent a follow up to confirm whether they had received the email.	No objection or claim raised.		
Wilderness Society	4/09/2023	OC-000715	Email	CAPL sent out an email identifying organisations that had previously not responded to any CAPL correspondence regarding Environment Plans or Offshore Project Proposals. CAPL informed that if a representative would like further information or a discussion with CAPL to respond to this email. CAPL advised that if they do not wish to correspond any further, CAPL would request they advise via return email.	No objection or claim raised.		
Wilderness Society	08/11/2023	OC-000920	Phone	CAPL called stakeholders to confirm close out of consultation regarding Environment Plans for current CAPL activities. There was no answer.	No objection or claim raised.		
Wilderness Society	23/11/2023	OC-000960	Email	CAPL resent the written notice as requested following phone calls to the organisations. CAPL advised that the consultation period has closed, and CAPL environment plans are under assessment with the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). CAPL noted it would welcome the opportunity to engage for upcoming activities and receive feedback for consideration in any future environmental plans.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	24/11/2022	OC-000371	Email	CAPL contacted the WAC to provide an overview of their current approach to consultation and Environment Plans for upcoming activities. A meeting was organised.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	30/11/2022	OC-000372	Virtual Meeting	CAPL advised WAC of the new NOPSEMA consultation requirements, CAPL's Environment Plans and what the best course of action is to consult with the WAC members and community. WAC suggested the best course of action was to focus on developing a communication plan between CAPL and WAC to commence rebuilding the relationship prior to discussions around CAPL's upcoming project activities (environmental plans). Both parties agreed to identify a suitable meeting date before the end of the year via email correspondence.	WAC suggested the best course of action was to focus on developing a communication plan between CAPL and WAC to commence rebuilding the relationship prior to discussions around CAPL's upcoming	Claim has merit. As a relevant person, CAPL has the responsibility to identify the correct engagement mechanism to ensure all appropriate information is disseminated in an appropriate fashion.	Ongoing engagement with WAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and WAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies. An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which



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							further describes ongoing engagement.
Wirrawandi Aboriginal Corporation RNTBC (WAC)	06/12/2022	OC-000546	Email	CAPL engaged with WAC to confirm possible dates to meet the WAC board and Elders and develop a relationship. CAPL presented WAC with some questions regarding expectations to discuss when CAPL meet with the WAC board and Elders, including co-design, drafting up an agreement and the CAPL representation WAC would expect to see. WAC and CAPL organised to have an informal meeting prior to the Board meeting.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	22/12/2022	OC-000476	Face-to-face	A CAPL representative and the WAC General Manager met to discuss the draft agenda for the upcoming meeting between CAPL and the WAC Board and Elders, scheduled in January 2023.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	30/12/2022	OC-000374	Email	WAC attached information regarding the WAC Ranger Program and the request for Ranger funding. WAC stated their intent to build a strong relationship with CAPL.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	05/01/2023	OC-000375	Email	CAPL and WAC exchanged emails discussing meeting quotes, agenda, and scheduling a meeting to socialise the agenda with the WAC Board prior to the meeting in January. The Board meeting did not go ahead as CAPL met with WAC Chair on the 10th of January instead.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	10/01/2023	OC-000376	Face-to-face	CAPL met with WAC to discuss the upcoming WAC/CAPL meeting planned for the 17th and 18th of January. A discussion about the CAPL and WAC relationship, past, present and future was had; and the agenda for the upcoming WAC/CAPL meeting.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	17/01/2023	OB-000274	Face-to-face	CAPL met with the board of directors, Elders' council and staff of WAC to present an overview of their upcoming offshore activities and to discuss the re-building of the relationship between CAPL and Wirrawandi. CAPL sought feedback on areas of significance and cultural values including sea country and underwater cultural heritage. The key items discussed; CAPL explained its facilities and projects, and activities covered by upcoming Environment Plans and answered questions from Wirriwandi regarding seismic, whales and environmental monitoring on Barrow Island. CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. WAC did not identify any additional relevant persons to consult.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	03/02/2023	CN-000426	Email	CAPL thanked WAC for their time in regards to the January meeting, and expressed the intent to continue to rebuild the CAPL/WAC relationship in parallel to EP consultation. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified WAC that they welcome meaningful feedback.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	07/02/2023	OC-000650	Face-to-face	CAPL met with representatives of WAC to discuss actions arising from the initial meeting in January with the board of directors and Elders council of WAC.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	15/02/2023	OC-000338	Face-to-face	CAPL met with WAC rangers. WAC informed CAPL of their connection and history to country and shared their history and story.	WAC informed CAPL of their connection and history to country and shared their history and story.	Claim has merit: As a relevant person, WAC have provided an understanding of their connection and history to country and associated values and sensitivities.	Refer to Table 4-14 in the EP, which includes specific responses from First Nations consultation in regards to cultural values or features.
Wirrawandi Aboriginal Corporation RNTBC (WAC)	16/02/2023	OC-000349	Email	CAPL informed WAC of their travel plans to Karratha and confirmed time and date to meet with CEO and Chair of the Board of Directors while in Karratha.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	22/02/2023	OC-000347	Face-to-face	CAPL engaged with representatives from WAC and continued discussions from previous board meeting in January.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	16/03/2023	OC-000350	Email	CAPL advised WAC of the proposed agenda for the board meeting in Perth.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	22/03/2023	OC-000273	Face-to-face	CAPL met with the board of directors, Elders council and staff of the WAC to provide a follow up presentation of their upcoming offshore activities and to review draft terms of reference for joint working group to further develop governance of relationship.	WAC raised the following: <ul style="list-style-type: none"> <li>What species of turtles on Barrow Island.</li> <li>When describing the environmental impacts of scenarios and emergency response process. A question was raised</li> </ul>	Some of the points raised were clarifying questions or in regards to activities outside of the activity scope. CAPL has reviewed all points and assessed the merits individually. <ul style="list-style-type: none"> <li>What species of turtles on Barrow Island. Not an objection of claim - information only. However it is noted that</li> </ul>	CAPL provided an informational response, and no further questions or claims were raised. No change made to the EP. Threatened and/or migratory marine turtles with the potential to be present within the EMBA are discussed in Section 4.3.3.2 of the EP, and are considered in

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					<p>regarding if foam is used to reduce a hydrocarbons in a spill situation.</p> <ul style="list-style-type: none"> <li>• What does the inside of a gas reserve look like? And if the gas is in the form of water?</li> <li>• Is drilling process and if it is similar to the process in the deep-water horizon event?</li> <li>• Question was raised on if there are gas leaks when transporting gas. Comparison to the Iron Ore industry and the effect on environment when iron ore is transport through the loss of mineral cause by wind.</li> <li>• What is the purpose of CO<sub>2</sub> injection?</li> <li>• Concerns were raised the process of drilling into the sea floor, that it would cause a tidal wave. Participant reflected on an example of small village being wiped out in Indonesia from a tidal wave believed to be caused by drilling.</li> <li>• Concerns were raised during the meeting about the Mercury content in the gas being extracted. As Mercury stays around for generations through the consummation of contaminated marine life.</li> <li>• Questions around the flaring at gas plants and the emissions produced by these flares – concerned when there is black smoke produced of the flare at North-west Shelf.</li> </ul> <p>CAPL responded to all questions raised during the meeting and encouraged WAC to get in contact should they have any further questions.</p>	<p>turtles are raised as a value, and should be considered in the EP.</p> <ul style="list-style-type: none"> <li>• When describing the environmental impacts of scenarios and emergency response process. A question was raised regarding if foam is used to reduce a hydrocarbons in a spill situation. CAPL acknowledge that a request for information regarding spill response was raised. CAPL provided an informational response, and no further questions or claims were raised.</li> <li>• What does the inside of a gas reserve look like? And if the gas is in the form of water? Not an objection or claim - information only .</li> <li>• Is drilling process and if it is similar to the process in the deep-water horizon event? Not an objection or claim - information only</li> <li>• Question was raised on if there are gas leaks when transporting gas. Comparison to the Iron Ore industry and the effect on environment when iron ore is transport through the loss of mineral cause by wind. Not an objection or claim - information only</li> <li>• What is the purpose of Co2 injection? Not an objection or claim - information only</li> <li>• Concerns were raised the process of drilling into the sea floor, that it would cause a tidal wave. Participant reflected on an example of small village being wiped out in Indonesia from a tidal wave believed to be caused by drilling. As drilling is within scope of this activity, this claim has merit. CAPL provided an informational response, and no further questions or claims were raised.</li> <li>• Concerns were raised during the meeting about the Mercury content in the gas being extracted. As Mercury stays around for generations through the consummation of contaminated marine life. As drilling is within scope of this activity, this claim has merit. CAPL provided an informational response, and no further questions or claims were raised.</li> <li>• Questions around the flaring at gas plants and the emissions produced by these flares – concerned when there is black smoke produced of the flare at North-west Shelf. CAPL provided an informational response, and no further questions or claims were raised.</li> </ul>	the Risk Assessment (Section 7).
Wirrawandi Aboriginal Corporation RNTBC (WAC)	06/04/2023	OC-000351	Email	CAPL sent through minutes of previous meeting with the WAC board of directors which occurred on the 22nd of March and additional documents requested during the meeting. CAPL also requested permission of WAC members to display pictures in internal presentation for educational purposes.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	7/04/2023	OC-000275	Face-to-face	CAPL met with representative of WAC to discuss actions arising from the initial meeting in January with the board of directors and Elders council of WAC.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	26/04/2023	OC-000354	Face-to-face	CAPL met WAC representatives to discuss and agree on ongoing communications between CAPL and WAC and provide a summary of CAPL's consultations with WAC in respect to CAPL's current Environment Plans in development for WAC's approval.  CAPL sent an email thanking WAC for their time, and outlining the actions that come out of the meeting for CAPL and WAC to complete.	No objection or claim raised.		

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Wirrawandi Aboriginal Corporation RNTBC (WAC)	01/05/2023	OC-000348	Email	WAC requested an update on the outcomes, communications plan and support from Chevron further to the meeting held 18,19 January 2023. CAPL confirmed time and date of meeting with the CEO of WAC.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	15/05/2023	OC-000528	Email	CAPL advised WAC of the draft documents they have prepared in preparation for the board meeting in the following week. CAPL informed WAC that they would be happy to discuss any of the documents. CAPL provided an overview of the Draft Consultation Response and Statement and the Draft Engagement Plan. Within the Draft Consultation Response and Statement, CAPL summarised an understanding of the values and sensitivities raised by WAC. : CAPL has committed to continue engagement with WAC and to ensure emergency response plans are well informed.	WAC raised the following: <ul style="list-style-type: none"> <li>The coastal area, sea country, and adjacent islands are highly valuable to the Yaburara &amp; Mardudhunera people.</li> <li>WAC requests continued engagement</li> </ul>	<b>Claim has merit:</b> 1. As a relevant person, WAC have provided an understanding of the values that are important to their functions, interests and activities. These must be considered to understand values and sensitivities potentially impacted by activity. 2. As a relevant stakeholder, the WACs request for continued engagement has merit.	EP was revised to include Table 4-14, which includes specific responses from First Nations consultation in regards to cultural values or features.  Table 8-5 of the EP has been revised to include an additional row for ongoing engagement with First Nations people and/or representative bodies in regards to identification and understanding of cultural values or features within the EMBA. This has not been restricted to just WAC.
Wirrawandi Aboriginal Corporation RNTBC (WAC)	26/06/2023	OC-000807	Email	CAPL sent through a list of discussion points for the meeting the following day.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	30/06/2023	OC-000808	Email	CAPL sent through an action and opportunities list following the meeting from the 27th June.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	11/07/2023-11/07/2023	OC-000608	Email	CAPL and WAC email discussion around draft terms of agreement with respect to CAPL supporting the employment of a WAC Ranger Coordinator	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	13/07/2023	OC-000809	Email	CAPL sent an update on their actions to let WAC know how they are progressing. CAPL asked about how they would like to advance the draft document and mentioned turtle monitoring opportunities, and ranger program update and the northern seed initiative. CAPL enquired as to WAC availability to set up a meeting.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	14/07/2023-14/07/2023	OC-000607	Email	CAPL and WAC discussion relating to ongoing activities and opportunities for consultation. WAC provided copies of NT Consultation Costs and Agreement.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	26/07/2023	OC-000810	Email	CAPL sent an email following a meeting outlining the actions from their meeting with WAC.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	03/08/2023-03/08/2023	OC-000606	Face-to-face	CAPL met with the board of directors, Elders council and staff of the WAC to provide a follow up presentation of their upcoming offshore activities and to review draft terms of reference for joint working group to further develop governance of relationship.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	07/08/2023-07/08/2023	OC-000602	Email	CAPL extended solicitation of EOI for WAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with WAC further.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	09/08/2023	OC-000812	Email	WAC enquired as to the finalisation of the engagement plan between WAC and CAPL. CAPL responded advising that the plan was ready if WAC had no further comments.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	18/08/2023	OC-000813	Email	CAPL enquired regarding an individual member that came forward requesting to speak with CAPL. CAPL advised they were happy to speak with the individual and if WAC could make introductions. WAC responded advising they would not be engaging with the individual nor wanting to make introductions to CAPL. WAC specified that the individual was a separate entity to WAC. CAPL thanked WAC for the clarification.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	18/08/2023-29/08/2023	OC-000811	Email	CAPL requested confirmation on the Sponsorship Agreement between CAPL and Wirrawandi.	No objection or claim raised.		



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Wirrawandi Aboriginal Corporation RNTBC (WAC)	23/08/2023-23/08/2023	OC-000627	Email	CAPL contacted WAC to confirm that a Member of WAC had contacted CAPL to nominate as a Relevant Person. CAPL confirmed that it understood that while the individual was a Member of WAC, they did not represent WAC in an official capacity and that they would be treated as a separate Relevant Person for the purposes of consultation.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	18/10/2023	OC-000851	Email	CAPL sent off an email regarding a media article in the paper regarding CAPL's environmental performance on Barrow Island. CAPL assured that all environmental obligations are taken seriously and that rigorous measures are in place to protect biodiversity. CAPL offered WAC the opportunity to meet in order to be further briefed on our environmental management of Barrow Island.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	22/10/2023	OC-000861	Email	CAPL organised to meet with WAC members and new CEO.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	01/11/2023-01/11/2023	OC-000897	Face-to-face	CAPL met WAC Chair and new CEO in Perth. CAPL provided update to new CEO about progress on the relationship and requested opportunity to meet with the new CAPL WAC Working Group on the 21st of November	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	02/11/2023-02/11/2023	OC-000888	Email	CAPL send out further information to WAC regarding CAPL movements before the end of the year. CAPL advised they would like to meet the working group before EOY and suggested 21st Nov. CAPL provided a draft agenda.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	29/11/2023	OC-000966	Email	CAPL contacted WAC to enquire about a possible catch up and information sharing regarding 2024 consultation and environment plans. CAPL asked for possible dates to meet.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	07/12/2023	OC-000982	Email	WAC and CAPL discussed talking points for an upcoming meeting.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	08/12/2023-08/12/2023	OC-000988	Email	CAPL wrote to WAC to provide confirmation of interactions in relation to requests for facilitation and introduction to potential relevant persons for the purpose of consultation; in response to previous advice about the identification of a person wishing to be consulted separately to WAC.	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)	08/12/2023-08/12/2023	OC-000989	Face-to-face	CAPL met with WAC to discuss CAPL WAC working group meeting in 2024. WAC advised of meeting with BTAC to discuss Cultural Heritage Management on BWI CAPL and WAC discussed support for NNSI program	No objection or claim raised.		
Wirrawandi Aboriginal Corporation RNTBC (WAC)				To summarise consultation with WAC to date: <ul style="list-style-type: none"> <li>CAPL commenced consultation with WAC on 23rd September 2022 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>CAPL has met with WAC representatives in 10 face-to-face meetings and maintained contact through email and telephone correspondence</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>CAPL has considered feedback provided by WAC during consultation, including information on WAC's functions, interests and activities within the EMBA and all claims raised have been addressed</li> <li>On 15th May 2023, CAPL emailed WAC with a summary of the outcomes of consultation undertaken to date</li> <li>WAC has not raised any further objections or claims relating to the activity scope as CAPL has provided a reasonable period and sufficient information to WAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</li> </ul> CAPL will continue to engage WAC as part of its ongoing consultation as outlined in Section 8.3.4.1.			
Woodside	14/02/2023	CN-000118	Email	CAPL advised that Woodside had been identified as a relevant organisation with functions, interests or activities that may be affected by the activity. CAPL provided an overview of the activity and provided a link to their website for further information regarding the activity. CAPL notified Woodside that they welcome meaningful feedback. Woodside acknowledged receipt of email.	No objection or claim raised.		

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Woodside	10/05/2023	OC-000433	Email	CAPL reached out to Woodside to provide any feedback they may have on the activity. CAPL confirmed that Woodside has not expressed specific concerns or objections to the planned activity. Woodside confirmed receipt of email and forwarded the email onto appropriate representatives that will reach out to CAPL if they have any feedback. Woodside responded stating they had no feedback regarding the activities.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	03/02/2023	CN-000324	Email	CAPL advised that the YAC had been identified as a relevant person with functions, interests or activities that may be affected by the activity. CAPL advised that they are interested in speaking to a representative of YAC about CAPL's activities. CAPL advised that they welcome meaningful feedback. CAPL acknowledged the workloads and pressures Traditional Owner Corporations are under and advised they would be available to discuss further at YAC's convenience.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	07/03/2023	OC-000327	Email	YAC contacted CAPL to confirm that they consider themselves a relevant person and to welcome consultation with CAPL. YAC requested some additional information on the Environment plans outlined in CAPL's previous correspondence as they were of a highly technical nature. YAC expressed that to ensure fully informed engagement and consultation CAPL should attend a half or full day Board meeting to present the activities and if necessary, assist in engaging an environmental scientist to advise the Board about the impact of proposed activities. This will allow the Board to draft an appropriate response to include in CAPL's EP. CAPL and YAC confirmed a meeting with its members for CAPL to present upcoming activities and answer any queries. CAPL also suggested an initial phone call to discuss details.	YAC expressed that to ensure fully informed engagement and consultation CAPL should attend a half or full day Board meeting to present the activities and if necessary, assist in engaging an environmental scientist to advise the Board about the impact of proposed activities. This will allow the Board to draft an appropriate response to include in CAPL's EP.	Claim has merit: As a relevant person, CAPL has the responsibility to identify the correct engagement mechanism to ensure all appropriate information is disseminated in an appropriate fashion.	Ongoing engagement with YAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and YAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies. An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Yinggarda Aboriginal Corporation (YAC)	07/03/2023	OC-000337	Phone	CAPL spoke with representatives of YAC and were advised of a meeting time and date.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	23/03/2023	OC-000149	Face-to-face	CAPL presented to the Board of the YAC on the upcoming offshore activities and sought feedback on areas of significance and cultural values including sea country and underwater cultural heritage. Informed them of CAPL's Interaction Hub page. YAC identified Bernier and Dorre Island as being significant but that they had no access. CAPL provided clarification on the EP and OPP processes and advised YAC that they would be consulting with them soon regarding other activities. CAPL requested advice as to whether additional relevant persons not present at the meeting should be informed and consulted with. YAC did not identify any additional relevant persons to consult.	YAC identified Bernier and Dorre Island as being significant.	<b>Claim has merit:</b> CAPL acknowledge the values and sensitivities raised by the relevant person. These must be considered to understand values and sensitivities potentially impacted by the activity scope.	EP was revised to include Table 4-14, which includes specific responses from First Nations consultation in regards to cultural values or features.
Yinggarda Aboriginal Corporation (YAC)	23/03/2023	OC-000379	Email	CAPL contacted YAC to thank them for their time and to discuss the possibility of organising another meeting in May or June to answer any follow up queries. CAPL also mentioned their intention to expand their social investment framework beyond Onslow. CAPL requested any feedback YAC may have. CAPL followed up with YAC's representative to ask if there had been any comments or feedback from the community with respect to CAPL's activities. YMAC representative for YAC contacted CAPL to advise that YMAC is no longer acting on behalf of Yinggarda. CAPL Thanked the YMAC representative for the new contact representative and their assistance.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	04/05/2023	OC-000517	Email	CAPL contacted Gumala Aboriginal Corporation following advice from YMAC that they are no longer acting on behalf of the Yinggarda Aboriginal Corporation RNTBC. CAPL requested advice from the YAC regarding feedback from the meeting in March and the opportunity to meet with the board again. YAC indicated that CAPLs request for feedback was to be reviewed at the YAC board meeting in June.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	08/05/2023	OC-000544	Phone	Gumala Aboriginal Corporation advised CAPL that Yinggarda's Executive services were being transferred from YMAC to Gumala Aboriginal Corporation which includes responsibility for	No objection or claim raised.		

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				governance and cultural heritage. Gumala Aboriginal Corporation provided CAPL with the updated contact details for consultation with Yinggarda.			
Yinggarda Aboriginal Corporation (YAC)	08/06/2023	OC-000548	Email	YAC requested further information from CAPL regarding CAPL's activity so it can be presented to the YAC board YAC raised issues regarding providing useful feedback on environmental and cultural concerns, in the absence of obtaining specialist advice. YAC queried CAPL's Engagement framework and Potential partnership opportunities for YAC. CAPL provided a response, addressing the points raised.	1. YAC stated that it will be difficult for YAC to provide any useful feedback on environmental and cultural concerns, in the absence of obtaining specialist advice. 2. YAC queried CAPL's Engagement framework and Potential partnership opportunities for YAC	<b>Claims have merit:</b> 1. As a relevant person, CAPL has a responsibility to provide the information in a manner that enables Stakeholders to providing meaningful feedback. 2. As a relevant person, CAPL has the responsibility to identify the correct engagement mechanism to ensure all appropriate information is disseminated in an appropriate fashion.	Ongoing engagement with YAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and YAC, and once finalised will be implemented. The Engagement Plan will capture opportunities for collaboration and knowledge sharing, and the type and frequency of interactions. Section 8.3.4.1 of the EP (specifically Table 8-5) has been revised to describe the ongoing consultation with First Nations people and/or representative bodies. An additional section has been added (Section 8.3.4.3 Ongoing engagement with First Nations representative bodies) which further describes ongoing engagement.
Yinggarda Aboriginal Corporation (YAC)	06/07/2023-06/07/2023	OC-000574	Face-to-face	CAPL gave presentation to Yinggarda Board Meeting and provided the following: <ul style="list-style-type: none"> <li>OPP Information Sheet</li> <li>EP update with activity map.</li> <li>Chevron Community Spirit Fund Information.</li> </ul> CAPL requested advice from the Yinggarda AC Board as to how they would like to approach the development of the engagement plan for ongoing consultation and development of relationship.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	07/08/2023-07/08/2023	OC-000596	Email	CAPL extended solicitation of EOI for YAC to participate in oil spill training in October 2023 as part of developing skills and experience for rangers as first responders, as well as continuing to develop the relationship with YAC further.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	22/08/2023	OC-000622	Email	CAPL contacted YAC via email to request sharing of information to members with respect to oil spill training.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)	13/10/2023-03/11/2023	OC-000898	Email	CAPL replied to YAC via their Solicitors requesting meeting to discuss and finalise consultation agreement in November 2023	YAC Solicitors communicated that the YAC board stated that Chevron has not consulted with YAC about any matter which might be regarded as related to a NOPSEMA regulatory process, and raised that If Chevron remains interested in consulting with this PBC in accordance with the law, then Chevron will need to first enter into a consultation agreement	<b>Claim has merit:</b> CAPL acknowledge the requirement to enter into a consultation agreement in order to facilitate	Ongoing engagement with YAC is taking place. A formal Engagement Plan is also being co-designed by CAPL and YAC, and once finalised will be implemented.
Yinggarda Aboriginal Corporation (YAC)	27/11/2023-04/12/2023	OC-000968	Email	CAPL and YAC Solicitors discussed meeting with the deputy chair of YAC to talk about an engagement plan and consultation with YAC for the future. A meeting was organised.	No objection or claim raised.		
Yinggarda Aboriginal Corporation (YAC)				YAC sent an email to CAPL welcoming CAPL's commitment to developing relationship with YAC. YAC advised that they would be in touch to confirm board meeting in February. To summarise consultation with YAC to date: <ul style="list-style-type: none"> <li>CAPL commenced consultation with YAC on 3rd February 2023 with an introductory email and link to the Consultation Hub on CAPL's website</li> <li>CAPL has met with YAC representatives in 2 face-to-face meetings and maintained contact through email and telephone correspondence</li> <li>CAPL has presented sufficient information in accordance with Section 6.2.2 of the EP on the activity scope, including the activity description, EMBA, potential impacts and risks and control measures</li> <li>CAPL has considered feedback provided by YAC during consultation, including information on YAC's functions, interests and activities within the EMBA and all claims raised have been addressed</li> </ul>			

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				<ul style="list-style-type: none"> <li>CAPL is progressing a consultation agreement with YAC to facilitate future engagement.</li> <li>YAC has not raised any further objections or claims relating to the activity scope as CAPL has provided a reasonable period and sufficient information to YAC to make an informed assessment of the possible consequences of the activity on its functions, interests and activities, CAPL has discharged its obligations under regulation 11A.</li> </ul> <p>CAPL will continue to engage YAC as part of its ongoing consultation as outlined in Section 8.3.4.1.</p>			